



AMAL JYOTHI COLLEGE OF ENGINEERING

KANJIRAPPALLY, KOTTAYAM, INDIA 686 518

AFFILIATED TO APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY, KERALA



NAAC
NATIONAL ASSESSMENT AND
ACCREDITATION COUNCIL

| **'A' Grade**

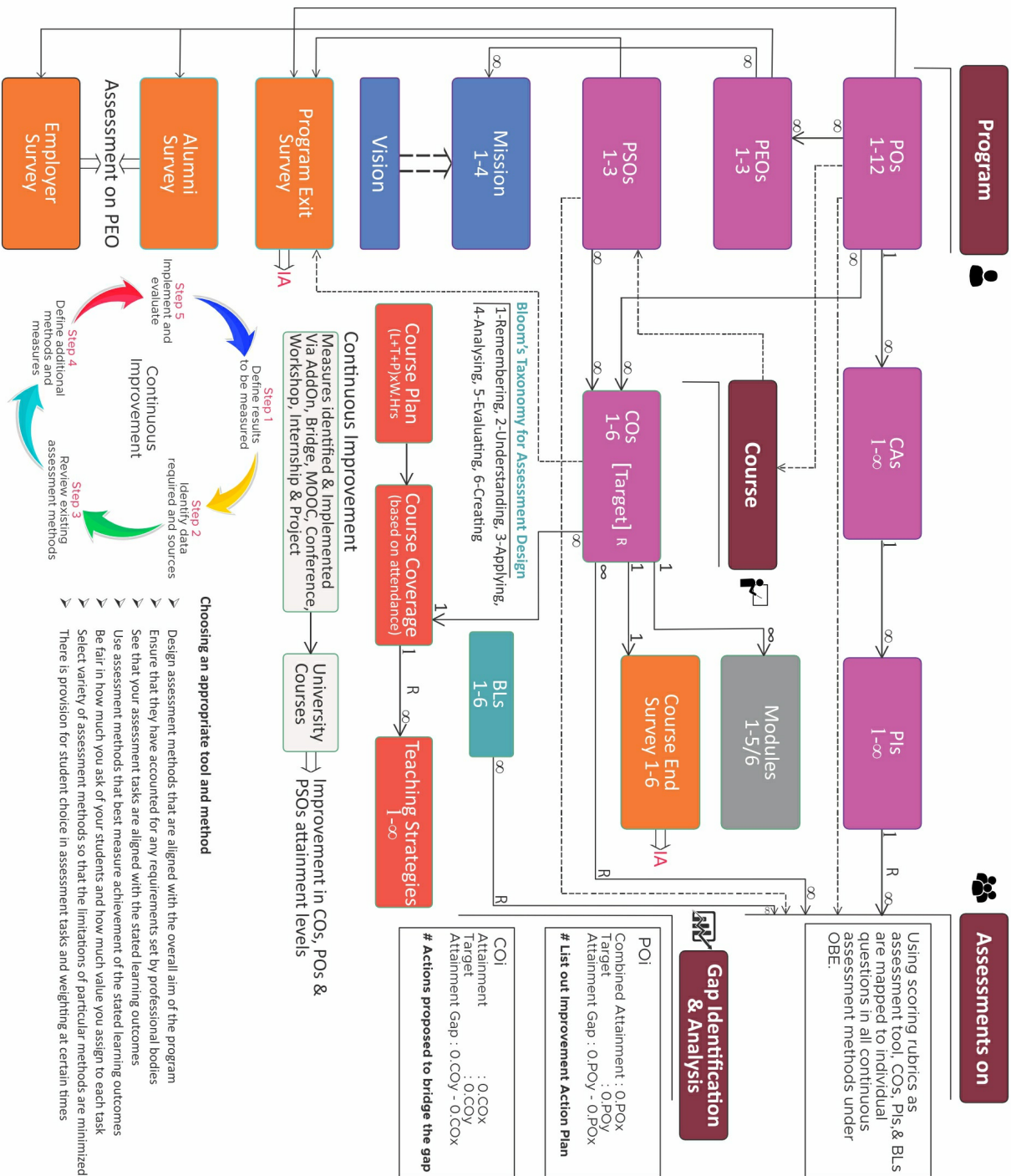
MASTER OF COMPUTER APPLICATIONS

Outcome Based Education Scheme

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OUTCOME BASED EDUCATION FRAMEWORK (OBE) IN ACADEMIC ENTERPRISE SOLUTIONS



Weighted Average (WA)

$$(n1*1+n2*2+n3*3)/n1+n2+n3$$

n : No of students, multiplied with 3 scale value

Direct Assessment of CO

$$(33.33*Internals WA + 66.66*Externals WA)/100$$

Direct Assessment of PO / PSO

I. Course1.CO1-PO1|PSO1 Score=CO1 Attainment Score * CO1-PO1 |PSO1 Mpscore.

II. DA of PO1|PSO1 =[Course1.CO1-01|PSO1 Score+Course1.CO2-PO1|PSO1 Score+... +nthCourse.nthCO-PO1|PSO1 Score]/[Course1.CO1-PO1|PSO1 Mpscore+Course1.CO2-PO1|PSO1 Mpscore+... +nthCourse.nthCO-PO1|PSO1 Mpscore]

Indirect Assessment for CO / PO / PSO

Weighted Average on 3-point scale from Course End Survey -> IA for CO Program Exit Survey -> IA for PO | PSO

CO / PO / PSO Attainment

$$(80*DA+20*IA)/100$$

DA: Direct Assessment, IA : Indirect Assessment

- PO Program Outcome
- PEO Program Educational Objective
- PSO Program Specific Outcome
- CAs Competencies to be Attained
- PIs Performance Indicators
- COs Course Outcomes | R Repeated Yearly
- BLS Blooms Taxonomy Levels
- Mapping ----> Auto Mapping
- Correlation
- 3-Substantial (High)/2-Moderate(Medium)/1-Slight (Low)

VISION

MCA

To promote an academic and research environment conducive for innovation centric technical education.

MISSION

MCA

- Provide foundations and advanced technical education in both theoretical and applied Computer Applications in-line with Industry demands.
- Create highly skilled computer professionals capable of designing and innovating real life solutions.
- Sustain an academic environment conducive to research and teaching focused to generate up-skilled professionals with ethical values.
- Promote entrepreneurial initiatives and innovations capable of bridging and contributing with sustainable, socially relevant technology solutions.

PROGRAM OUTCOME

MCA-LATERAL ENTRY

Sl.No.	Outcome
PO1	Computational Knowledge: Apply knowledge of computing fundamentals, computing specialization, mathematics, and domain knowledge appropriate for the computing specialization to the abstraction and conceptualization of computing models from defined problems and requirements.
PO2	Problem analysis: Identify, formulate, research literature, and solve complex computing problems reaching substantiated conclusions using fundamental principles of mathematics, computing sciences and relevant domain disciplines.
PO3	Design /Development of Solutions: Design and evaluate solutions for complex computing problems, and design and evaluate systems, components, or processes that meet specified needs with appropriate consideration for public health and safety, cultural, societal, and environmental considerations.
PO4	Conduct investigations of complex Computing problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
PO5	Modern Tool Usage: Create, select, adapt and apply appropriate techniques, resources, and modern computing tools to complex computing activities, with an understanding of the limitations.
PO6	Professional Ethics: Understand and commit to professional ethics and cyber regulations, responsibilities, and norms of professional computing practices.
PO7	Life-long Learning: Recognize the need, and have the ability, to engage in independent learning for continual development as a computing professional.

PO8	Project management and finance: Demonstrate knowledge and understanding of the computing and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
PO9	Communication Efficacy: Communicate effectively with the computing community, and with society at large, about complex computing activities by being able to comprehend and write effective reports, design documentation, make effective presentations, and give and understand clear instructions.
PO10	Societal and Environmental Concern: Understand and assess societal, environmental, health, safety, legal, and cultural issues within local and global contexts, and the consequential responsibilities relevant to professional computing practices.
PO11	Individual and Team Work: Function effectively as an individual and as a member or leader in diverse teams and in multidisciplinary environments.
PO12	Innovation and Entrepreneurship: Identify a timely opportunity and using innovation to pursue that opportunity to create value and wealth for the betterment of the individual and society at large.

MCA-REGULAR

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MCA-INTEGRATED

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PhD-PHD MCA**PROGRAM EDUCATIONAL OBJECTIVE****MCA-LATERAL ENTRY**

Sl.No.	Objective
PEO1	Be successfully employed in computing profession as well as multidisciplinary domains in supportive and leadership roles.
PEO2	Participate in life-long learning through the successful completion of advanced degrees, continuing education, certifications and/or other professional developments.
PEO3	Promote design, research, product implementation and services in the field of Computer Science and Applications through strong technical, communication and entrepreneurial skills.

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PhD-PHD MCA**PROGRAM SPECIFIC OUTCOME****MCA-LATERAL ENTRY**

Sl.No.	Outcome
PSO1	Apply Engineering knowledge to analyze, design and develop computing solutions by employing modern computer languages, environments and platforms that can solve complex problems.
PSO2	Anticipate the changing direction of computational technology, evaluate it and communicate the likely utility of that for building software systems that would perform tasks related to Industry, Research and Education.
PSO3	Inculcate the knowledge of Engineering and Management principles to manage projects effectively and create innovative career path

MCA-REGULAR

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PSO1	Apply Engineering knowledge to analyze, design and develop computing solutions by employing modern computer languages, environments and platforms that can solve complex problems.
PSO2	Anticipate the changing direction of computational technology, evaluate it and communicate the likely utility of that for building software systems that would perform tasks related to Industry, Research and Education.
PSO3	Inculcate the knowledge of Engineering and Management principles to manage projects effectively and create innovative career path

MCA-INTEGRATED

Sl.No.	Outcome
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PSO2	Anticipate the changing direction of computational technology, evaluate it and communicate the likely utility of that for building software systems that would perform tasks related to Industry, Research and Education.
PSO3	Inculcate the knowledge of Engineering and Management principles to manage projects effectively and create innovative career path

PhD-PHD MCA

COMPETENCIES & PERFORMANCE INDICATORS

MCA-LATERAL ENTRY

1.1 Demonstrate competence in mathematical modelling

- 1.1.1 Apply the knowledge of discrete structures, linear algebra, statistics and numerical techniques to solve problems.
- 1.1.2 Apply the concepts of probability, statistics and queuing theory in modeling of computer-based system, data and network protocols.

1.2 Demonstrate competence in basic sciences

- 1.2.1 Apply laws of natural science to an engineering problem

1.3 Demonstrate competence in engineering fundamentals

- 1.3.1 Apply engineering fundamentals

1.4 Demonstrate competence in specialized engineering knowledge to the program

- 1.4.1 Apply theory and principles of computer science and engineering to solve an engineering problem

2.1 Demonstrate an ability to identify and formulate complex engineering problem.

- 2.1.1 Evaluate problem statements and identifies objectives
- 2.1.2 Identify processes/modules/algorithms of a computer-based system and parameters to solve a problem
- 2.1.3 Identify mathematical algorithmic knowledge that applies to a given problem

2.2 Demonstrate an ability to formulate a solution plan and methodology for an engineering problem

- 2.2.1 Reframe the computer-based system into interconnected subsystems
- 2.2.2 Identity functionalities and computing resources
- 2.2.3 Identify existing solution/methods to solve the problem, including forming justified approximations and assumptions
- 2.2.4 Compare and contrast alternative solution/methods to select the best methods
- 2.2.5 Compare and contrast alternative solution processes to select the best process

2.3 Demonstrate an ability to formulate and interpret a model

- 2.3.1 Able to apply computer engineering principles to formulate modules of a system with required applicability and performance.
- 2.3.2 Identity design constraints for required performance criteria

2.4 Demonstrate an ability to execute a solution process and analyze results

- 2.4.1 Applies engineering mathematics to implement the solution
- 2.4.2 Analyze and interpret the results using contemporary tools
- 2.4.3 Identify the limitations of the solution and sources/causes
- 2.4.4 Arrive at conclusions with respect to the objectives.

3.1 Demonstrate an ability to define a complex/open-ended problem in engineering terms

- 3.1.1 Able to define a precise problem statement with objectives and scope
- 3.1.2 Able to review state-of-the-art literature to synthesize system requirements.
- 3.1.3 Able to choose appropriate quality attributes as defined by ISQ/IEC/IEEE standard
- 3.1.4 Explore and synthesize system requirements from larger social and professional concerns
- 3.1.5 Able to develop software requirement specifications (SRS).

3.2 Demonstrate an ability to generate a diverse set of alternative design solutions

- 3.2.1 Able to explore design alternatives
- 3.2.2 Able to produce a variety of potential design solutions suited to meet functional requirements.
- 3.2.3 Identify suitable non-functional requirements for evaluation of alternate design solutions

3.3 Demonstrate an ability to select optimal design scheme for further development

- 3.3.1 Able to perform systematic evaluation of the degree to which several design concepts meet the criteria.
- 3.3.2 Consult with domain experts and stakeholders to select candidate engineering design solution for further development

3.4 Demonstrate an ability to advance an engineering design to defined end state

- 3.4.1 Able to reline architecture design into a detailed design within the existing constraints
- 3.4.2 Able to implement and integrate the modules
- 3.4.3 Able to verify the functionalities and validate the design

4.1 Demonstrate an ability to conduct investigations of technical issues consistent with their level of knowledge and understanding

- 4.1.1 Define a problem for purposes of investigation, its scope and importance
- 4.1.2 Able to choose appropriate procedure algorithm, dataset and test cases
- 4.1.3 Able to choose appropriate hardware/software tools to conduct the experiment.

4.2 Demonstrate an ability to design experiments to solve open-ended problems

- 4.2.1 Design and develop appropriate procedures/methodologies based on the study objectives

4.3 Demonstrate an ability to analyze data and reach a valid conclusion

- 4.3.1 Use appropriate procedures, tools and techniques to collect and analyze data
- 4.3.2 Critically analyze data for trends and correlations, stating possible errors and limitations
- 4.3.3 Represent data (in tabular and/or graphical forms) so as to facilitate analysis and explanation of the data, and drawing of conclusions
- 4.3.4 Synthesize information and knowledge about the problem from the raw data to reach appropriate conclusions

5.1 Demonstrate an ability to identify/create modern engineering tools, techniques and sources

- 5.1.1 Identify modern engineering tools, techniques and resources for engineering activities
- 5.1.2 Create/ad and tools and techniques to solve engineering problems

5.2 Demonstrate an ability to select and apply discipline-specific tools, techniques and resources

- 5.2.1 Identify the strengths and limitations of tools for (i) acquiring Information (ii) modeling and simulating, (iii) monitoring system performance, and (iv) resources creating engineering designs.
- 5.2.2 Demonstrate proficiency in using discipline-specific tools

5.3 Demonstrate an ability to evaluate the suitability and limitations of tools used to solve an engineering problem

- 5.3.1 Discuss limitations and validate tools, techniques and resources
- 5.3.2 Verify the credibility of results from tool use with reference to the accuracy and limitations, and the assumptions inherent in their use.

6.1 Demonstrate an ability to describe engineering roles in a broader context, e.g. pertaining to the environment, health, safety, legal and public welfare

6.1.1 Identify and describe various engineering roles: particularly as pertains to protection of the public and public interest at the global, regional and local level

6.2 Demonstrate an understanding of professional engineering regulations, legislation and standards

6.2.1 Interpret legislation, regulations, codes, and standards relevant to your discipline and explain its contribution to the protection of the public

7.1 Demonstrate an understanding of the impact of engineering and industrial practices on social, environmental and in economic contexts

7.1.1 Identify risks/impacts in the life-cycle of an engineering product or activity

7.1.2 Understand the relationship between the technical, socio-economic and environmental dimensions of sustainability

7.2 Demonstrate an ability to apply principles of sustainable design and development

7.2.1 Describe management techniques for sustainable development

7.2.2 Apply principles of preventive engineering and sustainable development to an engineering activity or product relevant to the discipline

8.1 Demonstrate an ability to recognize ethical dilemmas

8.1.1 Identify situations of unethical professional conduct and propose ethical alternatives

8.2 Demonstrate an ability to apply the Code of Ethics

8.2.1 Identify tenets of the ASME professional code of ethics

8.2.2 Examine and apply moral & ethical principles to known case studies

9.1 Demonstrate an ability to form a team and define a role for each member

9.1.1 Recognize a variety of working and learning preferences; appreciate the value of diversity on a team

9.1.2 Implement the norms of practice (eg, rules, roles, charters, agendas, etc.) of effective team work, to accomplish a goal

9.2 Demonstrate effective individual and team operations-- communication, problem-solving, conflict resolution and leadership skills

- 9.2.1 Demonstrate effective communication, problem-solving, conflict resolution and leadership skills
- 9.2.2 Treat other team members respectfully
- 9.2.3 Listen to other members
- 9.2.4 Maintain composure in difficult situations

9.3 Demonstrate success in a team-based project

- 9.3.1 Present results as a team with smooth integration of contributions from all individual efforts

10.1 Demonstrate an ability to comprehend technical literature and document project work

- 10.1.1 Read, understand and interpret technical and non-technical information
- 10.1.2 Produce clear well-constructed and well-supported written engineering documents
- 10.1.3 Create flow in a document or presentation - a logical progression of ideas so that the main point is clear

10.2 Demonstrate competence in listening, speaking, and presentation

- 10.2.1 Listen to and comprehend information, instructions, and viewpoints of others
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10.3 Demonstrate the ability to integrate different modes of communication

- 10.3.1 Create engineering standard figures, reports and drawings to complement writing and presentations
- 10.3.2 Use a variety of media effectively to convey a message in a document or a presentation

11.1 Demonstrate an ability to evaluate the economic and financial performance of an engineering activity

- 11.1.1 Describe various economic and financial costs/benefits of an engineering activity
- 11.1.2 Analyze different forms of financial statements to evaluate the financial status of an engineering project

11.2 Demonstrate an ability to compare and contrast the costs/benefits of alternate proposals for an engineering activity

- 11.2.1 Analyze and select the most appropriate proposal based on economic and financial considerations

11.3 Demonstrate an ability to plan/manage an engineering activity within time and budget constraints

- 11.3.1 Identify the tasks required to complete an engineering activity and the resources required to complete the tasks
- 11.3.2 Use project management tools to schedule an engineering project, so it is completed on time and on budget.

12.1 Demonstrate an ability to identify gaps in knowledge and a strategy to close these gaps

- 12.1.1 Describe the rationale for the requirement for continuing professional development
- 12.1.2 Identify deficiencies or gaps in knowledge and demonstrate an ability to source information to close this gap

12.2 Demonstrate an ability to identify changing trends in engineering knowledge and practice

- 12.2.1 Identify historic points of technological advance in engineering that required practitioners to seek education in order to stay current
- 12.2.2 Recognize the need and be able to clearly explain why it is vitally important to keep current regarding new developments in your field

12.3 Demonstrate an ability to identify and access sources for new information

- 12.3.1 Source and comprehend technical literature and other credible sources of information
- 12.3.2 Analyze sourced technical and popular information for feasibility, viability, sustainability, etc

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- 12.1.2 Identify deficiencies or gaps in knowledge and demonstrate an ability to source information to close this gap

12.2 Demonstrate an ability to identify changing trends in engineering knowledge and practice

- 12.2.1 Identify historic points of technological advance in engineering that required practitioners to seek education in order to stay current
- 12.2.2 Recognize the need and be able to clearly explain why it is vitally important to keep current regarding new developments in your field

12.3 Demonstrate an ability to identify and access sources for new information

- 12.3.1 Source and comprehend technical literature and other credible sources of information
- 12.3.2 Analyze sourced technical and popular information for feasibility, viability, sustainability, etc

MCA-INTEGRATED

1.1 Demonstrate competence in mathematical modelling

- 1.1.1 Apply the knowledge of discrete structures, linear algebra, statistics and numerical techniques to solve problems
- 1.1.2 Apply the concepts of probability, statistics and queuing theory in modeling of computer-based system, data and network protocols.

1.2 Demonstrate competence in basic sciences

- 1.2.1 Apply laws of natural science to an engineering problem

1.3 Demonstrate competence in computing fundamentals

- 1.3.1 Apply computing fundamentals

1.4 Demonstrate competence in specialized engineering knowledge to the program

- 1.4.1 Apply theory and principles of computer science and engineering to solve an engineering problem

2.1 Demonstrate an ability to identify and formulate complex engineering problem

- 2.1.1 Evaluate problem statements and identifies objectives
- 2.1.2 Identify processes/modules/algorithms of a computer-based system and parameters to solve a problem
- 2.1.3 Identify mathematical algorithmic knowledge that applies to a given problem

2.2 Demonstrate an ability to formulate a solution plan and methodology for an engineering problem

- 2.2.1 Reframe the computer-based system into interconnected subsystems
- 2.2.2 Identify functionalities and computing resources
- 2.2.3 Identify existing solution/methods to solve the problem, including forming justified approximations and assumptions
- 2.2.4 Compare and contrast alternative solution/methods to select the best methods
- 2.2.5 Compare and contrast alternative solution processes to select the best process

2.3 Demonstrate an ability to formulate and interpret a model

- 2.3.1 Able to apply computer engineering principles to formulate modules of a system with required applicability and performance.
- 2.3.2 Identify design constraints for required performance criteria

2.4 Demonstrate an ability to execute a solution process and analyze results

- 2.4.1 Applies engineering mathematics to implement the solution
- 2.4.2 Analyze and interpret the results using contemporary tools
- 2.4.3 Identify the limitations of the solution and sources/causes
- 2.4.4 Arrive at conclusions with respect to the objectives.

3.1 Demonstrate an ability to define a complex/open-ended problem in engineering terms

- 3.1.1 Able to define a precise problem statement with objectives and scope
- 3.1.2 Able to review state-of-the-art literature to synthesize system requirements.
- 3.1.3 Able to choose appropriate quality attributes as defined by ISQ/IEC/IEEE standard
- 3.1.4 Explore and synthesize system requirements from larger social and professional concerns
- 3.1.5 Able to develop software requirement specifications (SRS).

3.2 Demonstrate an ability to generate a diverse set of alternative design solutions

- 3.2.1 Able to explore design alternatives
- 3.2.2 Able to produce a variety of potential design solutions suited to meet functional requirements.
- 3.2.3 Identify suitable non-functional requirements for evaluation of alternate design solutions

3.3 Demonstrate an ability to select optimal design scheme for further development

- 3.3.1 Able to perform systematic evaluation of the degree to which several design concepts meet the criteria.
- 3.3.2 Consult with domain experts and stakeholders to select candidate engineering design solution for further development

3.4 Demonstrate an ability to advance an engineering design to defined end state

- 3.4.1 Able to reline architecture design into a detailed design within the existing constraints
- 3.4.2 Able to implement and integrate the modules
- 3.4.3 Able to verify the functionalities and validate the design

4.1 Demonstrate an ability to conduct investigations of technical issues consistent with their level of knowledge and understanding

- 4.1.1 Define a problem for purposes of investigation, its scope and importance
- 4.1.2 Able to choose appropriate procedure algorithm, dataset and test cases
- 4.1.3 Able to choose appropriate hardware/software tools to conduct the experiment.

4.2 Demonstrate an ability to design experiments to solve open-ended problems

- 4.2.1 Design and develop appropriate procedures/methodologies based on the study objectives

4.3 Demonstrate an ability to analyze data and reach a valid conclusion

- 4.3.1 Use appropriate procedures, tools and techniques to collect and analyze data
- 4.3.2 Critically analyze data for trends and correlations, stating possible errors and limitations
- 4.3.3 Represent data (in tabular and/or graphical forms) so as to facilitate analysis and explanation of the data, and drawing of conclusions
- 4.3.4 Synthesize information and knowledge about the problem from the raw data to reach appropriate conclusions

5.1 Demonstrate an ability to identify/create modern engineering tools, techniques and sources

- 5.1.1 Identify modern engineering tools, techniques and resources for engineering activities
- 5.1.2 Create/ad and tools and techniques to solve engineering problems

5.2 Demonstrate an ability to select and apply discipline-specific tools, techniques and resources

- 5.2.1 Identify the strengths and limitations of tools for (i) acquiring Information (ii) modeling and simulating, (iii) monitoring system performance, and (iv) resources creating engineering designs.
- 5.2.2 Demonstrate proficiency in using discipline-specific tools

5.3 Demonstrate an ability to evaluate the suitability and limitations of tools used to solve an engineering problem

- 5.3.1 Discuss limitations and validate tools, techniques and resources
- 5.3.2 Verify the credibility of results from tool use with reference to the accuracy and limitations, and the assumptions inherent in their use.

6.1 Demonstrate an ability to describe engineering roles in a broader context, e.g. pertaining to the environment, health, safety, legal and public welfare

6.1.1 Identify and describe various engineering roles: particularly as pertains to protection of the public and public interest at the global, regional and local level

6.2 Demonstrate an understanding of professional engineering regulations, legislation and standards

6.2.1 Interpret legislation, regulations, codes, and standards relevant to your discipline and explain its contribution to the protection of the public

7.1 Demonstrate an understanding of the impact of engineering and industrial practices on social, environmental and in economic contexts

7.1.1 Identify risks/impacts in the life-cycle of an engineering product or activity

7.1.2 Understand the relationship between the technical, socio-economic and environmental dimensions of sustainability

7.2 Demonstrate an ability to apply principles of sustainable design and development

7.2.1 Describe management techniques for sustainable development

7.2.2 Apply principles of preventive engineering and sustainable development to an engineering activity or product relevant to the discipline

8.1 Demonstrate an ability to recognize ethical dilemmas

8.1.1 Identify situations of unethical professional conduct and propose ethical alternatives

8.2 Demonstrate an ability to apply the Code of Ethics

8.2.1 Identify tenets of the ASME professional code of ethics

8.2.2 Examine and apply moral & ethical principles to known case studies

9.1 Demonstrate an ability to form a team and define a role for each member

9.1.1 Recognize a variety of working and learning preferences; appreciate the value of diversity on a team

9.1.2 Implement the norms of practice (eg, rules, roles, charters, agendas, etc.) of effective team work, to accomplish a goal

9.2 Demonstrate effective individual and team operations-- communication, problem-solving, conflict resolution and leadership skills

- 9.2.1 Demonstrate effective communication, problem-solving, conflict resolution and leadership skills
- 9.2.2 Treat other team members respectfully
- 9.2.3 Listen to other members
- 9.2.4 Maintain composure in difficult situations

9.3 Demonstrate success in a team-based project

- 9.3.1 Present results as a team with smooth integration of contributions from all individual efforts

10.1 Demonstrate an ability to comprehend technical literature and document project work

- 10.1.1 Read, understand and interpret technical and non-technical information
- 10.1.2 Produce clear well-constructed and well-supported written engineering documents
- 10.1.3 Create flow in a document or presentation - a logical progression of ideas so that the main point is clear

10.2 Demonstrate competence in listening, speaking, and presentation

- 10.2.1 Listen to and comprehend information, instructions, and viewpoints of others
- 10.2.2 Deliver effective oral presentations to technical and non-technical audiences

10.3 Demonstrate the ability to integrate different modes of communication

- 10.3.1 Create engineering standard figures, reports and drawings to complement writing and presentations
- 10.3.2 Use a variety of media effectively to convey a message in a document or a presentation

11.1 Demonstrate an ability to evaluate the economic and financial performance of an engineering activity

- 11.1.1 Describe various economic and financial costs/benefits of an engineering activity
- 11.1.2 Analyze different forms of financial statements to evaluate the financial status of an engineering project

11.2 Demonstrate an ability to compare and contrast the costs/benefits of alternate proposals for an engineering activity

- 11.2.1 Analyze and select the most appropriate proposal based on economic and financial considerations

11.3 Demonstrate an ability to plan/manage an engineering activity within time and budget constraints

- 11.3.1 Identify the tasks required to complete an engineering activity and the resources required to complete the tasks
- 11.3.2 Use project management tools to schedule an engineering project, so it is completed on time and on budget.

12.1 Demonstrate an ability to identify gaps in knowledge and a strategy to close these gaps

- 12.1.1 Describe the rationale for the requirement for continuing professional development
 - 12.1.2 Identify deficiencies or gaps in knowledge and demonstrate an ability to source information to close this gap
- 12.2 Demonstrate an ability to identify changing trends in engineering knowledge and practice
- 12.2.1 Identify historic points of technological advance in engineering that required practitioners to seek education in order to stay current
 - 12.2.2 Recognize the need and be able to clearly explain why it is vitally important to keep current regarding new developments in your field
- 12.3 Demonstrate an ability to identify and access sources for new information
- 12.3.1 Source and comprehend technical literature and other credible sources of information
 - 12.3.2 Analyze sourced technical and popular information for feasibility, viability, sustainability, etc

PhD-PHD MCA

BLOOM'S TAXONOMY FOR ASSESSMENT DESIGN

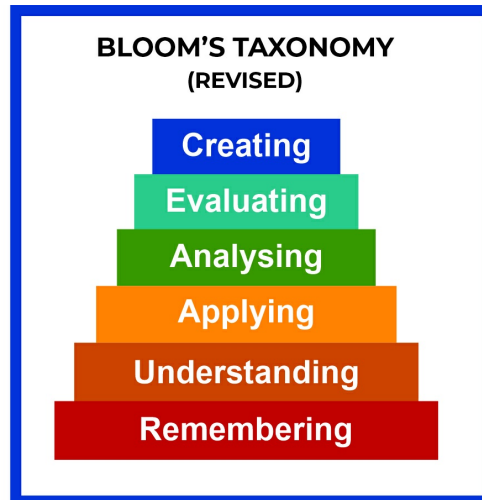


Fig. : Revised Bloom's Taxonomy

Level	Descriptor	Level of attainment
1	Remembering	Recalling from the memory of the previously learned material
2	Understanding	Explaining ideas or concepts
3	Applying	Using the information in another familiar situation
4	Analysing	Breaking information into the part to explore understandings and relationships
5	Evaluating	Justifying a decision or course of action
6	Creating	Generating new ideas, products or new ways of viewing things

Level	Skill Demonstrated	Question cues / Verbs for tests
1. Remember	<ul style="list-style-type: none"> Ability to recall of information like facts, conventions, definitions, jargon, technical terms, classifications, categories, and criteria ability to recall methodology and procedures, abstractions, principles, and theories in the field knowledge of dates, events, places mastery of subject matter 	list, define, tell, describe, recite, recall, identify, show, label, tabulate, quote, name, who, when, where
2. Understand	<ul style="list-style-type: none"> understanding information grasp meaning translate knowledge into new context interpret facts, compare, contrast order, group, infer causes predict consequences 	describe, explain, paraphrase, restate, associate, contrast, summarize, differentiate interpret, discuss
3. Apply	<ul style="list-style-type: none"> use information use methods, concepts, laws, theories in new situations solve problems using required skills or knowledge Demonstrating correct usage of a method or procedure 	calculate, predict, apply, solve, illustrate, use, demonstrate, determine, model, experiment, show, examine, modify
4. Analyse	<ul style="list-style-type: none"> break down a complex problem into parts Identify the relationships and interaction between the different parts of a complex problem identify the missing information, sometimes the redundant information and the contradictory information, if any 	classify, outline, break down, categorize, analyze, diagram, illustrate, infer, select
5. Evaluate	<ul style="list-style-type: none"> compare and discriminate between ideas assess value of theories, presentations make choices based on reasoned argument verify value of evidence recognize subjectivity use of definite criteria for judgments 	assess, decide, choose, rank, grade, test, measure, defend, recommend, convince, select, judge, support, conclude, argue, justify, compare, summarize, evaluate
6. Create	<ul style="list-style-type: none"> use old ideas to create new ones Combine parts to make (new) whole, generalize from given facts relate knowledge from several areas predict, draw conclusions 	design, formulate, build, invent, create, compose, generate, derive, modify, develop, integrate

TEACHING - LEARNING STRATEGIES

1. BLENDED LEARNING
2. BRAINSTORMING
3. CASE STUDY
4. COMPUTER AIDED PRESENTATION
5. COMPUTER LABS/LAPTOP INSTRUCTION
6. DEMONSTRATION
7. DIRECT INSTRUCTION
8. DISCOVERY LEARNING
9. DISCUSSION
10. DRILL AND PRACTICE
11. EXAMINATION
12. FLIPPED CLASS
13. FULLY ONLINE INSTRUCTION
14. GROUP ACTIVITIES
15. INQUIRY
16. LECTURE
17. MENTAL MODELING
18. MOOC ONLINE
19. PROJECT DEVELOPMENT
20. PROJECT PRESENTATION
21. QUESTION AND ANSWER
22. ROLE PLAY
23. SELF-LEARNING
24. SEMINAR
25. TUTORIAL
26. WEB-ENHANCED LEARNING

PO-CA-PI MAPPING SUMMARY

MCA-LATERAL ENTRY

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
No CAs	4	4	4	3	3	2	2	2	3	3	3	3
No PIs	5	14	13	8	6	2	4	3	7	7	5	6

MCA-REGULAR

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
No CAs	4	4	4	3	3	2	2	2	3	3	3	3
No PIs	5	14	13	8	6	2	4	3	7	7	5	6

MCA-INTEGRATED

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
No CAs	4	4	4	3	3	2	2	2	3	3	3	3
No PIs	5	14	13	8	6	2	4	3	7	7	5	6

PhD-PHD MCA

PEO-PO MAPPING

Correlation Levels: 1: Slight (Low), 2: Moderate (Medium), 3: Substantial (High), empty – no correlation

MCA-LATERAL ENTRY

PEO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
PEO1	3	3	2	2	2	1	1	1	2	1	2	1
PEO2	1	2	1	2	1	1	1	1	1	2	1	3
PEO3	1	3	2	2	3	1	1	1	2	2	3	3

MCA-REGULAR

PEO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
PEO1	3	3	2	2	2	1	1	1	2	1	2	1
PEO2	1	2	1	2	1	1	1	1	1	2	1	3
PEO3	1	3	2	2	3	1	1	1	2	2	3	3

MCA-INTEGRATED

PEO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
PEO1	3	3	2	2	2	1	1	1	2	1	2	1
PEO2	1	2	1	2	1	1	1	1	1	2	1	3
PEO3	1	3	2	2	3	1	1	1	2	2	3	3

PhD-PHD MCA**PEO-MISSION MAPPING****MCA-LATERAL ENTRY**

PEO/MISSION	MS1	MS2	MS3	MS4
PEO1	1	3	2	1
PEO2	3	2	1	1
PEO3	3	3	1	2

MCA-REGULAR

PEO/MISSION	MS1	MS2	MS3	MS4
PEO1	1	3	2	1
PEO2	3	2	1	1
PEO3	3	3	1	2

MCA-INTEGRATED

PEO/MISSION	MS1	MS2	MS3	MS4
PEO1	3	3	2	2
PEO2	3	2	2	2
PEO3	3	3	2	2

PhD-PHD MCA**PROGRAM EXIT SURVEY****MCA-LATERAL ENTRY**

Sl.No.	The extent to which engineering education has enhanced your ability to:
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1	Apply the knowledge of mathematics, physics, chemistry and basic engineering to solve Engineering problems
	<i>Very Strong, Strong, Average, weak , Very Weak</i>
2	Identify, formulate and analyze complex Engineering problems and derive meaningful conclusions using principles of mathematics, science and engineering
	<i>Very Strong, Strong, Average, weak , Very Weak</i>
3	Design efficient processes and develop high quality products giving due consideration to safety, environmental issues and economic aspects
	<i>Very Strong, Strong, Average, weak , Very Weak</i>
4	Conduct investigation of complex Engineering problems using research based methods, analyze and interpret data to draw valid conclusions
	<i>Very Strong, Strong, Average, weak , Very Weak</i>
5	Acquire skills to select and use modern engineering tools and software for modeling, simulation and solution of complex Engineering problems
	<i>Very Strong, Strong, Average, weak , Very Weak</i>
6	Apply contextual knowledge to assess societal, health, safety, legal and cultural issues in professional practice to become a responsible engineer
	<i>Very Strong, Strong, Average, weak , Very Weak</i>
7	Understand the societal and environmental impacts of applying Engineering to solve real life problems and practice sustainable development
	<i>Very Strong, Strong, Average, weak , Very Weak</i>
8	Work with full commitment to professional and ethical responsibilities as an engineer
	<i>Very Strong, Strong, Average, weak , Very Weak</i>
9	Work individually in a team or as a leader in any demanding or challenging environment
	<i>Very Strong, Strong, Average, weak , Very Weak</i>

10	Communicate effectively with engineering community or the society at large through appropriate reports, designs, presentations and instructions
	<i>Very Strong, Strong, Average, weak , Very Weak</i>
11	Engage in life-long learning in the broadest context of developments in technology for continuous professional development
	<i>Very Strong, Strong, Average, weak , Very Weak</i>
12	Understand engineering and management principles and apply these to manage multidisciplinary projects and finance as an individual or as a member or leader of a team
	<i>Very Strong, Strong, Average, weak , Very Weak</i>
13	Solve complex problem by applying engineering knowledge in modern techniques and platforms
	<i>Excellent, Very good, Good, Satisfactory, Poor</i>
14	Perform tasks using the updated computational technology related to Industry, Research and Education
	<i>Very satisfied, Satisfied, Neither satisfied nor dissatisfied, Dissatisfied, Very dissatisfied</i>
15	Create innovative career path using the inculcated engineering and management knowledge
	<i>Excellent, Very good, Good, Satisfactory, Poor</i>

MCA-REGULAR

Sl.No.	The extent to which engineering education has enhanced your ability to:
1	Apply the knowledge of mathematics, physics, chemistry and basic engineering to solve Engineering problems
	<i>Very Strong, Strong, Average, weak , Very Weak</i>
2	Identify, formulate and analyze complex Engineering problems and derive meaningful conclusions using principles of mathematics, science and engineering
	<i>Very Strong, Strong, Average, weak , Very Weak</i>
3	Design efficient processes and develop high quality products giving due consideration to safety, environmental issues and economic aspects

	<i>Very Strong, Strong, Average, weak , Very Weak</i>
4	Conduct investigation of complex Engineering problems using research based methods, analyze and interpret data to draw valid conclusions
	<i>Very Strong, Strong, Average, weak , Very Weak</i>
5	Acquire skills to select and use modern engineering tools and software for modeling, simulation and solution of complex Engineering problems
	<i>Very Strong, Strong, Average, weak , Very Weak</i>
6	Apply contextual knowledge to assess societal, health, safety, legal and cultural issues in professional practice to become a responsible engineer
	<i>Very Strong, Strong, Average, weak , Very Weak</i>
7	Understand the societal and environmental impacts of applying Engineering to solve real life problems and practice sustainable development
	<i>Very Strong, Strong, Average, weak , Very Weak</i>
8	Work with full commitment to professional and ethical responsibilities as an engineer
	<i>Very Strong, Strong, Average, weak , Very Weak</i>
9	Work individually in a team or as a leader in any demanding or challenging environment
	<i>Very Strong, Strong, Average, weak , Very Weak</i>
10	Communicate effectively with engineering community or the society at large through appropriate reports, designs, presentations and instructions
	<i>Very Strong, Strong, Average, weak , Very Weak</i>
11	Engage in life-long learning in the broadest context of developments in technology for continuous professional development
	<i>Very Strong, Strong, Average, weak , Very Weak</i>
12	Understand engineering and management principles and apply these to manage multidisciplinary projects and finance as an individual or as a member or leader of a team
	<i>Very Strong, Strong, Average, weak , Very Weak</i>

13	Solve complex problem by applying engineering knowledge in modern techniques and platforms
	<i>Excellent, Very good, Good, Fair, Poor</i>
14	Perform tasks using the updated computational technology related to Industry, Research and Education
	<i>Excellent, Very good, Good, Fair, Poor</i>
15	Create innovative career path using the inculcated engineering and management knowledge
	<i>Excellent, Very good, Good, Fair, Poor</i>

MCA-INTEGRATED

Sl.No.	The extent to which engineering education has enhanced your ability to:
1	Apply the knowledge of mathematics, physics, chemistry and basic engineering to solve Engineering problems
	<i>Very Strong, Strong, Average, weak , Very Weak</i>
2	Identify, formulate and analyze complex Engineering problems and derive meaningful conclusions using principles of mathematics, science and engineering
	<i>Very Strong, Strong, Average, weak , Very Weak</i>
3	Design efficient processes and develop high quality products giving due consideration to safety, environmental issues and economic aspects
	<i>Very Strong, Strong, Average, weak , Very Weak</i>
4	Conduct investigation of complex Engineering problems using research based methods, analyze and interpret data to draw valid conclusions
	<i>Very Strong, Strong, Average, weak , Very Weak</i>
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	<i>Very Strong, Strong, Average, weak , Very Weak</i>
6	Apply contextual knowledge to assess societal, health, safety, legal and cultural issues in professional practice to become a responsible engineer

	<i>Very Strong, Strong, Average, weak , Very Weak</i>
7	Understand the societal and environmental impacts of applying Engineering to solve real life problems and practice sustainable development
	<i>Very Strong, Strong, Average, weak , Very Weak</i>
8	Work with full commitment to professional and ethical responsibilities as an engineer
	<i>Very Strong, Strong, Average, weak , Very Weak</i>
9	Work individually in a team or as a leader in any demanding or challenging environment
	<i>Very Strong, Strong, Average, weak , Very Weak</i>
10	Communicate effectively with engineering community or the society at large through appropriate reports, designs, presentations and instructions
	<i>Very Strong, Strong, Average, weak , Very Weak</i>
11	Engage in life-long learning in the broadest context of developments in technology for continuous professional development
	<i>Very Strong, Strong, Average, weak , Very Weak</i>
12	Understand engineering and management principles and apply these to manage multidisciplinary projects and finance as an individual or as a member or leader of a team
	<i>Very Strong, Strong, Average, weak , Very Weak</i>
13	Solve complex problem by applying engineering knowledge in modern techniques and platforms
	<i>Excellent, Very good, Good, Satisfactory, Poor</i>
14	Perform tasks using the updated computational technology related to Industry, Research and Education
	<i>Excellent, Very good, Good, Fair, Poor</i>
15	Create innovative career path using the inculcated engineering and management knowledge
	<i>Excellent, Very good, Good, Fair, Poor</i>

Sl.No.	The extent to which engineering education has enhanced your ability to:
1	Apply the knowledge of mathematics, physics, chemistry and basic engineering to solve Engineering problems
	<i>Very Strong, Strong, Average, weak , Very Weak</i>
2	Identify, formulate and analyze complex Engineering problems and derive meaningful conclusions using principles of mathematics, science and engineering
	<i>Very Strong, Strong, Average, weak , Very Weak</i>
3	Design efficient processes and develop high quality products giving due consideration to safety, environmental issues and economic aspects
	<i>Very Strong, Strong, Average, weak , Very Weak</i>
4	Conduct investigation of complex Engineering problems using research based methods, analyze and interpret data to draw valid conclusions
	<i>Very Strong, Strong, Average, weak , Very Weak</i>
5	Acquire skills to select and use modern engineering tools and software for modeling, simulation and solution of complex Engineering problems
	<i>Very Strong, Strong, Average, weak , Very Weak</i>
6	Apply contextual knowledge to assess societal, health, safety, legal and cultural issues in professional practice to become a responsible engineer
	<i>Very Strong, Strong, Average, weak , Very Weak</i>
7	Understand the societal and environmental impacts of applying Engineering to solve real life problems and practice sustainable development
	<i>Very Strong, Strong, Average, weak , Very Weak</i>
8	Work with full commitment to professional and ethical responsibilities as an engineer
	<i>Very Strong, Strong, Average, weak , Very Weak</i>
9	Work individually in a team or as a leader in any demanding or challenging environment
	<i>Very Strong, Strong, Average, weak , Very Weak</i>

10	Communicate effectively with engineering community or the society at large through appropriate reports, designs, presentations and instructions
	<i>Very Strong, Strong, Average, weak , Very Weak</i>
11	Engage in life-long learning in the broadest context of developments in technology for continuous professional development
	<i>Very Strong, Strong, Average, weak , Very Weak</i>
12	Understand engineering and management principles and apply these to manage multidisciplinary projects and finance as an individual or as a member or leader of a team
	<i>Very Strong, Strong, Average, weak , Very Weak</i>

ALUMNI SURVEY

Objective: Collect alumni views to help us improve our programs and assess the effectiveness of Outcome based education framework adopted here.

Sl.No.	Question
1	Name
2	Organization
3	Qualification secured from Amal Jyothi College of Engineering (AJCE)
4	Year of Graduation from AJCE
5	E-mail ID
6	Mobile No
7	Present Status
	<i>[Employed/ Entrepreneur/ Pursuing higher studies/ Working at home/ Other]</i>
8	Present Employment level
	<i>[High managerial/ Middle Managerial /Low Managerial/ Non-managerial/Other]</i>
9	Number of Years of experience at the present level
	<i>[above 10/ between 5 and 10/ between 2 and 5/ between 1 and 2/ less than 1]</i>

10	<p>Is your present job in the core area of Engineering you have studied?</p> <p><i>[very much/ strongly related / weakly related/ not at all related/ no relation to engineering at all]</i></p>
11	<p>How well have you been able to apply your knowledge of Mathematics, Science and Engineering fundamentals for the solution of engineering problems in your work?</p> <p><i>[very well/ somewhat well / rarely well/ not at all/ not applicable]</i></p>
12	<p>How well have you been able to identify, formulate and analyze complex Engineering problems and derive meaningful conclusions using principles of mathematics, science and engineering in your work?</p> <p><i>[very well/ somewhat well / rarely well/ not at all/ not applicable]</i></p>
13	<p>How well have you been able to design efficient processes and develop high quality products giving due consideration to safety, environmental issues and economic aspects?</p> <p><i>[very well/ somewhat well / rarely well/ not at all/ not applicable]</i></p>
14	<p>How well have you been able to conduct investigation of complex Engineering problems using research based methods, analyze and interpret data to draw valid conclusions?</p> <p><i>[very well/ somewhat well / rarely well/ not at all/ not applicable]</i></p>
15	<p>How well have you been able to select and use modern engineering tools and software for modeling, simulation and solution of complex Engineering problems?</p> <p><i>[very well/ somewhat well / rarely well/ not at all/ not applicable]</i></p>
16	<p>How well have you been able to apply contextual knowledge to assess societal, health, safety, legal and cultural issues in your professional practice as a responsible engineer?</p> <p><i>[very well/ somewhat well / rarely well/ not at all/ not applicable]</i></p>
17	<p>How well have you been able to understand the societal and environmental impacts of applying Engineering to solve real life problems and practice sustainable development?</p> <p><i>[very well/ somewhat well / rarely well/ not at all/ not applicable]</i></p>
18	<p>How well have you been able to work with full commitment to your professional and ethical responsibilities as an engineer?</p> <p><i>[very well/ somewhat well / rarely well/ not at all/ not applicable]</i></p>
19	<p>How well have you been able to work successfully as an individual, in a team or as a team leader in any demanding or challenging environment?</p> <p><i>[very well/ somewhat well / rarely well/ not at all/ not applicable]</i></p>

20	How well have you been able to communicate effectively through written and oral modes to all levels of stakeholders in society?
	<i>[very well/ somewhat well / rarely well/ not at all/ not applicable]</i>
21	How well have you been engaging yourself in life-long learning in the broadest context of developments in technology for continuous professional development?
	<i>[very well/ somewhat well / rarely well/ not at all/ not applicable]</i>
22	How well have you been able to apply engineering and management principles to manage multidisciplinary projects as an individual or as a team member or team leader?
	<i>[very well/ somewhat well / rarely well/ not at all/ not applicable]</i>
23	To what extent do you think you are able to apply your technical knowledge and take on higher responsibilities in industry, academics and diverse fields of your engineering specialization?
	<i>[very well/ somewhat well / rarely well/ not at all/ not applicable]</i>
24	How far you are in a position to pursue continual path of professional development, interspersed with advanced education and continuing enhancement programs, relevant to your specific career goals?
	<i>[very well/ somewhat well / rarely well/ not at all/ not applicable]</i>
25	How far you are able to channelize your knowledge base, business links and social contacts into socially beneficial activities?
	<i>[very well/ somewhat well / rarely well/ not at all/ not applicable]</i>
26	How far you able to provide effective and efficient real time solutions to Engineering problems in your area, based on acquired knowledge so as to empower industry and society?
	<i>[very well/ somewhat well / rarely well/ not at all/ not applicable]</i>
27	How far you are able to enhance research skills to develop sustainable solutions to Complex Engineering problems in your area of work?
	<i>[very well/ somewhat well / rarely well/ not at all/ not applicable]</i>
28	How far you have acquired managerial skills and ethical values to develop yourself as a true leader and team player?
	<i>[very well/ somewhat well / rarely well/ not at all/ not applicable]</i>
29	Other suggestions, if any:

EMPLOYER SURVEY

Objective: Collect the views of Employers of our Graduates to help us improve our programs and assess the effectiveness of Outcome based education framework practiced here.

Sl.No.	Question
1	Name of the Company/Organization
2	Name of the person responding to this Survey
3	Address
4	E-mail ID
5	Mobile No
6	Present Status (Title/Designation)
7	No. of years of Experience in the Company/Organization
8	Please, indicate the Professional Background of the person responding to this survey
9	Please indicate the number of Alumni employed by your Company/ Organization, who have graduated from Amal Jyothi College of Engineering (AJCE), who are considered for this Survey
10	How do you rate the level of engineering knowledge of our Graduate(s)?
	<i>[Excellent/ Good / Fair/ Needs improvement/ Not up to the mark]</i>
11	How do you evaluate the technical competence/skills of our Graduate (s)?
	<i>[Excellent/ Good / Fair/ Needs improvement/ Not up to the mark]</i>
12	How do you feel the Graduate(s) of AJCE were trained properly for carrying out the work in your company/ organization?
	<i>[Excellent/ Good / Fair/ Needs improvement/ Not up to the mark]</i>
13	How effectively can he/she use modern engineering tools to solve problems connected with his/her assigned work?
	<i>[Excellent/ Good / Fair/ Needs improvement/ Not up to the mark]</i>
14	Can the Graduate(s) work effectively as an individual or in a team to accomplish a common goal for the company/organization?
	<i>[Excellent/ Good / Fair/ Needs improvement/ Not up to the mark]</i>

15	<p>How far the Graduate(s) is/are able to lead a team of technical personnel to accomplish a given task for the company/organization?</p> <p><i>[Excellent/ Good / Fair/ Needs improvement/ Not up to the mark]</i></p>
16	<p>How well the Graduate(s) can work in a collaborative multidisciplinary professional work group in your organization?</p> <p><i>[Excellent/ Good / Fair/ Needs improvement/ Not up to the mark]</i></p>
17	<p>How active is/are the Graduate(s) as a member(s) of any professional society or organization?</p> <p><i>[Excellent/ Good / Fair/ Needs improvement/ Not up to the mark]</i></p>
18	<p>How far the Graduate is interested to enhance his/her professional skills by attending short courses/ workshops, training programs or conferences/ meetings?</p> <p><i>[Excellent/ Good / Fair/ Needs improvement/ Not up to the mark]</i></p>
19	<p>How far the Graduate is interested in enhancing his qualifications by enrolling for higher Degrees, like M Tech., MBA, Ph D etc.?</p> <p><i>[Excellent/ Good / Fair/ Needs improvement/ Not up to the mark]</i></p>
20	<p>How satisfied are you with the communication skills of our Graduate(s)?</p> <p><i>[Excellent/ Good / Fair/ Needs improvement/ Not up to the mark]</i></p>
21	<p>How far our Graduate(s) have the technical skills to design, develop, implement and modify integrated projects in the field of his/her engineering specialization?</p> <p><i>[Excellent/ Good / Fair/ Needs improvement/ Not up to the mark]</i></p>
22	<p>How do you rate the level of his/her integrity/adherence to ethical principles in his work?</p> <p><i>[Excellent/ Good / Fair/ Needs improvement/ Not up to the mark]</i></p>
23	<p>How do you rate his/her efficiency to manage finance related matters in your company/organization?</p> <p><i>[Excellent/ Good / Fair/ Needs improvement/ Not up to the mark]</i></p>
24	<p>How do you rate his/her concerns and awareness for environmental issues and sustainable development?</p> <p><i>[Excellent/ Good / Fair/ Needs improvement/ Not up to the mark]</i></p>
	<p>Overall, how well satisfied are you with the performance of the AJCE Graduate(s)?</p>

25	[Excellent/ Good / Fair/ Needs improvement/ Not up to the mark]
25	Suggestions, if any, for molding our Graduates as still better engineers

COURSE OUTCOMES

MCA-LATERAL ENTRY

SEMESTER-1

RLMCA201

Course Code	Course Name	L-T-P:C	Year of Introduction
RLMCA201	Computer Networks	3-1-0:4	2016

No.	Course Outcome - RLMCA201 - Computer Networks	Target
CO1	Master the terminology and concepts of the OSI reference model and the TCP-IP reference model	60%
CO2	Analyze basic taxonomy and terminology of the computer networking area.	60%
CO3	Distinguish advanced networking concepts of protocols, network interfaces, and design/performance issues in local area networks and wide area networks.	60%
CO4	Design and implement layer protocols within an environment	60%
CO5	Evaluate various related technical, administrative and social aspects of specific computer network protocols from standards documents and other primary materials found through research	60%
CO6	Expertise in some specific areas of networking such as the design and maintenance of individual networks	60%

COURSE END SURVEY - RLMCA201 - Computer Networks

Sl.No	Questions & Options
CO1	To what extent students are able to master the terminology and concepts of the OSI reference model and the TCP-IP reference model
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO2	To what extent students are able to analyze basic taxonomy and terminology of the computer networking area.
	Answer Choice- <i>Very high degree/High Degree/Moderate degree/Small Degree/Not at all</i>
CO3	To what extent students are able to distinguish advanced networking concepts of protocols, network interfaces, and design/performance issues in local area networks and wide area networks.
	Answer Choice- <i>Strongly Agree/Agree/Neutral Disagree/Strongly disagree</i>
CO4	To what extent students are able to design and implement layer protocols within an environment
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>

CO5	To extent students are able to evaluate various related technical, administrative and social aspects of specific computer network protocols from standards documents and other primary materials found through research
	Answer Choice- <i>Most acceptable/Moderately Acceptable Acceptable/Less acceptable/Not acceptable</i>
CO6	To what extent students are able to expertise in some specific areas of networking such as the design and maintenance of individual networks
	Answer Choice- <i>Very high degree/High Degree/Moderate degree/Small Degree/Not at all</i>

CO->PO MAPPING - RLMCA201 - Computer Networks

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	2	1		2							2
CO2		1			2			1				2
CO3	2		1	1			2	2	2			2
CO4					3		2		1			
CO5			2									1
CO6	2	3										1

CO->PSO MAPPING - RLMCA201 - Computer Networks

CO/PSO	PSO1	PSO2	PSO3
CO1		2	3
CO2	3	2	2
CO3	3	2	
CO4	2		2
CO5			3
CO6	2		

COURSE->PO MAPPING - RLMCA201 - Computer Networks

RLMCA201/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	3	2	1	3		2	2	2			2

COURSE->PSO MAPPING - RLMCA201 - Computer Networks

RLMCA201/PSO	PSO1	PSO2	PSO3
	3	2	3

RLMCA203

Course Code	Course Name	L-T-P:C	Year of Introduction
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RLMCA203	Software Engineering	3-1-0:4	2016
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No.	Course Outcome - RLMCA203 - Software Engineering	Target
CO1	Analyze the theory and foundations of software engineering.	59%
CO2	Evaluate the different process models and choose the best model for their project	59.1%
CO3	Create requirement models	59%
CO4	Understand the different development practices and its advantages	60%
CO5	Create test cases and implement different testing strategies	59%
CO6	Understand the environment and work culture in a software organization	60%

COURSE END SURVEY - RLMCA203 - Software Engineering

Sl.No	Questions & Options
CO1	To what extent you are able to analyze the theory and foundations of software engineering.
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO2	To what extent you are able to evaluate the different process models and choose the best model for their project
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO3	To what extent you are able to create requirement models
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO4	To what extent you are able to understand the different development practices and its advantages
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO5	To what extent you are able to create test cases and implement different testing strategies
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO6	To what extent you are able to understand the environment and work culture in a software organization
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>

CO->PO MAPPING - RLMCA203 - Software Engineering

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	1										
CO2		2			3	1						
CO3	3											
CO4			3		2		1					1
CO5			3									

CO6								2				
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CO->PSO MAPPING - RLMCA203 - Software Engineering

CO/PSO	PSO1	PSO2	PSO3
CO1	2		
CO2	3		
CO3	3		1
CO4		1	
CO5	3		
CO6			3

COURSE->PO MAPPING - RLMCA203 - Software Engineering

RLMCA203/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	2	3		3	1	1	2				1

COURSE->PSO MAPPING - RLMCA203 - Software Engineering

RLMCA203/PSO	PSO1	PSO2	PSO3
	3	1	3

RLMCA205

Course Code	Course Name	L-T-P:C	Year of Introduction
RLMCA205	Database Management Systems	3-1-0:4	2016

No.	Course Outcome - RLMCA205 - Database Management Systems	Target
CO1	Identify the purpose of database system,data modelling concepts and ER features	60%
CO2	Identify the relational model concepts and relational algebra.	60%
CO3	Apply Structured query language	65%
CO4	Apply different normalization techniques.	60%
CO5	Analyze the foundations of Database Transaction Processing	60%
CO6	Describe the basics of data mining and data warehousing	60%

COURSE END SURVEY - RLMCA205 - Database Management Systems

Sl.No	Questions & Options
CO1	To what extent you are able to identify the purpose of database system,data modelling concepts and ER features

	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO2	To what extent you are able to identify the relational model concepts and relational algebra.
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO3	To what extent you are able to apply Structured query language
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO4	To what extent you are able to apply different normalization techniques.
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO5	To what extent you are able to analyze the foundations of Database Transaction Processing
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO6	To what extent you are able to describe the basics of data mining and data warehousing
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>

CO->PO MAPPING - RLMCA205 - Database Management Systems

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1		2	2	1			1					2
CO2	3	3	2	3	2	2					3	2
CO3	3	2	3	2	1	2	2	2			2	3
CO4	3	3	3	2			2	2			2	2
CO5		2	2	2		2					2	2
CO6		2	2	3			2					3

CO->PSO MAPPING - RLMCA205 - Database Management Systems

CO/PSO	PSO1	PSO2	PSO3
CO1	2	2	2
CO2	3	2	2
CO3	3	3	2
CO4	2	2	2
CO5	2	1	1
CO6	2	1	2

COURSE->PO MAPPING - RLMCA205 - Database Management Systems

RLMCA205/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	3	3	3	2	2	2	2			3	3

COURSE->PSO MAPPING - RLMCA205 - Database Management Systems

RLMCA205/PSO	PSO1	PSO2	PSO3
	3	3	2

RLMCA207

Course Code	Course Name	L-T-P:C	Year of Introduction
RLMCA207	Design and Analysis of Algorithm	3-1-0:4	2016

No.	Course Outcome - RLMCA207 - Design and Analysis of Algorithm	Target
CO1	Implement design principles and concepts to algorithm design.	61%
CO2	Attribute the efficiency of algorithms using time and space complexity theory.	62%
CO3	Outline worst-case running times of algorithms using asymptotic analysis.	60.5%
CO4	Infer different algorithmic design strategies.	60.5%
CO5	Develop efficient algorithms for simple computational tasks.	61%
CO6	Infer basic computational concepts and the complexity classes P, NP, and NP-Complete.	60.5%

COURSE END SURVEY - RLMCA207 - Design and Analysis of Algorithm

Sl.No	Questions & Options
CO1	To what extent you are able to implement design principles and concepts to algorithm design.
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO2	To what extent you are able to calculate the efficiency of algorithms using time and space complexity theory
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO3	To what extent you are able to calculate worst-case running times of algorithms using asymptotic analysis
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO4	To what extent you are able to understand different algorithmic design strategies.
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO5	To what extent you are able to develop efficient algorithms for simple computational tasks
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO6	To what extent you are able to understand the basic computational concepts and the complexity classes P, NP, and NP-Complete
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>

CO->PO MAPPING - RLMCA207 - Design and Analysis of Algorithm

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	2	3									1
CO2	2	3		2	2		1					
CO3		3	2	2	1							
CO4	3	2	3	2	1	1	1			2		
CO5	3	3	3	2	1	1	1	1		1	1	1
CO6	2	3	3	3	3	1	1	1		1	1	1

CO->PSO MAPPING - RLMCA207 - Design and Analysis of Algorithm

CO/PSO	PSO1	PSO2	PSO3
CO1	3	2	1
CO2	3	2	1
CO3	2	1	
CO4	3	2	1
CO5	3	2	1
CO6	3	1	

COURSE->PO MAPPING - RLMCA207 - Design and Analysis of Algorithm

RLMCA207/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	3	3	3	3	1	1	1		2	1	1

COURSE->PSO MAPPING - RLMCA207 - Design and Analysis of Algorithm

RLMCA207/PSO	PSO1	PSO2	PSO3
	3	2	1

RLMCA209

Course Code	Course Name	L-T-P:C	Year of Introduction
RLMCA209	Web Programming	3-1-0:4	2016

No.	Course Outcome - RLMCA209 - Web Programming	Target
CO1	Acquire knowledge about functionalities of world wide web	60%
CO2	Explore markup languages features and create interactive web pages using them	60%
CO3	Structure Client side validation using scripting languages	60%

CO4	Acquire knowledge about Open source JavaScript libraries	60%
CO5	Implement front end web page and connect to the back end databases	60%
CO6	Execute Client-side & Server-side scripting	60%

COURSE END SURVEY - RLMCA209 - Web Programming

Sl.No	Questions & Options
CO1	To what extent you are able to acquire knowledge about functionalities of world wide web.
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO2	To what extent you are able to explore markup languages features and create interactive web pages using them.
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO3	To what extent you are able to structure Client side validation using scripting languages.
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO4	To what extent you are able to acquire knowledge about Open source JavaScript libraries.
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO5	To what extent you are able to implement front end web page and connect to the back end databases.
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO6	To what extent you are able to execute Client-side & Server-side scripting.
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>

CO->PO MAPPING - RLMCA209 - Web Programming

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	1					1	1					
CO2												
CO3				1	1							
CO4												
CO5												
CO6		1	1		1							

CO->PSO MAPPING - RLMCA209 - Web Programming

CO/PSO	PSO1	PSO2	PSO3
CO1	1		
CO2			
CO3			

CO4			
CO5			
CO6	2	1	

COURSE->PO MAPPING - RLMCA209 - Web Programming

RLMCA209/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	1	1	1	1	1	1	1					

COURSE->PSO MAPPING - RLMCA209 - Web Programming

RLMCA209/PSO	PSO1	PSO2	PSO3
	2	1	

RLMCA231

Course Code	Course Name	L-T-P:C	Year of Introduction
RLMCA231	Database Lab	0-0-4:1	2016

No.	Course Outcome - RLMCA231 - Database Lab	Target
CO1	Understand, appreciate and effectively explain the underlying concepts of database technologies	61%
CO2	Design and implement a database schema for a given problem-domain.	59%
CO3	Apply different normalization techniques	58.8%
CO4	Populate and query a database using SQL DML/DDI commands.	59%
CO5	Use any popular RDBMS for data access and updating.	59.1%
CO6	To get familiar with the functionality and support provided by commercially popular RDBMS.	59%

COURSE END SURVEY - RLMCA231 - Database Lab

Sl.No	Questions & Options
CO1	To what extent you are able to understand, appreciate and effectively explain the underlying concepts of database technologies
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO2	To what extent you are able to design and implement a database schema for a given problem-domain.
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO3	To what extent you are able to apply different normalization techniques
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO4	To what extent you are able to populate and query a database using SQL DML/DDI commands.

	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO5	To what extent you are able to use any popular RDBMS for data access and updating.
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO6	To what extent you are able to get familiar with the functionality and support provided by commercially popular RDBMS.
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>

CO->PO MAPPING - RLMCA231 - Database Lab

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	1											
CO2			3									
CO3	2											
CO4		2	1		1							
CO5			3									
CO6									1			

CO->PSO MAPPING - RLMCA231 - Database Lab

CO/PSO	PSO1	PSO2	PSO3
CO1	2		1
CO2	3		
CO3	1		
CO4	3		
CO5		2	
CO6		2	

COURSE->PO MAPPING - RLMCA231 - Database Lab

RLMCA231/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	2	2	3		1				1			

COURSE->PSO MAPPING - RLMCA231 - Database Lab

RLMCA231/PSO	PSO1	PSO2	PSO3
	3	2	1

RLMCA233

Course Code	Course Name	L-T-P:C	Year of Introduction
RLMCA233	Web Programming Lab	0-0-4:1	2016

No.	Course Outcome - RLMCA233 - Web Programming Lab	Target
CO1	Explore markup languages features and create interactive web pages using them	60%
CO2	Learn and design Client side validation using scripting languages.	60%
CO3	Acquire knowledge about Open source JavaScript libraries.	60%
CO4	Design front end web page and connect to the back end databases.	60%
CO5	Do Client-side & Server-side scripting	60%
CO6	Develop Web Applications	60%

COURSE END SURVEY - RLMCA233 - Web Programming Lab

Sl.No	Questions & Options
CO1	To what extent students are able to explore markup languages features and create interactive web pages using them
	Answer Choice- <i>Most acceptable/Moderately Acceptable Acceptable/Less acceptable/Not acceptable</i>
CO2	To what extent students are able to learn and design Client side validation using scripting languages.
	Answer Choice- <i>Very high degree/High Degree/Moderate degree/Small Degree/Not at all</i>
CO3	To what extent students are able to acquire knowledge about Open source JavaScript libraries.
	Answer Choice- <i>Very advanced/Advanced/Proficient/Basic/ Minimal</i>
CO4	To what extent students are able to design front end web page and connect to the back end databases.
	Answer Choice- <i>Very frequently/Frequently/Rarely Very rarely/Never</i>
CO5	To what extent students are able to do Client-side & Server-side scripting
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO6	To what extent students are able to develop Web Applications.
	Answer Choice- <i>Very satisfied/Satisfied/Neither satisfied nor dissatisfied/Dissatisfied /Very dissatisfied</i>

CO->PO MAPPING - RLMCA233 - Web Programming Lab

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2		3		3			1	1			3
CO2	1			2			1			1	1	2
CO3	1	3			3							2

CO4			2	3		1		2				
CO5	3				3				2			
CO6	3			3	2				2			1

CO->PSO MAPPING - RLMCA233 - Web Programming Lab

CO/PSO	PSO1	PSO2	PSO3
CO1	1	2	3
CO2	3	2	2
CO3	3		
CO4	2	2	2
CO5			2
CO6	2		

COURSE->PO MAPPING - RLMCA233 - Web Programming Lab

RLMCA233/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	3	3	3	3	1	1	2	2	1	1	3

COURSE->PSO MAPPING - RLMCA233 - Web Programming Lab

RLMCA233/PSO	PSO1	PSO2	PSO3
	3	2	3

SEMESTER-2**RLMCA202**

Course Code	Course Name	L-T-P:C	Year of Introduction
RLMCA202	Application Development and Maintenance	3-1-0:4	2016

No.	Course Outcome - RLMCA202 - Application Development and Maintenance	Target
CO1	Analyze the principles of software delivery and Configuration Management System	64%
CO2	Experiment with GIT and gain knowledge in continuous integration environment	64%
CO3	Analyze the stages of deployment pipeline that leads to the deployment of an application	64%
CO4	Describe the working of automated testing tools for functional and non functional requirements	64%
CO5	Analyze best coding practices and apply the same in their academic projects	63%
CO6	Infer the pragmatic approach for developing an industry ready application	63%

COURSE END SURVEY - RLMCA202 - Application Development and Maintenance

Sl.No	Questions & Options
CO1	To what extent you are able to analyze the principles of software delivery and configuration management system
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO2	To what extent you are able to experiment with GIT and gain knowledge in continuous integration environment.
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO3	To what extent you are able to analyze the stages of deployment pipeline that leads to the deployment of an application
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO4	To what extent you are able to describe the working of automated testing tools
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO5	To what extent you are able to analyze best coding practices
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO6	To what extent you are able to infer the pragmatic approach for developing an industry ready application
	Answer Choice- <i>Always/Very often/Sometimes/Rarely/Never</i>

CO->PO MAPPING - RLMCA202 - Application Development and Maintenance

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	2							2			
CO2	1		2		2				3	3	2	
CO3	2				3						2	
CO4	2				3							
CO5	2								3		2	2
CO6								2			2	3

CO->PSO MAPPING - RLMCA202 - Application Development and Maintenance

CO/PSO	PSO1	PSO2	PSO3
CO1			
CO2			
CO3			
CO4			
CO5			
CO6			

COURSE->PO MAPPING - RLMCA202 - Application Development and Maintenance

RLMCA202/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	2	2	2		3			2	3	3	2	3

COURSE->PSO MAPPING - RLMCA202 - Application Development and Maintenance

RLMCA202/PSO	PSO1	PSO2	PSO3

RLMCA204

Course Code	Course Name	L-T-P:C	Year of Introduction
RLMCA204	Big Data Technologies	3-1-0:4	2016

No.	Course Outcome - RLMCA204 - Big Data Technologies	Target
CO1	Analyze Big Data Fundamentals	63%
CO2	Demonstrate Hadoop applications for Big Data.	62%
CO3	Examine Analytic results using HDFS.	60%
CO4	Apply the concepts of MapReduce framework	59%
CO5	Compare Big Data Storage Technologies.	62%
CO6	Select an appropriate analysis technique for Data analysis project.	60%

COURSE END SURVEY - RLMCA204 - Big Data Technologies

Sl.No	Questions & Options
CO1	To what extent you are able to analyze Big Data Fundamentals
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO2	To what extent you are able to demonstrate Hadoop applications for Big Data.
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO3	To what extent you are able to examine Analytic results using HDFS.
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO4	To what extent you are able to apply the concepts of MapReduce framework
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO5	To what extent you are able to compare Big Data Storage Technologies.
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO6	To what extent you are able to select an appropriate analysis technique for Data analysis project.

Answer Choice- *Excellent/Very Good/Good Satisfactory/Needs improvement*

CO->PO MAPPING - RLMCA204 - Big Data Technologies

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2											
CO2	1	2										
CO3		3										
CO4			2									
CO5					2					2		
CO6			2									

CO->PSO MAPPING - RLMCA204 - Big Data Technologies

CO/PSO	PSO1	PSO2	PSO3
CO1			
CO2			
CO3			
CO4			
CO5			
CO6			

COURSE->PO MAPPING - RLMCA204 - Big Data Technologies

RLMCA204/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	2	3	2		2					2		

COURSE->PSO MAPPING - RLMCA204 - Big Data Technologies

RLMCA204/PSO	PSO1	PSO2	PSO3

RLMCA206

Course Code	Course Name	L-T-P:C	Year of Introduction
RLMCA206	Mobile Computing	3-1-0:4	2016

No.	Course Outcome - RLMCA206 - Mobile Computing	Target
CO1	Analysis and specialises the concepts of Mobile Communication and Computing Technologies	62%
CO2	Analyze the concepts and working of various mobile networks.	63%

CO3	Interpret various mobile OS concepts.	62%
CO4	Interpret and apply the key technological principles, protocols and methods for delivering and maintaining mobile applications	63%
CO5	Arrange different Android Development Environments and programs	62%
CO6	Tell current standard-compliant scripting/programming techniques for the successful deployment of mobile applications targeting a variety of platforms.	63%

COURSE END SURVEY - RLMCA206 - Mobile Computing

Sl.No	Questions & Options
CO1	To what extent you are able to explain the concepts of Mobile Communication and Computing Technologies
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO2	To what extent you are able to apply the concepts and working of various mobile networks
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO3	To what extent you are able to identify and apply various mobile OS concepts.
	Answer Choice- <i>Very frequently/Frequently/Rarely Very rarely/Never</i>
CO4	To what extent you are able to recognize the key technological principles, protocols and methods for delivering and maintaining mobile applications
	Answer Choice- <i>Strongly Agree/Agree/Neutral Disagree/Strongly disagree</i>
CO5	To what extent you are able to demonstrate the relevance of different Android Development Environments and programs
	Answer Choice- <i>Very high degree/High Degree/Moderate degree/Small Degree/Not at all</i>
CO6	To what extent you are able to recognize deployment of mobile applications
	Answer Choice- <i>5 out of 5/4 out of 5/3 out of 5/2 out of 5/1 out of 5</i>

CO->PO MAPPING - RLMCA206 - Mobile Computing

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	1	1	2	2	1	1	1	2	3	2	2
CO2	2	1	1	1	1	2	1	1	2	1	1	2
CO3	3	1	1	1	1	2	1	1	2	2	1	3
CO4	1	2	2	1	1	2	2	2	2	2	1	1
CO5	2	2	2	2	2	2	1	1	1	1	1	1
CO6	1	2	1	1	1	1	1	1	2	1	1	2

CO->PSO MAPPING - RLMCA206 - Mobile Computing

CO/PSO	PSO1	PSO2	PSO3
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CO1	2	2	2
CO2	2	2	2
CO3	2	2	2
CO4	2	2	2
CO5	2	2	2
CO6	2	2	2

COURSE->PO MAPPING - RLMCA206 - Mobile Computing

RLMCA206/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	2	2	2	2	2	2	2	2	3	2	3

COURSE->PSO MAPPING - RLMCA206 - Mobile Computing

RLMCA206/PSO	PSO1	PSO2	PSO3
	2	2	2

RLMCA208

Course Code	Course Name	L-T-P:C	Year of Introduction
RLMCA208	Introduction to Machine Learning	3-1-0:4	2016

No.	Course Outcome - RLMCA208 - Introduction to Machine Learning	Target
CO1	Analyze the basic concepts of Machine Learning and exploring the input data in detail.	62%
CO2	Identify machine learning problems and apply suitable algorithms.	61%
CO3	Interpreting how to apply a variety of learning algorithms to data.	61%
CO4	Examine the strengths and weakness of many popular machine learning approaches.	60%
CO5	Inferring the basic theory and models used in machine learning.	60%
CO6	Summarizing how to perform evaluation of learning algorithms and improve model selection.	60%

COURSE END SURVEY - RLMCA208 - Introduction to Machine Learning

Sl.No	Questions & Options
CO1	To what extent you are able to explain the basic steps in Machine Learning
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO2	To what extent you are able to identify a suitable algorithm for a learning task
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>

CO3	To what extent you are able to apply an appropriate algorithm for a particular problem
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO4	To what extent you are able to distinguish different machine learning models
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO5	To what extent you are able to recognize the basic concepts of different machine learning models.
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO6	To what extent you are able to evaluate and improve the performance of a machine learning model
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>

CO->PO MAPPING - RLMCA208 - Introduction to Machine Learning

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2				1			1				
CO2	2	2	2									
CO3	2			2		2						
CO4	2								1			
CO5	2						2			1		
CO6	2										2	1

CO->PSO MAPPING - RLMCA208 - Introduction to Machine Learning

CO/PSO	PSO1	PSO2	PSO3
CO1	2		
CO2	2		
CO3	2		
CO4		2	
CO5	2		
CO6			2

COURSE->PO MAPPING - RLMCA208 - Introduction to Machine Learning

RLMCA208/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	2	2	2	2	1	2	2	1	1	1	2	1

COURSE->PSO MAPPING - RLMCA208 - Introduction to Machine Learning

RLMCA208/PSO	PSO1	PSO2	PSO3
	2	2	2

RLMCA266

Course Code	Course Name	L-T-P:C	Year of Introduction
RLMCA266	Advanced Database Systems	3-1-0:4	2016

No.	Course Outcome - RLMCA266 - Advanced Database Systems	Target
CO1	Explain the roles that databases play in organizations and familiar with basic database storage and file organization.	61.1%
CO2	Identify the database accessing techniques: indexing and hashing.	61.1%
CO3	Examine the basics of query processing.	61.1%
CO4	Discuss the basics of Object Oriented Databases and XML.	60.1%
CO5	Describe the concept of advanced topics such as database performance tuning, distributed databases.	61.1%
CO6	Analyze non-relational database systems and structures and New Generation Database Systems like MongoDB.	60.1%

COURSE END SURVEY - RLMCA266 - Advanced Database Systems

Sl.No	Questions & Options
CO1	To what extent you are able to explain the roles that databases play in organizations and familiar with basic database storage and file organization.
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO2	To what extent you are able to identify the database accessing techniques: indexing and hashing.
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO3	To what extent you are able to examine the basics of query processing.
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO4	To what extent you are able to discuss the basics of Object Oriented Databases and XML.
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO5	To what extent you are able to describe the concept of advanced topics such as database performance tuning, distributed databases.
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO6	To what extent you are able to analyze non-relational database systems and structures and New Generation Database Systems like MongoDB.
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>

CO->PO MAPPING - RLMCA266 - Advanced Database Systems

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12

CO1							1					
CO2					1							
CO3				1								
CO4	1											
CO5	1											
CO6	1											

CO->PSO MAPPING - RLMCA266 - Advanced Database Systems

CO/PSO	PSO1	PSO2	PSO3
CO1		1	
CO2	1		
CO3		1	
CO4	1		
CO5	1		
CO6	1		

COURSE->PO MAPPING - RLMCA266 - Advanced Database Systems

RLMCA266/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	1			1	1		1					

COURSE->PSO MAPPING - RLMCA266 - Advanced Database Systems

RLMCA266/PSO	PSO1	PSO2	PSO3
	1	1	

RLMCA232

Course Code	Course Name	L-T-P:C	Year of Introduction
RLMCA232	System Design Lab	0-0-4:1	2016

No.	Course Outcome - RLMCA232 - System Design Lab	Target
CO1	Experiment basic Linux commands.	62%
CO2	Analyze the fundamentals of shell scripting/programming.	63%
CO3	Formulate Shell Programs for system administration.	63%
CO4	Explain Use of GIT and gain knowledge in using version control.	63%

CO5	practice and Develop programs for client- server communications using various network protocols(TCP/UDP).	64%
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COURSE END SURVEY - RLMCA232 - System Design Lab

Sl.No	Questions & Options
CO1	To what extent you are able to inspect the basic Linux commands.
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO2	To what extent you are able to apply shell scripting/programming.
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO3	To what extent you are able to apply Shell Programs for system administration
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO4	To what extent you are able to demonstrate GIT and version control.
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO5	To what extent you are able to demonstrate various network protocols(TCP/UDP) with JAVA
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>

CO->PO MAPPING - RLMCA232 - System Design Lab

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2			2								
CO2					1							
CO3												
CO4		1	1			1						
CO5												

CO->PSO MAPPING - RLMCA232 - System Design Lab

CO/PSO	PSO1	PSO2	PSO3
CO1	1	1	
CO2			
CO3			
CO4			
CO5			

COURSE->PO MAPPING - RLMCA232 - System Design Lab

RLMCA232/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	2	1	1	2	1	1						

COURSE->PSO MAPPING - RLMCA232 - System Design Lab

RLMCA232/PSO	PSO1	PSO2	PSO3
	1	1	

RLMCA234

Course Code	Course Name	L-T-P:C	Year of Introduction
RLMCA234	Mobile Application Development Lab	0-0-4:1	2016

No.	Course Outcome - RLMCA234 - Mobile Application Development Lab	Target
CO1	Explain Android platform and the Android Studio IDE	63%
CO2	Differentiate Android components, Activities and their lifecycle, Intents	62%
CO3	Design and understand UI Design: Widgets and Layouts, UI Events, Event Listeners	64%
CO4	organize the Use of 2D graphics: Canvas/Drawing using a view	63%
CO5	Experiment and build a functional Android application	63%
CO6	Manage and Debug Android applications using different tools and plugins	62%

COURSE END SURVEY - RLMCA234 - Mobile Application Development Lab

Sl.No	Questions & Options
CO1	To what extent you are able to explain Android Studio IDE
	Answer Choice- 5 out of 5/4 out of 5/3 out of 5/2 out of 5/1 out of 5
CO2	To what extent you are able to explain Android components, Activities and their lifecycle, Intents
	Answer Choice- 5 out of 5/4 out of 5/3 out of 5/2 out of 5/1 out of 5
CO3	To what extent you are able to apply and understand UI Design: Widgets and Layouts, UI Events, Event Listeners
	Answer Choice- Excellent/Very Good/Good Satisfactory/Needs improvement
CO4	To what extent you are able to demonstrate the Use of 2D graphics: Canvas/Drawing using a view
	Answer Choice- 5 out of 5/4 out of 5/3 out of 5/2 out of 5/1 out of 5
CO5	To what extent you are able to demonstrate and build a functional Android application
	Answer Choice- Very high degree/High Degree/Moderate degree/Small Degree/Not at all
CO6	To what extent you are able to apply and manage and Debug Android applications using different tools
	Answer Choice- 5 out of 5/4 out of 5/3 out of 5/2 out of 5/1 out of 5

CO->PO MAPPING - RLMCA234 - Mobile Application Development Lab

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	1				2							
CO2		2			1							
CO3	2	1			2							
CO4				1	2							
CO5			3		2						2	
CO6					3				2	1	2	

CO->PSO MAPPING - RLMCA234 - Mobile Application Development Lab

CO/PSO	PSO1	PSO2	PSO3
CO1	2		2
CO2		2	
CO3		2	
CO4	2		
CO5	2		
CO6	2		

COURSE->PO MAPPING - RLMCA234 - Mobile Application Development Lab

RLMCA234/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	2	2	3	1	3				2	1	2	

COURSE->PSO MAPPING - RLMCA234 - Mobile Application Development Lab

RLMCA234/PSO	PSO1	PSO2	PSO3
	2	2	2

SEMESTER-3**RLMCA303**

Course Code	Course Name	L-T-P:C	Year of Introduction
RLMCA303	E-Commerce	3-0-0:3	2016

No.	Course Outcome - RLMCA303 - E-Commerce	Target
CO1	Realise the problems involved in designing and building ecommerce systems	60.5%
CO2	Design E-Commerce systems that fully meet the requirements of the intended users	60.5%

CO3	Analyse and evaluate the Internet trading relationships including Business to Consumer, Business-to-Business, Intra-organizational.	60.5%
CO4	Work with electronic payment systems	60.5%
CO5	Make ethical decisions related to e-commerce considering laws, privacy, and security	60.5%
CO6	Demonstrate retailing in E-commerce by analyzing branding and pricing strategies, using and determining the effectiveness of market research	60.5%

COURSE END SURVEY - RLMCA303 - E-Commerce

Sl.No	Questions & Options
CO1	To what extent you can realise the problems involved in designing and building ecommerce systems?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO2	To what extent you can design E-Commerce systems that fully meet the requirements of the intended users?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO3	To what extent you can analyse and evaluate the Internet trading relationships including Business to Consumer, Business-to-Business, Intra-organizational?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO4	To what extent you can work with electronic payment systems?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO5	To what extent you can make ethical decisions related to e-commerce considering laws, privacy, and security?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO6	To what extent you can demonstrate retailing in E-commerce by analyzing branding and pricing strategies, using and determining the effectiveness of market research?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>

CO->PO MAPPING - RLMCA303 - E-Commerce

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1		1	2	2	2	1		1	1			1
CO2	1	1	2	2	1	1			1	2	1	
CO3		2	1	2		1	1		1	2	3	1
CO4	2	1			2		1	1	1			
CO5				1	1	3	1	2		1	1	1
CO6	1	1	2	2	1	1	3			2	1	

CO->PSO MAPPING - RLMCA303 - E-Commerce

CO/PSO	PSO1	PSO2	PSO3
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CO1	3		1
CO2	2	1	1
CO3	2	1	1
CO4		1	
CO5			
CO6	1		

COURSE->PO MAPPING - RLMCA303 - E-Commerce

RLMCA303/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	2	2	2	2	2	3	3	2	1	2	3	1

COURSE->PSO MAPPING - RLMCA303 - E-Commerce

RLMCA303/PSO	PSO1	PSO2	PSO3
	3	1	1

RLMCA301

Course Code	Course Name	L-T-P:C	Year of Introduction
RLMCA301	Web Data Mining	3-1-0:4	2016

No.	Course Outcome - RLMCA301 - Web Data Mining	Target
CO1	Analyze the basic Data Mining, Web Mining concepts and apply at least one of the algorithms used for Association Rule Mining.	60.3%
CO2	Apply a wide range of Classification, Prediction, Estimation and Clustering algorithms including k-means Clustering.	60.1%
CO3	Analyze the quantitative evaluation methods for the IR systems and data mining techniques.	60.6%
CO4	Evaluate various kinds of Text and Web Page Pre-Processing.	60.2%
CO5	Understand the popular Web Search methods and Ranking principles.	60.2%
CO6	Analyze the Data Collection and Data Modelling tasks for Web Usage Mining.	60.3%

COURSE END SURVEY - RLMCA301 - Web Data Mining

Sl.No	Questions & Options
CO1	To what extent you are able to analyze the basic Data Mining, Web Mining concepts and apply at least one of the algorithms used for Association Rule Mining? Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO2	To what extent you are able to apply a wide range of Classification, Prediction, Estimation and Clustering algorithms including k-means Clustering?

	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO3	To what extent you are able to analyze the quantitative evaluation methods for the IR systems and data mining techniques?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO4	To what extent you are able to evaluate various kinds of Text and Web Page Pre-Processing?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO5	To what extent you are able to understand the popular Web Search methods and Ranking principles?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO6	To what extent you are able to analyze the Data Collection and Data Modelling tasks for Web Usage Mining?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>

CO->PO MAPPING - RLMCA301 - Web Data Mining

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	2	1	3	2	2		1				2
CO2	3	3	3	3	1	2	2		1	2	1	2
CO3	2	2	2	2	2	2						2
CO4	2			3	2							2
CO5	2	2	2	2	2							2
CO6	2	2	2	2	2	2						2

CO->PSO MAPPING - RLMCA301 - Web Data Mining

CO/PSO	PSO1	PSO2	PSO3
CO1	3	3	2
CO2	3	2	2
CO3	2	2	2
CO4	2	2	2
CO5	2	2	2
CO6	2	2	1

COURSE->PO MAPPING - RLMCA301 - Web Data Mining

RLMCA301/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	3	3	3	2	2	2	1	1	2	1	2

COURSE->PSO MAPPING - RLMCA301 - Web Data Mining

RLMCA301/PSO	PSO1	PSO2	PSO3
	3	3	2

RLMCA369

Course Code	Course Name	L-T-P:C	Year of Introduction
RLMCA369	PYTHON Programming	3-1-0:4	2016

No.	Course Outcome - RLMCA369 - PYTHON Programming	Target
CO1	Demonstrate the use of Python lists and dictionaries	60.1%
CO2	Master an understanding of Python especially the object-oriented concepts,	60.2%
CO3	Master an understanding of the built-in objects of Python	60.1%
CO4	Be exposed to advanced applications such as TCP/IP network programming, Client/Server Programming, Web applications, discrete-event simulations, Scientific Python etc.	60.1%
CO5	Master an understanding of Database, GUI Programming in Python	60.1%
CO6	Write Python programs to illustrate concise and efficient algorithms	60.1%

COURSE END SURVEY - RLMCA369 - PYTHON Programming

Sl.No	Questions & Options
CO1	To what extent students can demonstrate the use of Python lists and dictionaries
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO2	To what extent students get understanding of Python especially the object-oriented concepts
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO3	To what extent students are able to have master an understanding of the built-in objects of Python
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO4	To what extent students can be exposed to advanced applications such as TCP/IP network programming, Client/Server Programming, Web applications, discrete-event simulations, Scientific Python etc.
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO5	To what extent students get understanding of Database, GUI Programming in Python
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO6	To what extent students are able to write Python programs to illustrate concise and efficient algorithms
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>

CO->PO MAPPING - RLMCA369 - PYTHON Programming

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	1	1	1	1		1	1	1	3	1		
CO2	1		1		1		1		1	1	1	
CO3	1	1	1		1				1	1	1	
CO4	1	1	1	2	2	1	2	1	1	2	1	1
CO5	1	1	3	1	1	1			1	1	1	3
CO6			1	1	1				1			

CO->PSO MAPPING - RLMCA369 - PYTHON Programming

CO/PSO	PSO1	PSO2	PSO3
CO1	1	1	1
CO2	1	1	1
CO3	1	1	1
CO4	1	1	1
CO5	1	1	1
CO6	1	1	1

COURSE->PO MAPPING - RLMCA369 - PYTHON Programming

RLMCA369/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	1	1	3	2	2	1	2	1	3	2	1	3

COURSE->PSO MAPPING - RLMCA369 - PYTHON Programming

RLMCA369/PSO	PSO1	PSO2	PSO3
	1	1	1

RLMCA381

Course Code	Course Name	L-T-P:C	Year of Introduction
RLMCA381	Cloud Computing	3-1-0:4	2016

No.	Course Outcome - RLMCA381 - Cloud Computing	Target
CO1	To understand Cloud Computing concepts, classifications, value proportions and the basic cloud architecture.	50%
CO2	To have knowledge abstraction and virtualization techniques.	50%
CO3	Exploring major Cloud service platforms currently ruling the industry.	50%

CO4	To have knowledge on Cloud infrastructure, various standards used and cloud security features.	51%
CO5	Exploring various Cloud services and applications currently used in industry.	55%
CO6	Understanding how mobile devices are utilizing Cloud services.	60%

COURSE END SURVEY - RLMCA381 - Cloud Computing

Sl.No	Questions & Options
CO1	To what extent do you understand Cloud Computing concepts, classifications, value proportions and the basic cloud architecture.
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO2	To what extent do you know knowledge abstraction and virtualization techniques.
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO3	To what extent do you explore major Cloud service platforms currently ruling the industry.
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO4	To what extent do you have knowledge on Cloud infrastructure, various standards used and cloud security features.
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO5	To what extent you can explore various Cloud services and applications currently used in industry.
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO6	To what extent you can understand how mobile devices are utilizing Cloud services.
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>

CO->PO MAPPING - RLMCA381 - Cloud Computing

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2				1							
CO2												3
CO3		3	2					3				
CO4					2							
CO5												
CO6							2					

CO->PSO MAPPING - RLMCA381 - Cloud Computing

CO/PSO	PSO1	PSO2	PSO3
CO1		2	
CO2			

CO3		3	
CO4			
CO5		1	
CO6			

COURSE->PO MAPPING - RLMCA381 - Cloud Computing

RLMCA381/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	2	3	2		2		2	3				3

COURSE->PSO MAPPING - RLMCA381 - Cloud Computing

RLMCA381/PSO	PSO1	PSO2	PSO3
		3	

RLMCA341

Course Code	Course Name	L-T-P:C	Year of Introduction
RLMCA341	Seminar	0-0-2:2	2016

No.	Course Outcome - RLMCA341 - Seminar	Target
CO1	Analyze technically relevant current topics on computer science/information technology/research.	62%
CO2	Utilize technical resources	62%
CO3	Create technical documents and give oral presentations related to the work completed	61%
CO4	Acquire the confidence in presenting the topic	61%
CO5	Create audience-centered presentations	61%
CO6	Create well-rehearsed and polished presentations meeting time, content, and interactive requirements.	61%

COURSE END SURVEY - RLMCA341 - Seminar

Sl.No	Questions & Options
CO1	To what extent you can analyze technically relevant current topics on computer science/information technology/research,
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO2	To what extent you can utilize technical resources
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO3	To what extent you can create technical documents and give oral presentations related to the work completed

	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO4	To what extent you can acquire the confidence in presenting the topic
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO5	To what extent you can create audience-centered presentations
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO6	To what extent you can create well-rehearsed and polished presentations meeting time, content, and interactive requirements.
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>

CO->PO MAPPING - RLMCA341 - Seminar

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3						2					2
CO2												
CO3			3					3			2	
CO4					2							
CO5				2								
CO6	2									2		

CO->PSO MAPPING - RLMCA341 - Seminar

CO/PSO	PSO1	PSO2	PSO3
CO1		2	
CO2	3		
CO3			
CO4		3	
CO5			
CO6		3	

COURSE->PO MAPPING - RLMCA341 - Seminar

RLMCA341/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3		3	2	2		2	3		2	2	2

COURSE->PSO MAPPING - RLMCA341 - Seminar

RLMCA341/PSO	PSO1	PSO2	PSO3
	3	3	

RLMCA351

Course Code	Course Name	L-T-P:C	Year of Introduction
RLMCA351	Mini Project	0-0-4:2	2016

No.	Course Outcome - RLMCA351 - Mini Project	Target
CO1	Apply the software engineering principles on a real software project	61%
CO2	Develop a software product using the Agile methodology.	61%
CO3	Apply build tools and IDE Environment	61%
CO4	Work with different version control system such as git	62%
CO5	Apply technology tools to analyse,design,develop and test the application	62%
CO6	Design a system, model, component or a process to meet desired/industrial needs	62%

COURSE END SURVEY - RLMCA351 - Mini Project

Sl.No	Questions & Options
CO1	To what extent you can apply the software engineering principles on a real software project
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO2	To what extent you can develop a software product using the Agile methodology.
	Answer Choice- <i>Strongly Agree/Agree/Neutral Disagree/Strongly disagree</i>
CO3	To what extent you can apply build tools and IDE Environment
	Answer Choice- <i>Very satisfied/Satisfied/Neither satisfied nor dissatisfied/Dissatisfied /Very dissatisfied</i>
CO4	To what extent you can work with different version control system such as git
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO5	To what extent you can apply technology tools to analyse,design,develop and test the application
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO6	To what extent you can design a system, model, component or a process to meet desired/industrial needs
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>

CO->PO MAPPING - RLMCA351 - Mini Project

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3									3		
CO2							2					
CO3												

CO4			2									
CO5					2			3				
CO6												

CO->PSO MAPPING - RLMCA351 - Mini Project

CO/PSO	PSO1	PSO2	PSO3
CO1		2	
CO2			
CO3		2	
CO4			
CO5		3	
CO6	2		

COURSE->PO MAPPING - RLMCA351 - Mini Project

RLMCA351/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3		2		2		2	3		3		

COURSE->PSO MAPPING - RLMCA351 - Mini Project

RLMCA351/PSO	PSO1	PSO2	PSO3
	2	3	

RLMCA305

Course Code	Course Name	L-T-P:C	Year of Introduction
RLMCA305	Cryptography and Cyber Security	3-1-0:4	2016

No.	Course Outcome - RLMCA305 - Cryptography and Cyber Security	Target
CO1	Analyze fundamentals of secret and public cryptography.	61%
CO2	Define mathematical basics of Cryptography and Cyber Security.	61%
CO3	Analyze the symmetric encryption techniques.	60%
CO4	Illustrate various Public key cryptographic techniques	60%
CO5	Evaluate the authentication applications and hash algorithms.	60%
CO6	Distinguish various protocols for network security to protect against the threats in the networks.	60%

COURSE END SURVEY - RLMCA305 - Cryptography and Cyber Security

Sl.No	Questions & Options

CO1	To What Extent you are able to analyze the fundamentals of secret and public cryptography.
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO2	To what extent you are able to define the mathematical basics of Cryptography and Cyber Security.
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO3	To what extent you are able to analyze the symmetric encryption techniques.
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO4	To what extent you are able to Illustrate various Public key cryptographic techniques.
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO5	To what extent you are able to evaluate the authentication applications and hash algorithms.
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO6	To what extent you are able to distinguish various protocols for network security to protect against the threats in the networks.
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>

CO->PO MAPPING - RLMCA305 - Cryptography and Cyber Security

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	1		1				1				
CO2	2	2										
CO3					1							
CO4						1						
CO5			2			2				1		
CO6							1					

CO->PSO MAPPING - RLMCA305 - Cryptography and Cyber Security

CO/PSO	PSO1	PSO2	PSO3
CO1		1	
CO2			
CO3	1		
CO4			
CO5			
CO6			

COURSE->PO MAPPING - RLMCA305 - Cryptography and Cyber Security

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12

RLMCA305/PO	2	2	2	1	1	2	1	1		1		
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COURSE->PSO MAPPING - RLMCA305 - Cryptography and Cyber Security

RLMCA305/PSO	PSO1	PSO2	PSO3
	1	1	

SEMESTER-4**RLMCA352**

Course Code	Course Name	L-T-P:C	Year of Introduction
RLMCA352	Project and Viva Voce	0-0-6:12	2016

No.	Course Outcome - RLMCA352 - Project and Viva Voce	Target
CO1	Apply the software engineering principles in a software project	62.1%
CO2	Develop a software product using the Agile methodology.	61.5%
CO3	Apply build tools and IDE Environment	62.1%
CO4	Experiment with different version control system such as GitHub	62.1%
CO5	Apply technology tools to analyse, design, develop and test the application	62.1%
CO6	Design a system, model, component or a process to meet desired/industrial needs	62.1%

COURSE END SURVEY - RLMCA352 - Project and Viva Voce

Sl.No	Questions & Options
CO1	To what extent you are able to apply the software engineering principles in a software project
	Answer Choice- <i>Very advanced/Advanced/Proficient/Basic/ Minimal</i>
CO2	To what extent you are able to develop a software product using the Agile methodology.
	Answer Choice- <i>Very advanced/Advanced/Proficient/Basic/ Minimal</i>
CO3	To what extent you are able to apply build tools and IDE Environment
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO4	To what extent you are able to experiment different version control system such as GitHub
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO5	To what extent you are able to apply technology tools to analyse, design, develop and test the application
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO6	To what extent you are able to design a system, model, component or a process to meet desired/industrial needs

Answer Choice- *Excellent/Very Good/Good Satisfactory/Needs improvement*

CO->PO MAPPING - RLMCA352 - Project and Viva Voce

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	3										
CO2		2	3			2					2	2
CO3	2		2							2		
CO4			2		2				3	3	3	
CO5	2	2	3		3						2	
CO6	2	2	3	2					3		2	

CO->PSO MAPPING - RLMCA352 - Project and Viva Voce

CO/PSO	PSO1	PSO2	PSO3
CO1	3	3	
CO2	2		
CO3		1	
CO4			2
CO5	2		
CO6			2

COURSE->PO MAPPING - RLMCA352 - Project and Viva Voce

RLMCA352/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	3	3	2	3	2			3	3	3	2

COURSE->PSO MAPPING - RLMCA352 - Project and Viva Voce

RLMCA352/PSO	PSO1	PSO2	PSO3
	3	3	2

SEMESTER-5
MCA501

Course Code	Course Name	L-T-P:C	Year of Introduction
MCA501	Computer Security	4-0-0:4	2014

No.	Course Outcome - MCA501 - Computer Security	Target
CO1	Analyze Network security threats and countermeasures	60%

CO2	Evaluate various kinds of Encryption standards	60%
CO3	Compare different algorithms used in Network Security	60%
CO4	Interpret advanced security issues and technologies	60%
CO5	Analyze various hardware solutions for network security	62%
CO6	Infer various authentication protocols and processes	62%

COURSE END SURVEY - MCA501 - Computer Security

Sl.No	Questions & Options
CO1	To what extent you are able to analyze Network security threats and countermeasures
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO2	To what extent you are able to evaluate various kinds of Encryption standards
	Answer Choice- <i>Very advanced/Advanced/Proficient/Basic/ Minimal</i>
CO3	To what extent you are able to compare different algorithms used in Network Security
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO4	To what extent you are able to interpret advanced security issues and technologies
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO5	To what extent you are able to analyze various hardware solutions for network security
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO6	To what extent you are able to infer various authentication protocols and processes
	Answer Choice- <i>Always/Very often/Sometimes/Rarely/Never</i>

CO->PO MAPPING - MCA501 - Computer Security

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1												
CO2												
CO3												
CO4												
CO5												
CO6												

CO->PSO MAPPING - MCA501 - Computer Security

CO/PSO	PSO1	PSO2	PSO3
CO1			

CO2			
CO3			
CO4			
CO5			
CO6			

COURSE->PO MAPPING - MCA501 - Computer Security

MCA501/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12

COURSE->PSO MAPPING - MCA501 - Computer Security

MCA501/PSO	PSO1	PSO2	PSO3

MCA502

Course Code	Course Name	L-T-P:C	Year of Introduction
MCA502	InT AND DISTRIBUTED APPLICATIONS	4-0-0:4	2014

No.	Course Outcome - MCA502 - InT AND DISTRIBUTED APPLICATIONS	Target
CO1	Describe the difference between OSI model and TCP/IP protocol suite.	62%
CO2	Illustrate about different types of protocols used in different levels of TCP/IP protocol suite.	60%
CO3	Analyze why we need different protocols.	60%
CO4	Interpret about the multimedia data from sender to receiver.	60%
CO5	Explain about different types of data which can be sent from sender to receiver.	60%
CO6	Differentiate between different protocols and protocol suites and justify the need of protocols studied.	60%

COURSE END SURVEY - MCA502 - InT AND DISTRIBUTED APPLICATIONS

Sl.No	Questions & Options
CO1	To what extend you are able to recognize the difference between different protocol suites?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO2	To what extend you are able to describe different types of protocols used in different levels of TCP/IP protocol suites?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
	To what extend you are able to analyze different protocols?

CO3	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO4	To what extend you are able to recognize the multimedia data?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO5	To what extend you are able to explain about different types of data?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO6	To what extend you are able to demonstrate the relevance of different types of protocols?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>

CO->PO MAPPING - MCA502 - InT AND DISTRIBUTED APPLICATIONS

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1												
CO2												
CO3												
CO4												
CO5												
CO6												

CO->PSO MAPPING - MCA502 - InT AND DISTRIBUTED APPLICATIONS

CO/PSO	PSO1	PSO2	PSO3
CO1			
CO2			
CO3			
CO4			
CO5			
CO6			

COURSE->PO MAPPING - MCA502 - InT AND DISTRIBUTED APPLICATIONS

MCA502/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12

COURSE->PSO MAPPING - MCA502 - InT AND DISTRIBUTED APPLICATIONS

MCA502/PSO	PSO1	PSO2	PSO3

MCA503

Course Code	Course Name	L-T-P:C	Year of Introduction
MCA503	Computer Graphics	4-0-0:4	2014

No.	Course Outcome - MCA503 - Computer Graphics	Target
CO1	Evaluate the computer graphics display techniques and categorize various graphic software systems	61%
CO2	Analyse the basic output primitive drawing algorithms along with 2D transformation concepts to display the objects	61%
CO3	Devise the projection transformations and explain the 3D object representation models	61%
CO4	Demonstrate the 3D transformation concepts to model an object	60%
CO5	Evaluate different surface detection methods	61%
CO6	Compare different shading methods and ray tracing.	61%

COURSE END SURVEY - MCA503 - Computer Graphics

Sl.No	Questions & Options
CO1	To what extend you are able to explain the difference of display devices and graphics software systems
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO2	To what extend you are able to describe the primitive drawing algorithms along with 2D transformation concepts to display the objects
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO3	To what extend you are able to demonstrate the 3D object representation models
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO4	To what extend you are able to demonstrate the 3D transformation concepts to model an object
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO5	To what extend you are able to identify and apply different surface detection methods
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO6	To what extent you are able to recognize ray tracing metohd and different shading methods
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>

CO->PO MAPPING - MCA503 - Computer Graphics

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1												
CO2												
CO3												

CO4												
CO5												
CO6												

CO->PSO MAPPING - MCA503 - Computer Graphics

CO/PSO	PSO1	PSO2	PSO3
CO1			
CO2			
CO3			
CO4			
CO5			
CO6			

COURSE->PO MAPPING - MCA503 - Computer Graphics

MCA503/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12

COURSE->PSO MAPPING - MCA503 - Computer Graphics

MCA503/PSO	PSO1	PSO2	PSO3

MCA504

Course Code	Course Name	L-T-P:C	Year of Introduction
MCA504	Data mining	4-0-0:4	2014

No.	Course Outcome - MCA504 - Data mining	Target
CO1	Explain various concepts of Data mining and Data Warehouse	60.7%
CO2	Experiment different data preprocessing techniques	60%
CO3	Categorize different types of Data	60.5%
CO4	Apply Clustering Methods to analyze Business Trends	60.7%
CO5	Analyze various applications of data mining	60.5%
CO6	Construct frequent itemsets from data sets	60.5%

COURSE END SURVEY - MCA504 - Data mining

Sl.No	Questions & Options

CO1	To what extent you are able to explain data mining and data warehousing concepts
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO2	To what extent you are able to apply data preprocessing techniques
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO3	To what extent you can differentiate the data in a data warehouse
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO4	To what extent you are able to use clustering methods
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO5	To what extent you can analyze data mining applications
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO6	To what level you are able to construct frequent item sets from data sets
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>

CO->PO MAPPING - MCA504 - Data mining

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1												
CO2												
CO3												
CO4												
CO5												
CO6												

CO->PSO MAPPING - MCA504 - Data mining

CO/PSO	PSO1	PSO2	PSO3
CO1			
CO2			
CO3			
CO4			
CO5			
CO6			

COURSE->PO MAPPING - MCA504 - Data mining

MCA504/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12

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COURSE->PSO MAPPING - MCA504 - Data mining

MCA504/PSO	PSO1	PSO2	PSO3

MCA505

Course Code	Course Name	L-T-P:C	Year of Introduction
MCA505	USER INTERFACE DESIGN	4-0-0:4	2014

No.	Course Outcome - MCA505 - USER INTERFACE DESIGN	Target
CO1	Identify the importance of the user interface	62%
CO2	Analyse and evaluate user interface design process	61%
CO3	Demonstrate an integrated development environment using menus and navigation schemes	60%
CO4	Discuss the basics of window operations and device based controls	60%
CO5	Demonstrate on internationalization	60%
CO6	Identify and describe testing methods to maintain a good interface	61%

COURSE END SURVEY - MCA505 - USER INTERFACE DESIGN

Sl.No	Questions & Options
CO1	To what extend you are able to distinguish the benefits of good design
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO2	To what extend you are able to examine perception while designing the inetrfcae
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO3	To what extend you are able to compare formatting and phrasing
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO4	To what extend you are able to illustrate the window presentation styles
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO5	To what extend you are able to Interpret on icon Usability
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO6	To what extend you are able to distinguish testing methods
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>

CO->PO MAPPING - MCA505 - USER INTERFACE DESIGN

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1												
CO2												
CO3												
CO4												
CO5												
CO6												

CO->PSO MAPPING - MCA505 - USER INTERFACE DESIGN

CO/PSO	PSO1	PSO2	PSO3
CO1			
CO2			
CO3			
CO4			
CO5			
CO6			

COURSE->PO MAPPING - MCA505 - USER INTERFACE DESIGN

MCA505/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12

COURSE->PSO MAPPING - MCA505 - USER INTERFACE DESIGN

MCA505/PSO	PSO1	PSO2	PSO3

MCA506

Course Code	Course Name	L-T-P:C	Year of Introduction
MCA506	COMPUTER GRAPHICS Lab (using OpenGL)	0-0-2:4	2014

No.	Course Outcome - MCA506 - COMPUTER GRAPHICS Lab (using OpenGL)	Target
CO1	Evaluate the computer graphics display techniques and categorize graphic software systems.	61%
CO2	Analyse the basic primitive drawing algorithms along with 2 D transformation concepts to display the objects	60%
CO3	Derive the projection transformations and explain the 3D object representation models.	60.2%
CO4	Demonstrate the 3D transformation concepts to model an object.	60.3%

CO5	Evaluate different detection methods	60%
CO6	Compare different shading methods and ray tracing methods	60%

COURSE END SURVEY - MCA506 - COMPUTER GRAPHICS Lab (using OpenGL)

Sl.No	Questions & Options
CO1	To what extent you are able to explain the computer graphics display devices and categorize graphic software systems.
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO2	To what extent you are able to describe the basic primitive drawing algorithms along with 2 D transformation concepts to display the objects.
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO3	To what extent you are able to demonstrate the projection transformations and explain the 3D object representation models.
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO4	To what extent you are able to demonstrate the 3D transformation concepts to model an object.
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO5	To what extent you are able to identify and apply different surface detection methods
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO6	To what extent you are able to recognize ray tracing method and different shading methods
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>

CO->PO MAPPING - MCA506 - COMPUTER GRAPHICS Lab (using OpenGL)

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1												
CO2												
CO3												
CO4												
CO5												
CO6												

CO->PSO MAPPING - MCA506 - COMPUTER GRAPHICS Lab (using OpenGL)

CO/PSO	PSO1	PSO2	PSO3
CO1			
CO2			
CO3			

CO4			
CO5			
CO6			

COURSE->PO MAPPING - MCA506 - COMPUTER GRAPHICS Lab (using OpenGL)

MCA506/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12

COURSE->PSO MAPPING - MCA506 - COMPUTER GRAPHICS Lab (using OpenGL)

MCA506/PSO	PSO1	PSO2	PSO3

MCA507

Course Code	Course Name	L-T-P:C	Year of Introduction
MCA507	Seminar	0-0-0:0	2014

COURSE END SURVEY - MCA507 - Seminar**CO->PO MAPPING - MCA507 - Seminar**

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12

CO->PSO MAPPING - MCA507 - Seminar

CO/PSO	PSO1	PSO2	PSO3

COURSE->PO MAPPING - MCA507 - Seminar

MCA507/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12

COURSE->PSO MAPPING - MCA507 - Seminar

MCA507/PSO	PSO1	PSO2	PSO3

MCA508

Course Code	Course Name	L-T-P:C	Year of Introduction
MCA508	Mini Project	0-0-0:0	2014

COURSE END SURVEY - MCA508 - Mini Project**CO->PO MAPPING - MCA508 - Mini Project**

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12

CO->PSO MAPPING - MCA508 - Mini Project

CO/PSO	PSO1	PSO2	PSO3

COURSE->PO MAPPING - MCA508 - Mini Project

MCA508/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12

COURSE->PSO MAPPING - MCA508 - Mini Project

MCA508/PSO	PSO1	PSO2	PSO3

MCA-REGULAR**SEMESTER-1****RLMCA101**

Course Code	Course Name	L-T-P:C	Year of Introduction
RLMCA101	Problem Solving and Computer Programming	3-1-0:4	2016

No.	Course Outcome - RLMCA101 - Problem Solving and Computer Programming	Target
CO1	To know concepts in problem solving and computer programming.	60.1%
CO2	To develop Programing skills	60.1%
CO3	Describe and apply alternative computational paradigms to simple problems	60.1%
CO4	To Solve problems systematically and to implement the solution in C language	60.1%
CO5	Use the various constructs of a programming language viz. conditional, iteration and recursion	60.1%
CO6	To Develop the knowledge of how to learn a programming language, which will help in learning other Computer Languages in the curriculum	60.1%

COURSE END SURVEY - RLMCA101 - Problem Solving and Computer Programming

Sl.No	Questions & Options
CO1	To what extent you are able to know concepts in problem solving and computer programming.
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO2	To what extent you are able to develop programming skills
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO3	To what extent you are able to describe and apply alternative computational paradigms to simple problems
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO4	To what extent you are able to solve problems systematically and to implement the solution in C language
	Answer Choice- <i>Very frequently/Frequently/Rarely Very rarely/Never</i>
CO5	To what extent you are able to use the various constructs of a programming language viz. conditional, iteration and recursion

	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO6	To what extent you are able to develop the knowledge of how to learn a programming language, which will help in learning other Computer Languages in the curriculum
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>

CO->PO MAPPING - RLMCA101 - Problem Solving and Computer Programming

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	3	3	2	2	1	1		1		1	
CO2	3	3	3	2	2	2	1			1	1	1
CO3	3	3	3	2	2	1			1		1	
CO4	3	3	3	2	2	1		1				
CO5	3	3	3	2	2	1	1				1	
CO6	3	3	3	2	2	1			2		1	2

CO->PSO MAPPING - RLMCA101 - Problem Solving and Computer Programming

CO/PSO	PSO1	PSO2	PSO3
CO1	3	2	1
CO2	3	2	1
CO3	3	2	1
CO4	3	2	1
CO5	3	2	1
CO6	3	2	1

COURSE->PO MAPPING - RLMCA101 - Problem Solving and Computer Programming

RLMCA101/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	3	3	2	2	2	1	1	2	1	1	2

COURSE->PSO MAPPING - RLMCA101 - Problem Solving and Computer Programming

RLMCA101/PSO	PSO1	PSO2	PSO3
	3	2	1

RLMCA103

Course Code	Course Name	L-T-P:C	Year of Introduction
RLMCA103	Discrete Mathematics	3-1-0:4	2016

No.	Course Outcome - RLMCA103 - Discrete Mathematics	Target
CO1	Identify and apply basic concepts of set theory, relations and functions	60%
CO2	Understand and apply important concepts in number theory	60%
CO3	Apply diverse counting techniques to solve various problems	60%
CO4	Solve initial value problems using recurrence relations	60%
CO5	Use graph theory in computer applications	60%
CO6	Determine whether a particular reasoning or argument is valid using the laws of logic	60%

COURSE END SURVEY - RLMCA103 - Discrete Mathematics

Sl.No	Questions & Options
CO1	To what extent can you identify and apply basic concepts of set theory, relations and functions
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO2	To what extent can you understand and apply important concepts in number theory
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO3	To what extent can you apply diverse counting techniques to solve various problems
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO4	To what extent can you solve initial value problems using recurrence relations
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO5	To what extent can you use graph theory in computer applications
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO6	To what extent can you determine whether a particular reasoning or argument is valid using the laws of logic
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>

CO->PO MAPPING - RLMCA103 - Discrete Mathematics

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	3		1			1				1	
CO2	3	3		1			1				1	
CO3	3	3		1			1				1	
CO4	3	3		1			1				1	
CO5	3	3		1			1				1	
CO6	3	3		1			1				1	

CO->PSO MAPPING - RLMCA103 - Discrete Mathematics

CO/PSO	PSO1	PSO2	PSO3
CO1	1		1
CO2	1		1
CO3	1		1
CO4	1		1
CO5	1		1
CO6	1		1

COURSE->PO MAPPING - RLMCA103 - Discrete Mathematics

RLMCA103/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	3		1			1				1	

COURSE->PSO MAPPING - RLMCA103 - Discrete Mathematics

RLMCA103/PSO	PSO1	PSO2	PSO3
	1		1

RLMCA105

Course Code	Course Name	L-T-P:C	Year of Introduction
RLMCA105	Applied Probability and Statistics	3-1-0:4	2016

No.	Course Outcome - RLMCA105 - Applied Probability and Statistics	Target
CO1	Interpret statistical data and features of Data distributions	72%
CO2	Express the concepts in probability	60%
CO3	Illustrate the discrete probability density functions and special probability distributions in practical situations	70%
CO4	Employ continuous probability density functions and special probability distributions applications in practical situations	60%
CO5	Apply sampling distributions and their applications in practical situations	60%
CO6	Recognize and use Hypothesis Testing	60%

COURSE END SURVEY - RLMCA105 - Applied Probability and Statistics

Sl.No	Questions & Options
CO1	To what extent you are able to interpret statistical data and features of Data distributions
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>

CO2	To what extent you are able to express the concepts in probability
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO3	To what extent you are able to illustrate the discrete probability density functions and special probability distributions in practical situations
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO4	To what extent you are able to employ continuous probability density functions and special probability distributions applications in practical situations
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO5	To what extent you are able to apply sampling distributions and their applications in practical situations
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO6	To what extent you are able to recognize and use Hypothesis Testing
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>

CO->PO MAPPING - RLMCA105 - Applied Probability and Statistics

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	3		2			1					1
CO2	3	3		2			1					1
CO3	3	3		2			1					1
CO4	3	3		2			1					1
CO5	3	3		2			1					1
CO6	3	3		2			1					1

CO->PSO MAPPING - RLMCA105 - Applied Probability and Statistics

CO/PSO	PSO1	PSO2	PSO3
CO1	2		1
CO2	2		1
CO3	2		1
CO4	2		1
CO5	2		1
CO6	2		1

COURSE->PO MAPPING - RLMCA105 - Applied Probability and Statistics

RLMCA105/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	3		2			1					1

COURSE->PSO MAPPING - RLMCA105 - Applied Probability and Statistics

RLMCA105/PSO	PSO1	PSO2	PSO3
	2		1

RLMCA109

Course Code	Course Name	L-T-P:C	Year of Introduction
RLMCA109	Digital Fundamentals	3-1-0:4	2016

No.	Course Outcome - RLMCA109 - Digital Fundamentals	Target
CO1	Get a thorough knowledge of Digital electronics.	60.2%
CO2	Be able to design simple logic circuits.	60.2%
CO3	Get an overall idea about single board computers like Arduino, Raspberry Pi etc and apply the idea to solve real world problems.	60.2%
CO4	Realize combinational, sequential circuits and know about Registers and Counters Counters and use these concepts to create more complex circuitry.	60.2%
CO5	Realization using logic gates and Boolean algebra.	60.2%
CO6	Know about computer system and its basic components	60.2%

COURSE END SURVEY - RLMCA109 - Digital Fundamentals

Sl.No	Questions & Options
CO1	To what extent students are able to get a thorough knowledge of Digital electronics?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO2	To what extent students are able to design simple logic circuits?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO3	To what extent students are able to get an overall idea about single board computers like Arduino, Raspberry Pi etc.?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO4	To what extent students are able to realize combinational, sequential circuits and know about Registers and Counters?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO5	To what extent students are able to use logic gates and Boolean algebra?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO6	To what extent students are able to know about computer system and its basic components?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>

CO->PO MAPPING - RLMCA109 - Digital Fundamentals

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	1	1		1	1	1						1
CO2	2	1	1	1	1	1						1
CO3	2	1	2	1	3	1	1			3	1	3
CO4	2	2	2	1	3	1					1	3
CO5	2	2	1	1	1	1	1				1	1
CO6	1	1	1		1	1						1

CO->PSO MAPPING - RLMCA109 - Digital Fundamentals

CO/PSO	PSO1	PSO2	PSO3
CO1	1		1
CO2	1	1	
CO3	2	1	1
CO4	1	1	
CO5	1	1	
CO6	1	1	

COURSE->PO MAPPING - RLMCA109 - Digital Fundamentals

RLMCA109/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	2	2	2	1	3	1	1			3	1	3

COURSE->PSO MAPPING - RLMCA109 - Digital Fundamentals

RLMCA109/PSO	PSO1	PSO2	PSO3
	2	1	1

RLMCA131

Course Code	Course Name	L-T-P:C	Year of Introduction
RLMCA131	Programming Lab	0-0-4:1	2016

No.	Course Outcome - RLMCA131 - Programming Lab	Target
CO1	Use and practice an integrated program development environment	60.1%
CO2	Create different solutions of a problem using C language.	60.1%

CO3	Use the various constructs of a programming language viz. variables, conditional, iteration recursion etc	60.1%
CO4	Develop programming skills	60.1%
CO5	Use simple data structures like arrays, stacks and linked list in solving problems	60.1%
CO6	Develop the ability to understand a program and debug an incorrect program	60.1%

COURSE END SURVEY - RLMCA131 - Programming Lab

Sl.No	Questions & Options
CO1	To what extent you are able to use and practice an integrated program development environment?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO2	To what extent you are able create different solutions of a problems using C language
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO3	To what extent you are able to use the various constructs of a programming language viz. variables, conditional, iteration recursion etc to solve problems.
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO4	To what extent you are able to develop programming skills
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO5	To what extent you are able to use simple data structures like arrays, stacks and linked list in solving problems
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO6	To what extent you are able to develop the ability to understand a program and debug an incorrect program
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>

CO->PO MAPPING - RLMCA131 - Programming Lab

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1			2	1	3					1		
CO2	3	2	2	2	2	1	1	1	1	1	1	1
CO3	3	3	2	1		2		1	1	1	1	
CO4	3	3	2		1				1			1
CO5	3	3	2	3	1				1		1	
CO6	3	2	3	2		1	1		1		1	1

CO->PSO MAPPING - RLMCA131 - Programming Lab

CO/PSO	PSO1	PSO2	PSO3
CO1	3	2	1

CO2	3	2	1
CO3	3	2	1
CO4	3	2	1
CO5	3	2	1
CO6	3	2	1

COURSE->PO MAPPING - RLMCA131 - Programming Lab

RLMCA131/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	3	3	3	3	2	1	1	1	1	1	1

COURSE->PSO MAPPING - RLMCA131 - Programming Lab

RLMCA131/PSO	PSO1	PSO2	PSO3
	3	2	1

RLMCA133

Course Code	Course Name	L-T-P:C	Year of Introduction
RLMCA133	Applied Statistics Lab	0-0-4:1	2016

No.	Course Outcome - RLMCA133 - Applied Statistics Lab	Target
CO1	Apply statistical methods to real life problems.	60%
CO2	Evaluate graphical and numerical summaries of data based on the type of data and the context in which the data is collected	60%
CO3	Apply probability concepts to analyze different data sets	60%
CO4	Analyse sampled data using statistical tests	60%
CO5	Apply various forms of analysis on business data	62%
CO6	Test big data analysis	60%

COURSE END SURVEY - RLMCA133 - Applied Statistics Lab

Sl.No	Questions & Options
CO1	To what extent you are able to apply statistical methods to real life problems. Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO2	To what extent you are able to evaluate graphical and numerical summaries of data based on the type of data and the context in which the data is collected Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>

CO3	To what extent you are able to apply probability concepts to analyze different data sets
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO4	To what extent you are able to analyse sampled data using statistical tests
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO5	To what extent you are able to apply various forms of analysis on business data
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO6	To what extent you are able to test big data analysis
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>

CO->PO MAPPING - RLMCA133 - Applied Statistics Lab

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	3	1	2	2	2					1	2
CO2	2	3		2							1	2
CO3	3	3	2	3		2					1	
CO4	3	3		2		2	2				1	2
CO5	2	2		2	2	1		2			1	2
CO6	3	3	1		1			1	1		1	2

CO->PSO MAPPING - RLMCA133 - Applied Statistics Lab

CO/PSO	PSO1	PSO2	PSO3
CO1	2	2	2
CO2	2		2
CO3	2	2	2
CO4	2	2	
CO5	2		1
CO6	2		1

COURSE->PO MAPPING - RLMCA133 - Applied Statistics Lab

RLMCA133/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	3	2	3	2	2	2	2	1		1	2

COURSE->PSO MAPPING - RLMCA133 - Applied Statistics Lab

RLMCA133/PSO	PSO1	PSO2	PSO3
	2	2	2

RLMCA107

Course Code	Course Name	L-T-P:C	Year of Introduction
RLMCA107	Principles of Management	3-1-0:4	2016

No.	Course Outcome - RLMCA107 - Principles of Management	Target
CO1	Demonstrate managerial skills and understand decision making process	60.1%
CO2	Critically analyze and evaluate management theories and practices	60.1%
CO3	To apply diverse strategies in solving managerial problems	60.1%
CO4	Understand Human Resource Management	60.1%
CO5	Be aware about quality standards	60.1%
CO6	Identify and apply management techniques to maintain a good working environmen	60.1%

COURSE END SURVEY - RLMCA107 - Principles of Management

Sl.No	Questions & Options
CO1	To what extent you are able to demonstrate managerial skills and understand decision making process
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO2	To what extent students are able to critically analyze and evaluate management theories and practices
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO3	To what extent students are able to apply diverse strategies in solving managerial problems
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO4	To what extent students are able to understand Human Resource Management
	Answer Choice- <i>Very high degree/High Degree/Moderate degree/Small Degree/Not at all</i>
CO5	To what extent students are aware about quality standards
	Answer Choice- <i>Very high degree/High Degree/Moderate degree/Small Degree/Not at all</i>
CO6	To what extent students are able to Identify and apply management techniques to maintain a good working environment
	Answer Choice- <i>Very high degree/High Degree/Moderate degree/Small Degree/Not at all</i>

CO->PO MAPPING - RLMCA107 - Principles of Management

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1			1						3	3	2	
CO2									1	1		
CO3									3	2	1	

CO4									2	1	1	
CO5									2	1	1	
CO6									2	1	2	

CO->PSO MAPPING - RLMCA107 - Principles of Management

CO/PSO	PSO1	PSO2	PSO3
CO1			2
CO2			1
CO3			2
CO4			1
CO5			
CO6			1

COURSE->PO MAPPING - RLMCA107 - Principles of Management

RLMCA107/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
			1						3	3	2	

COURSE->PSO MAPPING - RLMCA107 - Principles of Management

RLMCA107/PSO	PSO1	PSO2	PSO3
			2

20MCA101

Course Code	Course Name	L-T-P:C	Year of Introduction
20MCA101	Mathematical Foundations for Computing	3-1-0:4	2020

No.	Course Outcome - 20MCA101 - Mathematical Foundations for Computing	Target
CO1	Understand mathematical reasoning in order to read, comprehend and construct mathematical arguments	55%
CO2	Count or enumerate objects and solve counting problems and analyze algorithms	55%
CO3	Solve problems in almost every conceivable discipline using graph models	60%
CO4	Solve the linear system of equations and Calculate the eigen values and eigen vectors of matrices.	60%
CO5	Apply the principles of correlation and regression in practical problems.	60%

COURSE END SURVEY - 20MCA101 - Mathematical Foundations for Computing

Sl.No	Questions & Options

CO1	To what extent are you able to understand mathematical reasoning in order to read, comprehend and construct mathematical arguments
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO2	To what extent are you able to count or enumerate objects and solve counting problems and analyze algorithms
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO3	To what extent are you able to solve problems in almost every conceivable discipline using graph models
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO4	To what extent are you able to solve the linear system of equations and Calculate the eigen values and eigen vectors of matrices.
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO5	To what extent are you able to apply the principles of correlation and regression in practical problems.
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>

CO->PO MAPPING - 20MCA101 - Mathematical Foundations for Computing

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	3					1				1	
CO2	3	3					1				1	
CO3	3	3					1				1	
CO4	3	3					1				1	
CO5	3	3		3			1				1	

CO->PSO MAPPING - 20MCA101 - Mathematical Foundations for Computing

CO/PSO	PSO1	PSO2	PSO3
CO1	2		
CO2	2		
CO3	2		
CO4	2		
CO5	2		

COURSE->PO MAPPING - 20MCA101 - Mathematical Foundations for Computing

20MCA101/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	3		3			1				1	

COURSE->PSO MAPPING - 20MCA101 - Mathematical Foundations for Computing

20MCA101/PSO	PSO1	PSO2	PSO3

2

20MCA103

Course Code	Course Name	L-T-P:C	Year of Introduction
20MCA103	Digital Fundamentals & Computer Architecture	3-1-0:4	2020

No.	Course Outcome - 20MCA103 - Digital Fundamentals & Computer Architecture	Target
CO1	Apply the basics of digital electronics to design and realize simple combinational logic circuits	61%
CO2	Apply the digital electronics principles to design sequential logic circuits.	61%
CO3	Understand different design features of computer architecture, Five key components of a computer, processor and memory making technologies, addressing modes & instruction formats.	61%
CO4	Understand Processor logic design conventions and data path, pipelining and hazards, I/O organization, Interrupts and direct memory access	61%
CO5	Understand and different types of memories - RAM, ROM, Cache memory, virtual memory etc. Apply the different memory design techniques.	61%
CO6	Understand the concept of single board computers like Arduino, Raspberry Pi etc. and apply the same in practical applications.	61%

COURSE END SURVEY - 20MCA103 - Digital Fundamentals & Computer Architecture

Sl.No	Questions & Options
CO1	To what extent you were able to realize logic circuits
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO2	To what extent you were able to understand digital electronics principles
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO3	To what extent you were able to understand components of computer
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO4	To what extent you were able to understand logic design conventions,DMA
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO5	To what extent you were able to understand various types of memory
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO6	To what extent you were able to understand concepts of Arduino and Rasberry Pi
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>

CO->PO MAPPING - 20MCA103 - Digital Fundamentals & Computer Architecture

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
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CO1	3	3	2	1			1					
CO2	3	3	2	1			1					
CO3	1	1		1			1					
CO4	1	1					1					
CO5	2	2	1	1			1					
CO6	1	1	2		2	1	2	2	2	1	2	2

CO->PSO MAPPING - 20MCA103 - Digital Fundamentals & Computer Architecture

CO/PSO	PSO1	PSO2	PSO3
CO1	3	2	
CO2	3	2	
CO3	3	3	2
CO4	3	3	2
CO5	3	2	
CO6	2	3	

COURSE->PO MAPPING - 20MCA103 - Digital Fundamentals & Computer Architecture

20MCA103/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	3	2	1	2	1	2	2	2	1	2	2

COURSE->PSO MAPPING - 20MCA103 - Digital Fundamentals & Computer Architecture

20MCA103/PSO	PSO1	PSO2	PSO3
	3	3	2

20MCA105

Course Code	Course Name	L-T-P:C	Year of Introduction
20MCA105	Advanced Data Structures	3-1-0:4	2020

No.	Course Outcome - 20MCA105 - Advanced Data Structures	Target
CO1	Understand the basic data structures and analyze amortized complexity of an algorithm.	60.5%
CO2	Understand Advanced Tree Structures for the design of efficient algorithms	60.5%
CO3	Identify Advanced Heap Structures suitable for solving Computational problems involving Optimisation and analysing these data structures using amortised analysis	60.5%

CO4	Apply Advanced Graph data structures and algorithms suitable for solving advanced computational problems.	60.5%
CO5	Understand basic operation of Blockchaining along with the data structures used in it .	60.5%

COURSE END SURVEY - 20MCA105 - Advanced Data Structures

Sl.No	Questions & Options
CO1	To what extent you are able to recognize the basic data structures and analyze amortized complexity of an algorithm?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO2	To what extent you are able to understand Advanced Tree Structures for the design of efficient algorithms
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO3	To what extent you are able to identify Advanced Heap Structures suitable for solving Computational problems involving Optimisation and analysing these data structures using amortised analysis
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO4	To what extent you are able to apply Advanced Graph data structures and algorithms suitable for solving advanced computational problems
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO5	To what extent you are able to understand basic operation of Blockchaining along with the data structures used in it and the challenges in Blockchain data.
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>

CO->PO MAPPING - 20MCA105 - Advanced Data Structures

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	2	2		1	1		2				1
CO2	2	2	3	2	1	1	1					1
CO3	2	3	3	2	1	1	1					1
CO4	3	3	2	1	2	1	1					1
CO5	3	2	2	2	3	1	1			2		1

CO->PSO MAPPING - 20MCA105 - Advanced Data Structures

CO/PSO	PSO1	PSO2	PSO3
CO1	3	1	2
CO2			
CO3	3		
CO4	3	2	3
CO5	3	2	2

COURSE->PO MAPPING - 20MCA105 - Advanced Data Structures

20MCA105/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	3	3	2	3	1	1	2		2		1

COURSE->PSO MAPPING - 20MCA105 - Advanced Data Structures

20MCA105/PSO	PSO1	PSO2	PSO3
	3	2	3

20MCA107

Course Code	Course Name	L-T-P:C	Year of Introduction
20MCA107	Advanced Software Engineering	3-1-0:4	2020

No.	Course Outcome - 20MCA107 - Advanced Software Engineering	Target
CO1	Analyse the software development phases and software engineering models to develop software project.	61%
CO2	Understand the best coding practices and use GIT version control system.	61%
CO3	Acquire ample grasp of design patterns and software testing methodologies.	61%
CO4	Apply Agile techniques, skills and modern engineering tools and processes necessary for software engineering practices.	61%
CO5	Apply Continuous integration/ Continuous Deployment techniques in software development.	60.5%

COURSE END SURVEY - 20MCA107 - Advanced Software Engineering

Sl.No	Questions & Options
CO1	To what extend you are able to analyse the software development phases and software engineering models to develop software project?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO2	To what extend you are able to Understand the best coding practices and use GIT version control system?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO3	To what extend you are able to acquire ample grasp of design patterns and software testing methodologies?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO4	To what extend you are able to apply Agile techniques, skills and modern engineering tools and processes necessary for software engineering practices?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO5	To what extend you are able to apply Continuous integration/ Continuous Deployment techniques in software development?

Answer Choice- *Excellent/Very Good/Good Satisfactory/Needs improvement*

CO->PO MAPPING - 20MCA107 - Advanced Software Engineering

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	3	3	1	3	1		1	1		1	1
CO2	3	1	3		3	2	1	2		2	3	2
CO3	1	1	2		2					1		
CO4	3		1	1	3							
CO5	3	1	1	2	2	1	2		1	2		

CO->PSO MAPPING - 20MCA107 - Advanced Software Engineering

CO/PSO	PSO1	PSO2	PSO3
CO1	2	1	2
CO2	3	1	3
CO3	2	1	2
CO4	3	2	3
CO5	3	2	3

COURSE->PO MAPPING - 20MCA107 - Advanced Software Engineering

20MCA107/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	3	3	2	3	2	2	2	1	2	3	2

COURSE->PSO MAPPING - 20MCA107 - Advanced Software Engineering

20MCA107/PSO	PSO1	PSO2	PSO3
	3	2	3

20MCA131

Course Code	Course Name	L-T-P:C	Year of Introduction
20MCA131	Programming Lab	0-1-3:2	2020

No.	Course Outcome - 20MCA131 - Programming Lab	Target
CO1	Understands basics of Python Programming language including input/output functions, operators, basic and collection data types	60.2%
CO2	Implement decision making, looping constructs and functions	60.2%
CO3	Design modules and packages - built in and user defined packages	60.2%

CO4	Implement object-oriented programming and exception handling.	60.2%
CO5	Create files and form regular expressions for effective search operations on strings and files.	60.2%

COURSE END SURVEY - 20MCA131 - Programming Lab

Sl.No	Questions & Options
CO1	To what extend you are able to understands basics of Python Programming language including input/output functions, operators, basic and collection data types?
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO2	To what extend you are able to implement decision making, looping constructs and functions?
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO3	To what extend you are able to design modules, built in and user defined packages?
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO4	To what extend you are able to implement object-oriented programming and exception handling?
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO5	To what extend you are able to create files and form regular expressions for effective search operations on strings and files.?
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>

CO->PO MAPPING - 20MCA131 - Programming Lab

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	2	2	1	2							
CO2	3	3	3	2	2						1	
CO3	3	3	3	3	3						1	
CO4	3	3	3	3	3						1	
CO5	3	3	3	3	3						1	

CO->PSO MAPPING - 20MCA131 - Programming Lab

CO/PSO	PSO1	PSO2	PSO3
CO1	2	3	1
CO2	1	2	2
CO3	1	1	1
CO4	2	3	1
CO5	1	1	1

COURSE->PO MAPPING - 20MCA131 - Programming Lab

20MCA131/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	3	3	3	3						1	

COURSE->PSO MAPPING - 20MCA131 - Programming Lab

20MCA131/PSO	PSO1	PSO2	PSO3
	2	3	2

20MCA133

Course Code	Course Name	L-T-P:C	Year of Introduction
20MCA133	Web Programming Lab	0-1-3:2	2020

No.	Course Outcome - 20MCA133 - Web Programming Lab	Target
CO1	Explore markup languages features and create interactive web pages using them.	60.5%
CO2	Learn and design client-side validation using scripting languages.	61%
CO3	Design front end web page and connect to the back-end databases.	61%
CO4	Do Client-side and Server-side scripting.	61%
CO5	Develop Web Applications.	61%
CO6	Acquire knowledge of PHP framework.	61%

COURSE END SURVEY - 20MCA133 - Web Programming Lab

Sl.No	Questions & Options
CO1	To what extend you are able to explore markup languages features and create interactive web pages using them?
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO2	To what extend you are able to learn and design client-side validation using scripting languages?
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO3	To what extend you are able to design front end web page and connect to the back-end databases?
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO4	To what extend you are able to do client-side and server-side scripting?
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO5	To what extend you are able to develop web applications?
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
	To what extend you are able to acquire knowledge of PHP framework?

CO6

Answer Choice- *Excellent/Very Good/Good/Fair/Poor***CO->PO MAPPING - 20MCA133 - Web Programming Lab**

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	1	1	2	1	2	1	1	1	1	1	1	2
CO2	1	1	2	1	2	1	2	1	1	1	1	2
CO3	1	1	2	1	2	1	2	1	1	1	1	2
CO4	1	1	2	1	2	1	2	1	1	1	1	2
CO5	1	1	3	1	2	1	1	1	1	1	1	2
CO6	1	1	3	1	2	1	2	2	1	1	1	3

CO->PSO MAPPING - 20MCA133 - Web Programming Lab

CO/PSO	PSO1	PSO2	PSO3
CO1	1	1	2
CO2	1	1	2
CO3	2	1	2
CO4	2	1	2
CO5	2	1	2
CO6	2	1	3

COURSE->PO MAPPING - 20MCA133 - Web Programming Lab

20MCA133/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	1	1	3	1	2	1	2	2	1	1	1	3

COURSE->PSO MAPPING - 20MCA133 - Web Programming Lab

20MCA133/PSO	PSO1	PSO2	PSO3
	2	1	3

20MCA135

Course Code	Course Name	L-T-P:C	Year of Introduction
20MCA135	Data Structures Lab	0-1-3:2	2020

No.	Course Outcome - 20MCA135 - Data Structures Lab	Target
CO1	Use Basic Data Structures and its operations implementations.	60.5%

CO2	Implement the Set and Disjoint Set Data Structures.	60.5%
CO3	Understand the practical aspects of Advanced Tree Structures.	60.5%
CO4	Realise Modern Heap Structures for effectively solving advanced Computational problems.	60.5%
CO5	Implement Advanced Graph algorithms suitable for solving advanced computational problems.	60.5%

COURSE END SURVEY - 20MCA135 - Data Structures Lab

Sl.No	Questions & Options
CO1	To what extent you were able to use Basic Data Structures and its operations implementation
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO2	To what extent you were able to implement the Set and Disjoint Set Data Structures.
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO3	To what extent you were able to understand the practical aspects of Advanced Tree Structures.
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO4	To what extent you were able to understand Modern Heap Structures for effectively solving advanced Computational problems.
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO5	To what extent you were able to implement advanced graph algorithms suitable for solving advanced computational problems.
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>

CO->PO MAPPING - 20MCA135 - Data Structures Lab

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2				3	1	1					1
CO2	3	2	2		1	1						1
CO3	2	2	3	2	1	1	1					1
CO4	2	3	3	2	1	1	1					1
CO5	3	3	2	1	2	1	1					1

CO->PSO MAPPING - 20MCA135 - Data Structures Lab

CO/PSO	PSO1	PSO2	PSO3
CO1	1		
CO2			
CO3	2	1	1
CO4	1	1	1

CO5	1	1	
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COURSE->PO MAPPING - 20MCA135 - Data Structures Lab

20MCA135/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	3	3	2	3	1	1					1

COURSE->PSO MAPPING - 20MCA135 - Data Structures Lab

20MCA135/PSO	PSO1	PSO2	PSO3
	2	1	1

SEMESTER-2**RLMCA102**

Course Code	Course Name	L-T-P:C	Year of Introduction
RLMCA102	Object Oriented Programming	3-1-0:4	2016

No.	Course Outcome - RLMCA102 - Object Oriented Programming	Target
CO1	Relate the concepts of object-oriented programming paradigms and demonstrate skills in these paradigms using Java.	50%
CO2	Apply characteristics of Java Applets, Exceptions, Multi-threading, Streams, Networking etc.	51%
CO3	Identify the usage of HTML tags in Applets. Examine the basic principles of creating Java applications with graphical user interface (GUI).	52%
CO4	Construct a complete program needed for a given problem specification.	53%
CO5	Setup and formulate classes using the object oriented programming language.	54%
CO6	Conclude how to test, verify, and debug object-oriented programs and create programs using object oriented principles	55%

COURSE END SURVEY - RLMCA102 - Object Oriented Programming

Sl.No	Questions & Options
CO1	To what extent you are able to explain concepts of object-oriented programming paradigms of Java?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO2	To what extent you are able to demonstrate the use of Java Applets, Exceptions, Multi-threading, Streams, Networking?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO3	To what extent you are able to apply HTML tags in Applets and create GUI programs?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>

CO4	To what extent you are able to apply the object-oriented concepts to write a program?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO5	To what extent you are able to explain the role of object-oriented concepts to design classes?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO6	To what extent you are able to demonstrate the relevance of object-oriented principles for testing object-oriented programs?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>

CO->PO MAPPING - RLMCA102 - Object Oriented Programming

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	2	3	2	1	2	2				2	1
CO2	2	3	3	2	3	2	2	1		2	1	2
CO3	2	2	2	3	3	2	2			1	1	1
CO4	2	2	2	2	2	1	1		1		1	1
CO5	3	2	2	2	2	1	1		1		1	1
CO6	3	2	3	3	3	2	1		1	1	2	2

CO->PSO MAPPING - RLMCA102 - Object Oriented Programming

CO/PSO	PSO1	PSO2	PSO3
CO1	2	2	2
CO2	2	2	2
CO3	2	2	2
CO4	2	2	2
CO5	2	2	2
CO6	2	2	2

COURSE->PO MAPPING - RLMCA102 - Object Oriented Programming

RLMCA102/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	3	3	3	3	2	2	1	1	2	2	2

COURSE->PSO MAPPING - RLMCA102 - Object Oriented Programming

RLMCA102/PSO	PSO1	PSO2	PSO3
	2	2	2

RLMCA104

Course Code	Course Name	L-T-P:C	Year of Introduction
RLMCA104	Data Structures	3-1-0:4	2016

No.	Course Outcome - RLMCA104 - Data Structures	Target
CO1	Analyze the complexity of an algorithm and identify, apply memory representation and various operations of array	65%
CO2	Simulate the linear data structure stack operations and its applications	65%
CO3	Demonstrate the data structure queue, operations and applications	61%
CO4	Implement linked list , operations and its application	61%
CO5	Simulate nonlinear data structures like tree, graph and their traversal	61%
CO6	Select and use appropriate data structures for sorting and searching problem.	61%

COURSE END SURVEY - RLMCA104 - Data Structures

Sl.No	Questions & Options
CO1	To what extent you are able to analyze the complexity of an algorithm and identify the memory representation and various operations of array
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO2	To what extent you are able to simulate the stack operations and its applications
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO3	To what extent you are able to demonstrate the data structure queue, operations and applications
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO4	To what extent you are able to implement linked list , operations and its application
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO5	To what extent you are able to simulate nonlinear data structures like tree, graph and their traversal
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO6	To what extent you are able to select and use appropriate data structures for sorting and searching problem .
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>

CO->PO MAPPING - RLMCA104 - Data Structures

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	1		2	2	1	1	1	1			1
CO2	3	2	2	1	1	1	1		1			1
CO3	2	2	3	1		2	2		1			1

CO4	2		2		2	1	3		1			1
CO5	2		1		2	1	2		1			1
CO6		2	3		2	1	2		1			1

CO->PSO MAPPING - RLMCA104 - Data Structures

CO/PSO	PSO1	PSO2	PSO3
CO1	1	1	2
CO2	1	1	2
CO3	1	1	2
CO4	1	1	2
CO5	1	1	2
CO6	1	1	2

COURSE->PO MAPPING - RLMCA104 - Data Structures

RLMCA104/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	2	3	2	2	2	3	1	1			1

COURSE->PSO MAPPING - RLMCA104 - Data Structures

RLMCA104/PSO	PSO1	PSO2	PSO3
	1	1	2

RLMCA106

Course Code	Course Name	L-T-P:C	Year of Introduction
RLMCA106	Operating Systems	3-1-0:4	2016

No.	Course Outcome - RLMCA106 - Operating Systems	Target
CO1	Gain knowledge about the fundamentals of Operating Systems	63%
CO2	Explore the mechanisms of OS to handle processes and threads and their communication	63%
CO3	Examine the mechanisms involved in process management, synchronization and inter process communication.	63%
CO4	Understand the mechanisms used in dead lock management and memory management	63%
CO5	Understand the concepts of virtual memory and secondary storage systems.	63%
CO6	Gain knowledge on the file systems and storage methods.	63%

COURSE END SURVEY - RLMCA106 - Operating Systems

Sl.No	Questions & Options
CO1	To what extent you are able to explain the fundamentals of Operating Systems?
	Answer Choice- 5 out of 5/4 out of 5/3 out of 5/2 out of 5/1 out of 5
CO2	To what extent you are able to explain processes, threads and their communication
	Answer Choice- Excellent/Very Good/Good/Satisfactory/Poor
CO3	To what extent you are able to examine the mechanisms involved in process management, synchronization and inter process communication?
	Answer Choice- 5 out of 5/4 out of 5/3 out of 5/2 out of 5/1 out of 5
CO4	To what extent you are able to understand the mechanisms used in dead lock management and memory management?
	Answer Choice- 5 out of 5/4 out of 5/3 out of 5/2 out of 5/1 out of 5
CO5	To what extent you are able to understand the concepts of virtual memory and secondary storage systems?
	Answer Choice- 5 out of 5/4 out of 5/3 out of 5/2 out of 5/1 out of 5
CO6	To what extent you are able to understand the concepts of file systems and storage methods?
	Answer Choice- 5 out of 5/4 out of 5/3 out of 5/2 out of 5/1 out of 5

CO->PO MAPPING - RLMCA106 - Operating Systems

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	2	1	1	1		1					
CO2	2	2	1	1	2		1					
CO3	2	1	1	2	2		1					
CO4	1	1	1	2	2		1					
CO5	2	1	1	2	1		1					
CO6	1	2	1	1	1							

CO->PSO MAPPING - RLMCA106 - Operating Systems

CO/PSO	PSO1	PSO2	PSO3
CO1	1	1	1
CO2	1	1	1
CO3	1	1	1
CO4	1	1	1
CO5	1	1	1
CO6	1	1	1

COURSE->PO MAPPING - RLMCA106 - Operating Systems

RLMCA106/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	2	2	1	2	2		1					

COURSE->PSO MAPPING - RLMCA106 - Operating Systems

RLMCA106/PSO	PSO1	PSO2	PSO3
	1	1	1

RLMCA108

Course Code	Course Name	L-T-P:C	Year of Introduction
RLMCA108	Operations Research	3-1-0:4	2016

No.	Course Outcome - RLMCA108 - Operations Research	Target
CO1	Construct a mathematical model of a real world problem which has many alternative solutions.	65%
CO2	Use the simplex method and duality to solve linear programming problems	65%
CO3	Solve transportation and assignment problems	65%
CO4	Employ the principles of game theory in practical situations	65%
CO5	Analyse real life situations and apply appropriate queueing models	65%
CO6	Simulate the operation of a dynamic system and make improvement according to the simulation results	65%

COURSE END SURVEY - RLMCA108 - Operations Research

Sl.No	Questions & Options
CO1	To what extent are you able to construct a mathematical model of a real world problem which has many alternative solutions
	Answer Choice- <i>Always/Very often/Sometimes/Rarely/Never</i>
CO2	To what extent are you able to apply the simplex method and duality to solve linear programming problems.
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO3	To what extent are you able to solve transportation and assignment problems
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO4	To what extent are you able to employ the principles of game theory in practical situations
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO5	To what extent are you able to analyse real life situations and apply appropriate queueing models
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>

CO6	To what extent are you able to simulate the operation of a dynamic system and make improvement according to the simulation results
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>

CO->PO MAPPING - RLMCA108 - Operations Research

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	3	1				1		1			1
CO2	3	3	1				1		1			1
CO3	3	3	1				1		1			1
CO4	3	3	1				1		1			1
CO5	3	3	1				1		1			1
CO6	3	3	1				1		1			1

CO->PSO MAPPING - RLMCA108 - Operations Research

CO/PSO	PSO1	PSO2	PSO3
CO1	1		1
CO2	1		1
CO3	1		1
CO4	1		1
CO5	1		1
CO6	1		1

COURSE->PO MAPPING - RLMCA108 - Operations Research

RLMCA108/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	3	1				1		1			1

COURSE->PSO MAPPING - RLMCA108 - Operations Research

RLMCA108/PSO	PSO1	PSO2	PSO3
	1		1

RLMCA112

Course Code	Course Name	L-T-P:C	Year of Introduction
RLMCA112	Computer Organization and Architecture	3-1-0:4	2016

No.	Course Outcome - RLMCA112 - Computer Organization and Architecture	Target
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CO1	Sketch basic structure of computer	63.1%
CO2	Compare different addressing modes used in instructions	60%
CO3	Explain the concepts of input/output organization	60%
CO4	Examine basic processing unit	60%
CO5	Identify the concepts of Memory System	60%
CO6	Interpret mapping functions and replacement algorithms	60%

COURSE END SURVEY - RLMCA112 - Computer Organization and Architecture

Sl.No	Questions & Options
CO1	To what extent you are able to familiar with functional units
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO2	To what extent you are able to determine the effective address of operand in different addressing modes
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO3	To what extent you are able to analyze the effect of an execution operation using pipeline
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO4	To what extent you are able to explain the process of fetching a word from from memory
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO5	To what extent you are able to estimate the performance effectiveness of interleaving with respect to size of cache blocks
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO6	To what extent you are able to distinguish mapping techniques
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>

CO->PO MAPPING - RLMCA112 - Computer Organization and Architecture

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3					1	2					
CO2	1	1	2	1								2
CO3	2		2					1	1		2	1
CO4	2		3									1
CO5	3		1		2					1		
CO6	3							1	2	1		2

CO->PSO MAPPING - RLMCA112 - Computer Organization and Architecture

CO/PSO	PSO1	PSO2	PSO3
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CO1	2		
CO2		1	
CO3			2
CO4	1		1
CO5		2	
CO6	3	3	

COURSE->PO MAPPING - RLMCA112 - Computer Organization and Architecture

RLMCA112/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	1	3	1	2	1	2	1	2	1	2	2

COURSE->PSO MAPPING - RLMCA112 - Computer Organization and Architecture

RLMCA112/PSO	PSO1	PSO2	PSO3
	3	3	2

RLMCA134

Course Code	Course Name	L-T-P:C	Year of Introduction
RLMCA134	Data Structures Lab	0-0-4:1	2016

No.	Course Outcome - RLMCA134 - Data Structures Lab	Target
CO1	Identify the basic data structures, memory representation and various operations of array	61%
CO2	Simulate the linear data structure operations of stack and its applications	61%
CO3	Demonstrate the data structure queue, operations and applications	61%
CO4	Implement linked list, operations and its application	61%
CO5	Simulate nonlinear data structures like tree, graph and their traversal	61%
CO6	Select and use appropriate data structures for problem sorting and searching	61%

COURSE END SURVEY - RLMCA134 - Data Structures Lab

Sl.No	Questions & Options
CO1	To what extent you are able to identify the different data structures, memory representation and operations on array
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO2	To what extent you are able to simulate the operations of stack and its applications
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>

CO3	To what extent you are able to demonstrate the data structure queue, operations and applications
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO4	To what extent you are able to implement linked list , operations and its application
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO5	To what extent you are able to simulate nonlinear data structures like tree, graph and their traversal
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO6	To what extent you are able to select and use appropriate data structures for problem sorting and searching
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>

CO->PO MAPPING - RLMCA134 - Data Structures Lab

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	1			2							
CO2		2	2		1							
CO3	1	2										
CO4			2		2							
CO5	2		1									
CO6		2	3									

CO->PSO MAPPING - RLMCA134 - Data Structures Lab

CO/PSO	PSO1	PSO2	PSO3
CO1		1	3
CO2	1		
CO3	2		
CO4	2		
CO5	2		
CO6		2	

COURSE->PO MAPPING - RLMCA134 - Data Structures Lab

RLMCA134/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	2	3		2							

COURSE->PSO MAPPING - RLMCA134 - Data Structures Lab

RLMCA134/PSO	PSO1	PSO2	PSO3
	2	2	3

RLMCA132

Course Code	Course Name	L-T-P:C	Year of Introduction
RLMCA132	Object Oriented Programming Lab	0-0-4:1	2016

No.	Course Outcome - RLMCA132 - Object Oriented Programming Lab	Target
CO1	Design programs using Object Oriented Programming concepts.	63%
CO2	Apply features such as composition of Objects, Operator overloading, Inheritance, Polymorphism etc.	61%
CO3	Construct interfaces and packages in the Java programs.	61%
CO4	Design multi-threading in Java programs.	61%
CO5	Design Applets using Java programs	61%
CO6	Construct Java program using Files	61%

COURSE END SURVEY - RLMCA132 - Object Oriented Programming Lab

Sl.No	Questions & Options
CO1	To what extent you are able to design programs using Object Oriented Programming Concepts?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO2	To what extent you are able to apply features of object-oriented programming in a program?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO3	To what extent you are able to construct interfaces and packages in Java?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO4	To what extent you are able to design multi-threading in Java?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO5	To what extent you are able to design Applets and Graphics using Java?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO6	To what extent you are able to construct Java program using Files?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>

CO->PO MAPPING - RLMCA132 - Object Oriented Programming Lab

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	2	2	2	3	2	3	1	1	1	2	1
CO2	3	3	3	3	2	2	3	1			2	1
CO3	3	3	2	3	3	2	2				2	1

CO4	3	3	1	2	3	2	3				2	1
CO5	3	2	2	3	3	2	3				2	1
CO6	3	2	2	3	3	2	2	1			2	1

CO->PSO MAPPING - RLMCA132 - Object Oriented Programming Lab

CO/PSO	PSO1	PSO2	PSO3
CO1	3	2	1
CO2	3	2	1
CO3	3	2	1
CO4	3	2	1
CO5	3	2	1
CO6	3	2	1

COURSE->PO MAPPING - RLMCA132 - Object Oriented Programming Lab

RLMCA132/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	3	3	3	3	2	3	1	1	1	2	1

COURSE->PSO MAPPING - RLMCA132 - Object Oriented Programming Lab

RLMCA132/PSO	PSO1	PSO2	PSO3
	3	2	1

20MCA102

Course Code	Course Name	L-T-P:C	Year of Introduction
20MCA102	Advanced Database Management Systems	3-1-0:4	2020

No.	Course Outcome - 20MCA102 - Advanced Database Management Systems	Target
CO1	Design and build a simple relational database system and demonstrate competence with the fundamentals tasks involved with modelling, designing and implementing a database	60.1%
CO2	Analyze the different normalization techniques and apply them to solve real world problems.	60.1%
CO3	Comparison between relational and non-relational (NoSQL) databases and the configuration of NoSQL Databases.	60.1%
CO4	Apply CRUD operations and retrieve data in a NoSQL environment	60.1%
CO5	Understand the basic storage architecture of distributed file systems and apply them for problems	60.1%
CO6	Design and deployment of NoSQL databases with real time requirements.	60.1%

COURSE END SURVEY - 20MCA102 - Advanced Database Management Systems

Sl.No	Questions & Options
CO1	To what extent you are able to understand the fundamentals of relational database systems including: data models, database architectures and ER features
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO2	To what extent you are able to analyze and apply the different normalization techniques
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO3	To what extent you are able to assess the basic issues of transaction processing and concurrency control
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO4	To what extent you are able to understand the roles that databases play in organizations and familiarize with basic database storage, file organization, database accessing techniques.
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO5	To what extent you are able to understand the basics of query processing, object-oriented, distributed databases.
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO6	To what extent you are able to analyze non-relational database systems and structures and XML.
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>

CO->PO MAPPING - 20MCA102 - Advanced Database Management Systems

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1				1			1					
CO2	3	3	3	3			2	2			2	2
CO3	1	2	2	2		2					2	2
CO4				3	1		1					
CO5	1		3	3								
CO6	1											

CO->PSO MAPPING - 20MCA102 - Advanced Database Management Systems

CO/PSO	PSO1	PSO2	PSO3
CO1	2	1	1
CO2	2		2
CO3	1		2
CO4	2		2
CO5			

CO6	2	1	
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COURSE->PO MAPPING - 20MCA102 - Advanced Database Management Systems

20MCA102/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	3	3	3	1	2	2	2			2	2

COURSE->PSO MAPPING - 20MCA102 - Advanced Database Management Systems

20MCA102/PSO	PSO1	PSO2	PSO3
	2	1	2

20MCA104

Course Code	Course Name	L-T-P:C	Year of Introduction
20MCA104	Advanced Computer Networks	3-1-0:4	2020

No.	Course Outcome - 20MCA104 - Advanced Computer Networks	Target
CO1	Demonstrate taxonomy and terminology of the computer networking ,concepts of protocols ,and their hierarchical relationship in the context of a conceptual model such as the OSI and TCP/IP framework .	62%
CO2	Analyse the various protocols in transport layer	62%
CO3	Evaluate various Network Layer Protocols and different Routing algorithms	62%
CO4	Analyse Link layer and Physical Layer, concepts of error detection and various networking standards	62%
CO5	Expertise in some specific areas of multimedia applications and network managements	62%

COURSE END SURVEY - 20MCA104 - Advanced Computer Networks

Sl.No	Questions & Options
CO1	To what extent you are able to handle various OSI and TCP/IP protocol and understand t e importance of layering in data communication. Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO2	To what extent you are able to analyse the various protocols in transport layer and its role in controlling congestion during data transmission Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO3	To what extent students are able to gain knowledge in Network Layer Protocols and routing algorithms. Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO4	To what extent you are able to demonstrate concepts of error detection and various networking standards in the view of Link layer and Physical Layer

	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO5	To what extent you are able to analyze various multimedia applications and network managements techniques.
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>

CO->PO MAPPING - 20MCA104 - Advanced Computer Networks

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	1		1	1	1	1	2	3	1		1
CO2	1		3		2	1	1	2	3			3
CO3	1	1			1	1	1	3	2		1	1
CO4	1	1	2	1	1	1	1	2	3		1	1
CO5	2	2		1	1	2	1	3	1	2	3	2

CO->PSO MAPPING - 20MCA104 - Advanced Computer Networks

CO/PSO	PSO1	PSO2	PSO3
CO1	2	2	2
CO2	2	3	2
CO3	2	2	2
CO4	3	3	2
CO5	3	3	3

COURSE->PO MAPPING - 20MCA104 - Advanced Computer Networks

20MCA104/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	2	2	3	1	2	2	1	3	3	2	3	3

COURSE->PSO MAPPING - 20MCA104 - Advanced Computer Networks

20MCA104/PSO	PSO1	PSO2	PSO3
	3	3	3

20MCA168

Course Code	Course Name	L-T-P:C	Year of Introduction
20MCA168	Virtualisation and Containers	3-1-0:4	2020

No.	Course Outcome - 20MCA168 - Virtualisation and Containers	Target
CO1	Understand the basics of virtualization technology, architecture, limitations and applications.	60%

CO2	Apply virtual networking Principles to setup virtual machines and understand complexities and solutions in virtualization.	60%
CO3	Understand the basics of VM life cycle, VM migrations, VM scheduling, scaling and load balancing	60%
CO4	Understand Container fundamentals including container configurations, orchestration , clustering and images.	60%
CO5	Understand the basics of security, troubleshooting , monitoring aspects in business context of container technology.	60%
CO6	Apply the knowledge in Virtualization and docker to setup VM and dockers.	60%

COURSE END SURVEY - 20MCA168 - Virtualisation and Containers

Sl.No	Questions & Options
CO1	To what extent you understood on virtualization basics
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO2	To what extent you were able to apply virtual machine setup principles
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO3	To what extent you understood on VM life cycle
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO4	To what extent you were able to configure a container
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO5	To what extent you understood on basics of container security
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO6	To what extent you understood on dockers
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>

CO->PO MAPPING - 20MCA168 - Virtualisation and Containers

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	1			1							
CO2	3	2	1	1	2		1					
CO3	2	1		1			1					
CO4	2	1					1				1	
CO5	2	1				1	1		1	1		1
CO6	3	2	1	1	3		1	1				

CO->PSO MAPPING - 20MCA168 - Virtualisation and Containers

CO/PSO	PSO1	PSO2	PSO3

CO1	1		
CO2	1		
CO3		1	
CO4			1
CO5	1		
CO6	1	1	

COURSE->PO MAPPING - 20MCA168 - Virtualisation and Containers

20MCA168/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	2	1	1	3	1	1	1	1	1	1	1

COURSE->PSO MAPPING - 20MCA168 - Virtualisation and Containers

20MCA168/PSO	PSO1	PSO2	PSO3
	1	1	1

20MCA192

Course Code	Course Name	L-T-P:C	Year of Introduction
20MCA192	IPR and Cyber Laws	3-1-0:4	2020

No.	Course Outcome - 20MCA192 - IPR and Cyber Laws	Target
CO1	Explain the fundamentals of IPR and patents.	66%
CO2	Apply intellectual property related tools such as trademark and copyright to real problems.	66%
CO3	Discuss Industrial designs, trade secret and geographic Indications.	66%
CO4	Describe laws governing cyberspace and analyze the role of Internet Governance in framing policies for Internet security.	66%
CO5	Discuss different types of cybercrimes and penalties under IT Act.	66%

COURSE END SURVEY - 20MCA192 - IPR and Cyber Laws

Sl.No	Questions & Options
CO1	Are you able to understand the fundamentals of IPR and patents?
	Answer Choice- <i>Strongly Agree/Agree/Neutral Disagree/Strongly disagree</i>
CO2	Are you able to apply intellectual property related tools such as trademark and copyright to real problems?
	Answer Choice- <i>Strongly Agree/Agree/Neutral Disagree/Strongly disagree</i>
CO3	Are you able to understand the concepts of industrial designs, trade secret and geographic indications?

	Answer Choice- <i>Strongly Agree/Agree/Neutral Disagree/Strongly disagree</i>
CO4	Are you able to understand the cyberspace governing laws and the role of Internet Governance in framing policies for Internet security?
	Answer Choice- <i>Strongly Agree/Agree/Neutral Disagree/Strongly disagree</i>
CO5	Are you familiar with different types of cybercrimes and penalties under IT Act now?
	Answer Choice- <i>Strongly Agree/Agree/Neutral Disagree/Strongly disagree</i>

CO->PO MAPPING - 20MCA192 - IPR and Cyber Laws

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	1	2	1	1		2	1		1		1	3
CO2	1	3	2	1		1	1		1	1		3
CO3	1	2	1	1			1		1	1		2
CO4	1	2	1			1	1		1	1		2
CO5	1	2	1	1		2	2		1	1		2

CO->PSO MAPPING - 20MCA192 - IPR and Cyber Laws

CO/PSO	PSO1	PSO2	PSO3
CO1		3	1
CO2		2	3
CO3		1	
CO4	1	1	
CO5			

COURSE->PO MAPPING - 20MCA192 - IPR and Cyber Laws

20MCA192/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	1	3	2	1		2	2		1	1	1	3

COURSE->PSO MAPPING - 20MCA192 - IPR and Cyber Laws

20MCA192/PSO	PSO1	PSO2	PSO3
	1	3	3

20MCA132

Course Code	Course Name	L-T-P:C	Year of Introduction
20MCA132	Object Oriented Programming Lab	0-1-3:2	2020

No.	Course Outcome - 20MCA132 - Object Oriented Programming Lab	Target
CO1	Understand object-oriented concepts and design classes and objects to solve problems.	60.5%
CO2	Familiarization and understanding of arrays and strings.	60.5%
CO3	Understand and implement object-oriented concepts like inheritance, overloading and interfaces.	60.5%
CO4	Implement packages, exception handling, multithreading and generic programming by using the java.util package and Collection framework.	60.5%
CO5	Design applications to handle events using applets.	60.5%
CO6	Design applications using files and networking concepts.	60.5%

COURSE END SURVEY - 20MCA132 - Object Oriented Programming Lab

Sl.No	Questions & Options
CO1	To what extend you are able to understand object-oriented concepts and design classes and objects to solve problems?
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO2	To what extend you are able to implement arrays and strings?
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO3	To what extend you are able to implement object-oriented concepts like inheritance, overloading and interfaces?
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO4	To what extend you are able to implement packages, exception handling, multithreading and generic programming. Use java.util package and Collection framework?
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO5	To what extend you are able to develop applications to handle events using applets?
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO6	To what extend you are able to develop applications using files and networking concepts?
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>

CO->PO MAPPING - 20MCA132 - Object Oriented Programming Lab

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	2	3	2	2	1	1	1	1	1		1
CO2	2	2	1	1	1	1	1	1		1		1
CO3	2	2	2	2	2	2	2	1	1	1		1
CO4	3	2	3	2	3	2	2	2		1	1	2
CO5	2	3	2	2	2	1	1	2		2	1	1

CO6	2	2	2	3	2	1	2	1		1	1	1
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CO->PSO MAPPING - 20MCA132 - Object Oriented Programming Lab

CO/PSO	PSO1	PSO2	PSO3
CO1	2	2	2
CO2	2	2	2
CO3	2	2	2
CO4	2	2	2
CO5	2	2	2
CO6	2	2	2

COURSE->PO MAPPING - 20MCA132 - Object Oriented Programming Lab

20MCA132/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	3	3	3	3	2	2	2	1	2	1	2

COURSE->PSO MAPPING - 20MCA132 - Object Oriented Programming Lab

20MCA132/PSO	PSO1	PSO2	PSO3
	2	2	2

20MCA134

Course Code	Course Name	L-T-P:C	Year of Introduction
20MCA134	Advanced DBMS Lab	0-1-3:2	2020

No.	Course Outcome - 20MCA134 - Advanced DBMS Lab	Target
CO1	Design and build a simple relational database system and demonstrate competence with the fundamentals tasks involved with modelling, designing and implementing a database.	65.1%
CO2	Apply PL/SQL for processing databases.	65.1%
CO3	Comparison between relational and non-relational (NoSQL) databases and the configuration of NoSQL Databases.	65.1%
CO4	Apply CRUD operations and retrieve data in a NoSQL environment.	65.1%
CO5	Understand the basic storage architecture of distributed file systems.	65.1%
CO6	Design and deployment of NoSQL databases with real time requirements.	65.1%

COURSE END SURVEY - 20MCA134 - Advanced DBMS Lab

Sl.No	Questions & Options

CO1	To what extent you are able to design and build a simple relational database system and demonstrate competence with the fundamentals tasks involved with modelling, designing and implementing a databas
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO2	To what extent you are able to apply PL/SQL for processing databases
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO3	To what extent you are able to compare relational and non-relational (NoSQL) databases and the configuration of NoSQL Databases
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO4	To what extent you are able to apply CRUD operations and retrieve data in a NoSQL environment.
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO5	To what extent you are able to understand the basic storage architecture of distributed file systems.
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO6	To what extent you are able to design and deployment of NoSQL databases with real time requirements.
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>

CO->PO MAPPING - 20MCA134 - Advanced DBMS Lab

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	2	3	2	2	1	1	1		1	1	
CO2	2	2	2		1	1	1	1				
CO3	2	2	2	2		1	1	1	1	1	1	
CO4	2	2	3	1	2	1	1	1		1	1	1
CO5	3	2	2			1	1	1	2		1	1
CO6	2	2	3	1	1	1	1	1	1	1	1	2

CO->PSO MAPPING - 20MCA134 - Advanced DBMS Lab

CO/PSO	PSO1	PSO2	PSO3
CO1	2	2	1
CO2	2	3	2
CO3		1	
CO4	2	1	
CO5	1	1	1
CO6	1	1	1

COURSE->PO MAPPING - 20MCA134 - Advanced DBMS Lab

20MCA134/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	2	3	2	2	1	1	1	2	1	1	2

COURSE->PSO MAPPING - 20MCA134 - Advanced DBMS Lab

20MCA134/PSO	PSO1	PSO2	PSO3
	2	3	2

20MCA136

Course Code	Course Name	L-T-P:C	Year of Introduction
20MCA136	Networking & System Administration Lab	0-1-3:2	2020

No.	Course Outcome - 20MCA136 - Networking & System Administration Lab	Target
CO1	Install and configure common operating systems in virtual environment.	61%
CO2	Perform system administration tasks including network configurations, user creations and trouble shooting .	61%
CO3	Install and manage servers for web applications.	61%
CO4	Write shell scripts required for system administration.	61%
CO5	Acquire skill sets required for a DevOps.	61%

COURSE END SURVEY - 20MCA136 - Networking & System Administration Lab

Sl.No	Questions & Options
CO1	At what extend you are able to install and configure common operating systems.
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO2	At what extend you are able to perform system administration tasks.
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO3	At what extend you are able to install and manage servers for web applications.
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO4	At what extend you are able to write shell scripts required for system administration.
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO5	At what extend you are able to acquire skill sets required for a DevOps.
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>

CO->PO MAPPING - 20MCA136 - Networking & System Administration Lab

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
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CO1	3	1	1		2	1	2	1				1
CO2	2	2		1	1	1	1				1	
CO3	2	1			1	1	1					1
CO4	1		1			1	1		1			
CO5	1	2	1	1	1		1			1	1	1

CO->PSO MAPPING - 20MCA136 - Networking & System Administration Lab

CO/PSO	PSO1	PSO2	PSO3
CO1	2	1	1
CO2	1	1	1
CO3	1	2	2
CO4	2		1
CO5	1	1	2

COURSE->PO MAPPING - 20MCA136 - Networking & System Administration Lab

20MCA136/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	2	1	1	2	1	2	1	1	1	1	1

COURSE->PSO MAPPING - 20MCA136 - Networking & System Administration Lab

20MCA136/PSO	PSO1	PSO2	PSO3
	2	2	2

20MCANC2

Course Code	Course Name	L-T-P:C	Year of Introduction
20MCANC2	Industrial Readiness Training	1-0-0:0	2020

COURSE END SURVEY - 20MCANC2 - Industrial Readiness Training**CO->PO MAPPING - 20MCANC2 - Industrial Readiness Training**

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12

CO->PSO MAPPING - 20MCANC2 - Industrial Readiness Training

CO/PSO	PSO1	PSO2	PSO3

COURSE->PO MAPPING - 20MCANC2 - Industrial Readiness Training

20MCANC2/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12

COURSE->PSO MAPPING - 20MCANC2 - Industrial Readiness Training

20MCANC2/PSO	PSO1	PSO2	PSO3

SEMESTER-3**RLMCA201**

Course Code	Course Name	L-T-P:C	Year of Introduction
RLMCA201	Computer Networks	3-1-0:4	2016

No.	Course Outcome - RLMCA201 - Computer Networks	Target
CO1	Familiarize the basic communication model and OSI reference model.	60%
CO2	Understand the application layer protocols and socket programming.	60%
CO3	Understand the transport layer protocols and congestion control principles	60%
CO4	Understand the network layer protocols.	60%
CO5	Understand the link layer and physical layer protocols.	60%
CO6	Familiarize IEE802.11, cellular networks and network management tools.	60%

COURSE END SURVEY - RLMCA201 - Computer Networks

Sl.No	Questions & Options
CO1	To what extent students are able to understand the the basic communication model and OSI reference model.?
	Answer Choice- <i>Strongly Agree/Agree/Neutral Disagree/Strongly disagree</i>
CO2	To what extent students are able to understand the application layer protocols and socket programming.?
	Answer Choice- <i>Very satisfied/Satisfied/Neither satisfied nor dissatisfied/Dissatisfied /Very dissatisfied</i>
CO3	To what extent students are able to understand the transport layer protocols and congestion control principles?
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO4	To what extent students are able to design and implement layer protocols within an environment
	Answer Choice- <i>Very advanced/Advanced/Proficient/Basic/ Minimal</i>
CO5	To what extent students are able to understand the link layer and physical layer protocols.?
	Answer Choice- <i>Very frequently/Frequently/Rarely Very rarely/Never</i>
CO6	To what extent students are able to expertise in IEE802.11, cellular networks and network management tools?
	Answer Choice- <i>Very advanced/Advanced/Proficient/Basic/ Minimal</i>

CO->PO MAPPING - RLMCA201 - Computer Networks

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	2			2		1		1			3
CO2	2	1			2		1	1			1	2
CO3	2	1	1	1	1		2	2	2	1		2
CO4	1	1	1		3		2	1	2			
CO5			2		2		1	1	2			1
CO6	2	3			2	1	1	1	2		1	1

CO->PSO MAPPING - RLMCA201 - Computer Networks

CO/PSO	PSO1	PSO2	PSO3
CO1	1	2	3
CO2	3	2	2
CO3	3	1	2
CO4	2	2	2
CO5	1		2
CO6	2	3	3

COURSE->PO MAPPING - RLMCA201 - Computer Networks

RLMCA201/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	3	2	1	3	1	2	2	2	1	1	3

COURSE->PSO MAPPING - RLMCA201 - Computer Networks

RLMCA201/PSO	PSO1	PSO2	PSO3
	3	3	3

RLMCA203

Course Code	Course Name	L-T-P:C	Year of Introduction
RLMCA203	Software Engineering	3-1-0:4	2016

No.	Course Outcome - RLMCA203 - Software Engineering	Target
CO1	Analyze the theory and foundations of software engineering.	60.5%
CO2	Examine the different process models and choose the best model for their project	60.5%
CO3	Create software requirement models	60.5%

CO4	Understand the different software development practices and its advantages	60.5%
CO5	Create test cases and implement different testing strategies	60.5%
CO6	Understand the environment and work culture in a software organization	60.5%

COURSE END SURVEY - RLMCA203 - Software Engineering

Sl.No	Questions & Options
CO1	To what extent you are able to analyze the theory and foundations of software engineering.
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO2	To what extent you were able to examine the different process models and choose the best model for their project
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO3	To what extent you are able to create software requirement models
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO4	To what extent you are able to understand the different development practices and its advantages
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO5	To what extent you are able to create test cases and implement different testing strategies
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO6	To what extent you are able to understand the environment and work culture in a software organization
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>

CO->PO MAPPING - RLMCA203 - Software Engineering

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	2	1	1			1	1		3		3
CO2			3	3		2		2	3		3	
CO3	3		3		3		3					
CO4		2				1	1					
CO5		3	2		2	3		2				
CO6		2	1				1	2	2		2	1

CO->PSO MAPPING - RLMCA203 - Software Engineering

CO/PSO	PSO1	PSO2	PSO3
CO1	2	2	2
CO2	2		
CO3	1	2	2

CO4	1		2
CO5	2	1	3
CO6			1

COURSE->PO MAPPING - RLMCA203 - Software Engineering

RLMCA203/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	3	3	3	3	3	3	2	3	3	3	3

COURSE->PSO MAPPING - RLMCA203 - Software Engineering

RLMCA203/PSO	PSO1	PSO2	PSO3
	2	2	3

RLMCA205

Course Code	Course Name	L-T-P:C	Year of Introduction
RLMCA205	Database Management Systems	3-1-0:4	2016

No.	Course Outcome - RLMCA205 - Database Management Systems	Target
CO1	Examine the purpose of database system, data modeling concepts and E R features	60%
CO2	Examine the relational model concepts and relational algebra	60%
CO3	Apply structured query language for database creation and interaction.	60%
CO4	Apply different normalization techniques	60%
CO5	Analyse the concepts of database transaction processing	60%
CO6	Describe the basics of datamining and data warehousing	60%

COURSE END SURVEY - RLMCA205 - Database Management Systems

Sl.No	Questions & Options
CO1	To what extent you could examine the purpose of database system, data modeling concepts and ER features
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO2	To what extent you are able to examine the relational model concepts and relational algebra.
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO3	To what extent you are able to apply structured query language for database creation and interaction.
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO4	To what extent you are able to apply different normalization techniques

	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO5	To what extent you are able to analyse the concepts of database transaction processing
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO6	To what extent you are able to describe the basics of datamining and data warehousing
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>

CO->PO MAPPING - RLMCA205 - Database Management Systems

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1		2	2	1			1					2
CO2	3	2	2	3	2	2					3	2
CO3	3	2	3	2	1	2	2	2	1		2	3
CO4	3	3	3	2			2	2			2	2
CO5		2	2	2		2			1	1	2	2
CO6		2	2	3			2		1	1		3

CO->PSO MAPPING - RLMCA205 - Database Management Systems

CO/PSO	PSO1	PSO2	PSO3
CO1	2	2	2
CO2	3	2	2
CO3	3	3	2
CO4	2	2	2
CO5	2	1	1
CO6	2	1	2

COURSE->PO MAPPING - RLMCA205 - Database Management Systems

RLMCA205/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	3	3	3	2	2	2	2	1	1	3	3

COURSE->PSO MAPPING - RLMCA205 - Database Management Systems

RLMCA205/PSO	PSO1	PSO2	PSO3
	3	3	2

RLMCA207

Course Code	Course Name	L-T-P:C	Year of Introduction
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RLMCA207	Design and Analysis of Algorithm	3-1-0:4	2016
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No.	Course Outcome - RLMCA207 - Design and Analysis of Algorithm	Target
CO1	Understand design principles and notations to algorithm design and analyze the methods used to calculate the complexity.	63%
CO2	Attribute the efficiency of algorithms using DAC methods	64%
CO3	Analyze the running times of algorithms using greedy strategy	63%
CO4	Infer different algorithmic design strategy to solve shortest path problems.	62.5%
CO5	Develop efficient algorithms to solve complex optimization problems.	62.5%
CO6	Infer basic computational concepts and the complexity classes P, NP, and NP-Complete.	62.5%

COURSE END SURVEY - RLMCA207 - Design and Analysis of Algorithm

Sl.No	Questions & Options
CO1	To what extent you are able to implement design principles and concepts to algorithm design?
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO2	To what extent you are able to calculate the efficiency of algorithms using DAC Method.
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO3	To what extent you are able to analyze the running times of algorithms using greedy strategy?
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO4	To what extent you are able to infer different algorithmic design strategies to solve shortest path problems.?
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO5	To what extent you are able to develop efficient algorithms o solve complex optimization problems?
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO6	To what extent you are able to infer basic computational concepts and the complexity classes P, NP, and NP-Complete?
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>

CO->PO MAPPING - RLMCA207 - Design and Analysis of Algorithm

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	2	2				2				1	1
CO2	3	2	2	2	2		2		1		1	
CO3	3	2	2	2	1		2				1	
CO4	3	2	2	2	1	1	2			1	1	
CO5	3	3	2	2	1	1	2	1		1	1	1

CO6	3	3	3	2	1	1	2	1		1	1	2
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CO->PSO MAPPING - RLMCA207 - Design and Analysis of Algorithm

CO/PSO	PSO1	PSO2	PSO3
CO1	3	2	1
CO2	3	2	1
CO3	2	1	
CO4	3	2	1
CO5	3	2	1
CO6	3	1	

COURSE->PO MAPPING - RLMCA207 - Design and Analysis of Algorithm

RLMCA207/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	3	3	2	2	1	2	1	1	1	1	2

COURSE->PSO MAPPING - RLMCA207 - Design and Analysis of Algorithm

RLMCA207/PSO	PSO1	PSO2	PSO3
	3	2	1

RLMCA209

Course Code	Course Name	L-T-P:C	Year of Introduction
RLMCA209	Web Programming	3-1-0:4	2016

No.	Course Outcome - RLMCA209 - Web Programming	Target
CO1	Acquire knowledge about functionalities of world wide web.	61%
CO2	Explore markup languages features and create interactive web pages using them.	61%
CO3	Explore Cascading Style Sheets and implement various styling options in HTML.	61%
CO4	Acquire knowledge about client side scripting using JavaScript.	61%
CO5	Acquire knowledge about open source Java script libraries.	61%
CO6	Implement front end web page and connect to the back end databases.	61%

COURSE END SURVEY - RLMCA209 - Web Programming

Sl.No	Questions & Options
CO1	To what extent the students are able to acquire knowledge about functionalities of world wide web?

	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO2	To what extent the students are able to explore markup languages features and create interactive web pages using them?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO3	To what extent the students are able to explore Cascading Style Sheets and implement various styling options in HTML.?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO4	To what extent the students are able to acquire knowledge about CSS using JS?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO5	To what extent the students are able to acquire knowledge about open source Java script libraries?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO6	To what extent the students are able to implement front end web page and connect to the back end databases?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>

CO->PO MAPPING - RLMCA209 - Web Programming

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	1	1	1	3	3	2	1	1	1	2	1	2
CO2	2	2	1	3	1	1	1	1	3	1	3	1
CO3	1	1	2	2	1	3	1	1	1	2	1	1
CO4	1	1	2	3	1	1	2	3	2	2	1	1
CO5	2	2	2	1	2	1	1	2	1	2	1	2
CO6	3	1	2	3	3	1	1	2	2	1	3	3

CO->PSO MAPPING - RLMCA209 - Web Programming

CO/PSO	PSO1	PSO2	PSO3
CO1	1	2	2
CO2	2	1	2
CO3	1	1	3
CO4	1	1	2
CO5	2	1	3
CO6	1	1	2

COURSE->PO MAPPING - RLMCA209 - Web Programming

RLMCA209/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
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	3	2	2	3	3	3	2	3	3	2	3	3
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COURSE->PSO MAPPING - RLMCA209 - Web Programming

RLMCA209/PSO	PSO1	PSO2	PSO3
	2	2	3

RLMCA231

Course Code	Course Name	L-T-P:C	Year of Introduction
RLMCA231	Database Lab	0-0-4:1	2016

No.	Course Outcome - RLMCA231 - Database Lab	Target
CO1	Understand the underlying concepts of database technologies	60%
CO2	Design and implement a database schema for a given problem-domain.	60%
CO3	Apply different normalization techniques	60%
CO4	Formulate the queries using SQL DDL/DML commands in database creation and interaction.	60%
CO5	Use any popular RDBMS for data access and updating.	60%
CO6	Analyze the functionality and support provided by commercially popular RDBMS.	60%

COURSE END SURVEY - RLMCA231 - Database Lab

Sl.No	Questions & Options
CO1	To what extent you are able to understand, appreciate and effectively explain the underlying concepts of database technologies
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO2	To what extent you are able to design and implement a database schema for a given problem-domain
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO3	To what extent you are able to apply different normalization techniques
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO4	To what extent you are able to formulate the queries using SQL DDL/DML commands in database creation and interaction?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO5	To what extent you are able to use any popular RDBMS for data access and updating
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO6	To what extent you are able to analyze the functionality and support provided by commercially popular RDBMS.

Answer Choice- *Excellent/Very Good/Good/Satisfactory/Poor*

CO->PO MAPPING - RLMCA231 - Database Lab

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	2	3	1	2					1		2
CO2	1	2	2		1	1		2		1	1	
CO3	2	2	2	2	1	1		2		1		1
CO4	1	2	2	1	1							3
CO5	1	2	2		2							1
CO6	2	2	2		2		1		1			1

CO->PSO MAPPING - RLMCA231 - Database Lab

CO/PSO	PSO1	PSO2	PSO3
CO1	2	3	2
CO2	2	2	
CO3	1	1	
CO4	3	2	
CO5	2		
CO6	1	1	

COURSE->PO MAPPING - RLMCA231 - Database Lab

RLMCA231/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	2	3	2	2	1	1	2	1	1	1	3

COURSE->PSO MAPPING - RLMCA231 - Database Lab

RLMCA231/PSO	PSO1	PSO2	PSO3
	3	3	2

RLMCA233

Course Code	Course Name	L-T-P:C	Year of Introduction
RLMCA233	Web Programming Lab	0-0-4:1	2016

No.	Course Outcome - RLMCA233 - Web Programming Lab	Target
CO1	Explore markup languages features and create interactive web pages using them.	60%
CO2	Learn and design CSS.	60%

CO3	Explore and implement various options in HTML.	60%
CO4	Acquire client side scripting using JavaScript.	60%
CO5	Acquire knowledge about open source JavaScript libraries	60%
CO6	Design front end web page and connect to the back end databases.	60%

COURSE END SURVEY - RLMCA233 - Web Programming Lab

Sl.No	Questions & Options
CO1	To what extent the students are able to explore markup languages features and create interactive web pages using them?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO2	To what extent students are able to learn and design CSS?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO3	To what extent students are able to acquire knowledge about Open source JavaScript libraries?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO4	To what extent the students are able to acquire knowledge of client side scripting using JavaScript?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO5	To what extent the students are able to acquire knowledge about open source JavaScript libraries?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO6	To what extent the students are able to design front end web page and connect to the back end databases?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>

CO->PO MAPPING - RLMCA233 - Web Programming Lab

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	2		1	2	2	1	1	1		1	
CO2	1	2	1	1	1	1	1	1			1	
CO3	1	1	2	1	2	1	1				1	
CO4	1	2	2	1	1		2	1		1		
CO5	2	2	1		1		1	1				
CO6	2	3	3	1	3	3	1	2		1	3	3

CO->PSO MAPPING - RLMCA233 - Web Programming Lab

CO/PSO	PSO1	PSO2	PSO3
CO1	1	1	1
CO2	1	2	1

CO3		1	1
CO4	2	1	
CO5	1	1	3
CO6	2	1	1

COURSE->PO MAPPING - RLMCA233 - Web Programming Lab

RLMCA233/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	2	3	3	1	3	3	2	2	1	1	3	3

COURSE->PSO MAPPING - RLMCA233 - Web Programming Lab

RLMCA233/PSO	PSO1	PSO2	PSO3
	2	2	3

20MCA201

Course Code	Course Name	L-T-P:C	Year of Introduction
20MCA201	Data Science & Machine Learning	3-1-0:4	2020

No.	Course Outcome - 20MCA201 - Data Science & Machine Learning	Target
CO1	Learn the fundamental concepts of data science and data visualization techniques.	60%
CO2	Know the basics of machine learning and use lazy learning and probabilistic learning algorithms to solve data science problems.	60%
CO3	Describe decision trees, classification rules and regression methods and how these algorithms can be applied to solve data science problems.	60%
CO4	Solve data science problems using neural networks and support vector machines.	60%
CO5	Learn about clustering using k-means algorithm and evaluate and improve the performance of machine learning classification models.	60%

COURSE END SURVEY - 20MCA201 - Data Science & Machine Learning

Sl.No	Questions & Options
CO1	To what extend you are able to learn the fundamental concepts of data science and data visualization techniques? Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO2	To what extend you are able to learn the basics of machine learning and use lazy learning and probabilistic learning algorithms to solve data science problems? Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO3	To what extend you are able to describe decision trees, classification rules and regression methods and how these algorithms can be applied to solve data science problems?

	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO4	To what extend you are able to solve data science problems using neural networks and support vector machines?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO5	To what extend you are able to learn about clustering using k-means algorithm and evaluate and improve the performance of machine learning classification models?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>

CO->PO MAPPING - 20MCA201 - Data Science & Machine Learning

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	1	1					2					
CO2	3	3	3	2			2					
CO3	3	3	3	2			2					
CO4	3	3	3	2	3		2					
CO5	3	3	3	2			2					

CO->PSO MAPPING - 20MCA201 - Data Science & Machine Learning

CO/PSO	PSO1	PSO2	PSO3
CO1	3	1	1
CO2	1	1	1
CO3	3	3	1
CO4	3	1	1
CO5	1	1	1

COURSE->PO MAPPING - 20MCA201 - Data Science & Machine Learning

20MCA201/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	3	3	2	3		2					

COURSE->PSO MAPPING - 20MCA201 - Data Science & Machine Learning

20MCA201/PSO	PSO1	PSO2	PSO3
	3	3	1

20MCA203

Course Code	Course Name	L-T-P:C	Year of Introduction
20MCA203	Design & Analysis of Algorithms	3-1-0:4	2020

No.	Course Outcome - 20MCA203 - Design & Analysis of Algorithms	Target
CO1	Understand and develop Ability to Analyze algorithm, its complexity and to representation using standard Notations.	60%
CO2	Understand optimization models using Knowing Greedy strategy and Dynamic Programming in algorithm design.	60%
CO3	Understand the Backtracking, Branch and Bound and Lower Bound method of an algorithm design .	60%
CO4	Understand the fundamental concepts of Computational complexity and Network flows.	60%
CO5	Understand the concepts of Approximation and Randomized class of Algorithms.	60%

COURSE END SURVEY - 20MCA203 - Design & Analysis of Algorithms

Sl.No	Questions & Options
CO1	To what extend do you think, you will be able to Analyze the complexity of an algorithm
	Answer Choice- <i>Always/Very often/Sometimes/Rarely/Never</i>
CO2	To what extend the Greedy and Dynamic Programming strategies are understood as an algorithm design model.
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO3	Were you able to get the design concept of Backtracking, Branch and Bound and Lower Bound methods in algorithm modeling.
	Answer Choice- <i>Extremely helpful/Moderately helpful/ Helpful/A little helpful/Not at all helpful</i>
CO4	Has the topic given you enough introduction to analyze the higher level Computational complexity models.
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO5	To what extend the concepts of Approximation and Randomized class of Algorithms are understood.
	Answer Choice- <i>Very satisfied/Satisfied/Neither satisfied nor dissatisfied/Dissatisfied /Very dissatisfied</i>

CO->PO MAPPING - 20MCA203 - Design & Analysis of Algorithms

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	3	3		1	2	3	1	1	1	2	1
CO2	3	3	3	2	1	2	3	1	1	1	2	1
CO3	3	3	3	2	1	2	3	1	1	1	2	1
CO4	3	3	3	3	1	2	3	1	1	1	2	1
CO5	3	3	3		1	2	3	1	1	1	2	1

CO->PSO MAPPING - 20MCA203 - Design & Analysis of Algorithms

CO/PSO	PSO1	PSO2	PSO3
CO1	3	2	1

CO2	3	2	1
CO3	3	2	1
CO4	3	2	1
CO5	3	2	1

COURSE->PO MAPPING - 20MCA203 - Design & Analysis of Algorithms

20MCA203/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	3	3	3	1	2	3	1	1	1	2	1

COURSE->PSO MAPPING - 20MCA203 - Design & Analysis of Algorithms

20MCA203/PSO	PSO1	PSO2	PSO3
	3	2	1

20MCA265

Course Code	Course Name	L-T-P:C	Year of Introduction
20MCA265	Cloud Computing	3-1-0:4	2020

No.	Course Outcome - 20MCA265 - Cloud Computing	Target
CO1	Understand the basic concepts in cloud computing and OpenStack logical architecture	60%
CO2	Analyze the OpenStack cloud controller and common services	60%
CO3	Evaluate different OpenStack compute service components and storage types	60%
CO4	Describe the OpenStack Networking- Connection types and networking services	60%
CO5	Discuss orchestration, HA and failover in OpenStack	60%

COURSE END SURVEY - 20MCA265 - Cloud Computing

Sl.No	Questions & Options
CO1	To what extent you understood the basic concepts in cloud computing and OpenStack logical architecture?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO2	To what extent you understood OpenStack cloud controller and common services?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO3	To what extent you understood different OpenStack compute service components and storage types?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO4	To what extent you understood the OpenStack Networking- Connection types and networking services?

	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO5	To what extent you understood on orchestration in openstack?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>

CO->PO MAPPING - 20MCA265 - Cloud Computing

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2				3		2	1	1	1		1
CO2	2				3		2	1				1
CO3	2				3	1	2	1				1
CO4	2	1	1		3		2	1				1
CO5	2	1	2	1	3		2	1	1		1	1

CO->PSO MAPPING - 20MCA265 - Cloud Computing

CO/PSO	PSO1	PSO2	PSO3
CO1	1		
CO2		1	
CO3			1
CO4			
CO5			

COURSE->PO MAPPING - 20MCA265 - Cloud Computing

20MCA265/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	2	1	2	1	3	1	2	1	1	1	1	1

COURSE->PSO MAPPING - 20MCA265 - Cloud Computing

20MCA265/PSO	PSO1	PSO2	PSO3
	1	1	1

20MCA281

Course Code	Course Name	L-T-P:C	Year of Introduction
20MCA281	Internet of Things	3-1-0:4	2020

No.	Course Outcome - 20MCA281 - Internet of Things	Target
CO1	Understand the main concepts and features of the IOT paradigm.	60%
CO2	Know about Fog Computing, TinyOS - nesC and programming frameworks for IOT	60%

CO3	Describe the data management techniques applied to the IOT environment.	60%
CO4	Understand the security and privacy in IOT environments.	60%
CO5	Learn about the key enablers and solutions to enable practical IoT systems.	60%

COURSE END SURVEY - 20MCA281 - Internet of Things

Sl.No	Questions & Options
CO1	To what extend you are able to understand the main concepts and features of the IOT paradigm?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO2	To what extend you are able to know about Fog Computing, TinyOS - nesC and programming frameworks for IOT?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO3	To what extend you are able to describe the data management techniques applied to the IOT environment?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO4	To what extend you are able to understand the security and privacy in IOT environments?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO5	To what extend you are able to learn about the key enablers and solutions to enable practical IOT systems?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>

CO->PO MAPPING - 20MCA281 - Internet of Things

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	2	2	2			1	1				1
CO2	3	1		2	2		1					
CO3	3	1				1	1					
CO4	3	1				1	1					1
CO5	3	1	1			1	1					

CO->PSO MAPPING - 20MCA281 - Internet of Things

CO/PSO	PSO1	PSO2	PSO3
CO1	2	1	1
CO2	2	1	1
CO3	2	1	1
CO4	2	1	1
CO5	1	1	1

COURSE->PO MAPPING - 20MCA281 - Internet of Things

20MCA281/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	2	2	2	2	1	1	1				1

COURSE->PSO MAPPING - 20MCA281 - Internet of Things

20MCA281/PSO	PSO1	PSO2	PSO3
	2	1	1

20MCA241

Course Code	Course Name	L-T-P:C	Year of Introduction
20MCA241	Data Science Lab	0-1-3:2	2020

No.	Course Outcome - 20MCA241 - Data Science Lab	Target
CO1	Use different python packages to perform numerical calculations, statistical computations and data visualization.	60%
CO2	Use different packages and frameworks to implement regression and classification algorithms.	60%
CO3	Use different packages and frameworks to implement text classification using SVM and clustering using K-means.	60%
CO4	Implement convolutional neural network algorithm using Keras framework.	60%
CO5	Implement programs for web data mining and natural language processing using NLTK.	60%

COURSE END SURVEY - 20MCA241 - Data Science Lab

Sl.No	Questions & Options
CO1	To what extend you are able to use different python packages to perform numerical calculations, statistical computations and data visualization?
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO2	To what extend you are able to use different packages and frameworks to implement regression and classification algorithms?
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO3	To what extend you are able to use different packages and frameworks to implement text classification using SVM and clustering using K-means?
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO4	To what extend you are able to implement convolutional neural network algorithm using Keras framework?
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO5	To what extend you are able to implement programs for web data mining and natural language processing using NLTK?
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>

CO->PO MAPPING - 20MCA241 - Data Science Lab

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	3	3	1	3	2	3		2			
CO2	3	3	3	2	3	2	3		2			
CO3	3	3	3	2	3	2	3		2			
CO4	3	3	3	2	3	2	3		2			
CO5	3	3	3	2	3	3	3		2			

CO->PSO MAPPING - 20MCA241 - Data Science Lab

CO/PSO	PSO1	PSO2	PSO3
CO1	3	1	1
CO2	1	1	1
CO3	2	1	1
CO4	3	1	1
CO5	1	1	2

COURSE->PO MAPPING - 20MCA241 - Data Science Lab

20MCA241/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	3	3	2	3	3	3		2			

COURSE->PSO MAPPING - 20MCA241 - Data Science Lab

20MCA241/PSO	PSO1	PSO2	PSO3
	3	1	2

20MCA243

Course Code	Course Name	L-T-P:C	Year of Introduction
20MCA243	Mobile Application Development Lab	0-1-3:2	2020

No.	Course Outcome - 20MCA243 - Mobile Application Development Lab	Target
CO1	Design and develop user interfaces for mobile apps using basic building blocks, UI components and application structure using Emulator	60%
CO2	Write simple programs and develop small applications using the concepts of UI design, layouts and preferences	60%
CO3	Develop applications with multiple activities using intents, array adapter, exceptions and options menu.	60%

CO4	Implement activities with dialogs, spinner, fragments and navigation drawer by applying themes	60%
CO5	Develop mobile applications using SQLite.	60%

COURSE END SURVEY - 20MCA243 - Mobile Application Development Lab

Sl.No	Questions & Options
CO1	To what extent you are able to design and develop UI using Emulator
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO2	To what extent you understood concepts of layouts
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO3	To what extent you understood intents, exceptions and menus
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO4	To what extent you are able to implement activities applying themes
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO5	To what extent you understood to create applications with SQLite
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>

CO->PO MAPPING - 20MCA243 - Mobile Application Development Lab

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	1	3	1	3	1	1		2			1
CO2	3	1	3	1	3	1	1		2			
CO3	3	1	3	1	3	1	1		2		1	
CO4	3	1	3	1	3	1	1		2			
CO5	3	1	3	2	3	2	3		2	1	1	1

CO->PSO MAPPING - 20MCA243 - Mobile Application Development Lab

CO/PSO	PSO1	PSO2	PSO3
CO1	1		1
CO2	1	2	2
CO3	1		1
CO4	1		1
CO5	1	1	2

COURSE->PO MAPPING - 20MCA243 - Mobile Application Development Lab

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12

20MCA243/PO	3	1	3	2	3	2	3		2	1	1	1
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COURSE->PSO MAPPING - 20MCA243 - Mobile Application Development Lab

20MCA243/PSO	PSO1	PSO2	PSO3
	1	2	2

20MCA245

Course Code	Course Name	L-T-P:C	Year of Introduction
20MCA245	Mini Project	0-0-4:2	2020

No.	Course Outcome - 20MCA245 - Mini Project	Target
CO1	Identify a real-life project which is useful to society / industry	60%
CO2	Interact with people to identify the project requirements	60%
CO3	Apply suitable development methodology for the development of the product / project	60%
CO4	Analyse and design a software product / project	60%
CO5	Test the modules at various stages of project development	60%
CO6	Build and integrate different software modules	60%

COURSE END SURVEY - 20MCA245 - Mini Project

Sl.No	Questions & Options
CO1	To what extent you are able to find a real life project
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO2	To what extent you are able to interact with people to identify the project requirements
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO3	To what extent you are able to apply suitable development methodology for the development of the product / project
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO4	To what extent you are able to analyze and design a software product / project
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO5	To what extent you are able to test the modules at various stages of project development
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO6	To what extent you are able to build and integrate different software modules

Answer Choice- *Excellent/Very Good/Good Satisfactory/Needs improvement*

CO->PO MAPPING - 20MCA245 - Mini Project

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	3	3	3	1	2	3	3	3	3	3	3
CO2	2	3	2	3	2	3	2	1	3	2	3	
CO3	3	3	3	3	3	1	3	3	1		2	
CO4	3	3	3	3	3		3	3	1	1	2	
CO5	3	3	3	3	3		2	3			1	
CO6	3	3	3	3	3	2	3	3		2	3	3

CO->PSO MAPPING - 20MCA245 - Mini Project

CO/PSO	PSO1	PSO2	PSO3
CO1	2		1
CO2		2	1
CO3		2	2
CO4		1	1
CO5	1	1	3
CO6			1

COURSE->PO MAPPING - 20MCA245 - Mini Project

20MCA245/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	3	3	3	3	3	3	3	3	3	3	3

COURSE->PSO MAPPING - 20MCA245 - Mini Project

20MCA245/PSO	PSO1	PSO2	PSO3
	2	2	3

20MCANC3

Course Code	Course Name	L-T-P:C	Year of Introduction
20MCANC3	Domain Expertise Workshops	1-0-0:0	2020

No.	Course Outcome - 20MCANC3 - Domain Expertise Workshops	Target
CO1	Associate real-life problems with IT solutions	60%
CO2	Describe latest developments in IT field	60%

CO3	Interact with technical experts	60%
CO4	Prepare technical documents	60%
CO5	Present a topic before an audience	60%

COURSE END SURVEY - 20MCANC3 - Domain Expertise Workshops

Sl.No	Questions & Options
CO1	To what extent you were able to associate real lif
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO2	To what extent you were able to describe latest developments in IT filed
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO3	How was the interaction sessions with technical experts
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO4	To what extent you understood to prepare technical documents
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO5	To what extent you rate your presentation before an audience
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>

CO->PO MAPPING - 20MCANC3 - Domain Expertise Workshops

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	1	2				3	3		3	3	3	3
CO2	2	2				3	3		3	3	3	3
CO3		2				3	3		3			3
CO4						3			3			3
CO5						3			3			3

CO->PSO MAPPING - 20MCANC3 - Domain Expertise Workshops

CO/PSO	PSO1	PSO2	PSO3
CO1	1		
CO2		2	
CO3			1
CO4			
CO5			

COURSE->PO MAPPING - 20MCANC3 - Domain Expertise Workshops

20MCANC3/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	2	2				3	3		3	3	3	3

COURSE->PSO MAPPING - 20MCANC3 - Domain Expertise Workshops

20MCANC3/PSO	PSO1	PSO2	PSO3
	1	2	1

20MCA283

Course Code	Course Name	L-T-P:C	Year of Introduction
20MCA283	Deep Learning	3-1-0:4	2020

COURSE END SURVEY - 20MCA283 - Deep Learning**CO->PO MAPPING - 20MCA283 - Deep Learning**

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12

CO->PSO MAPPING - 20MCA283 - Deep Learning

CO/PSO	PSO1	PSO2	PSO3

COURSE->PO MAPPING - 20MCA283 - Deep Learning

20MCA283/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12

COURSE->PSO MAPPING - 20MCA283 - Deep Learning

20MCA283/PSO	PSO1	PSO2	PSO3

SEMESTER-4**RLMCA202**

Course Code	Course Name	L-T-P:C	Year of Introduction
RLMCA202	Application Development and Maintenance	3-1-0:4	2016

No.	Course Outcome - RLMCA202 - Application Development and Maintenance	Target
CO1	Analyze the principles of software delivery and Configuration Management System.	62.75%
CO2	Demonstrate GIT and gain knowledge in continuous integration environment	61.75%
CO3	Analyze the stages of deployment pipeline that leads to the deployment of an application	62.75%
CO4	Understanding different automated testing tools for non functional requirements	60.75%
CO5	Analyze best coding practices and apply the same in their academic projects	62.75%

CO6	Infer the Pragmatic approach for developing an industry ready applications	62.75%
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COURSE END SURVEY - RLMCA202 - Application Development and Maintenance

Sl.No	Questions & Options
CO1	To what extent you are able to apply the principles of software delivery and Configuration Management System
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO2	To what extent you are able to demonstrate GIT in continuous integration environment
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO3	To what extent you are able to understand the stages of deployment pipeline that leads to the deployment of an application
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO4	To what extent you are able to understand the concepts of automated testing tools for non functional requirements
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO5	To what extent you are able to understand best coding practices and apply the same in your academic projects
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO6	To what extent you are able to practice or apply the Pragmatic approach for developing industry ready applications
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>

CO->PO MAPPING - RLMCA202 - Application Development and Maintenance

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	2	2	1		1	1	3	2			1
CO2	1		2	2	2			1	3	1	2	
CO3	2	2			3		1	1			2	
CO4	2		1		3			1	3			
CO5	2	2	1		2	1	3	3		1	2	2
CO6		2	1			1	1	2		1	2	3

CO->PSO MAPPING - RLMCA202 - Application Development and Maintenance

CO/PSO	PSO1	PSO2	PSO3
CO1	3	2	3
CO2	1	3	2
CO3	3	1	1

CO4	1	1	1
CO5	3	3	3
CO6	2	3	2

COURSE->PO MAPPING - RLMCA202 - Application Development and Maintenance

RLMCA202/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	2	2	2	2	3	1	3	3	3	1	2	3

COURSE->PSO MAPPING - RLMCA202 - Application Development and Maintenance

RLMCA202/PSO	PSO1	PSO2	PSO3
	3	3	3

RLMCA204

Course Code	Course Name	L-T-P:C	Year of Introduction
RLMCA204	Big Data Technologies	3-1-0:4	2016

No.	Course Outcome - RLMCA204 - Big Data Technologies	Target
CO1	Understand Big Data and its analytics in the real world.	62%
CO2	Demonstrate Hadoop applications for Big Data.	60%
CO3	Examine Analytic results using HDFS	60%
CO4	Apply the concepts of MapReduce framework	60%
CO5	Compare Big Data Storage Technologies	63%
CO6	Select an appropriate analysis technique for Data analysis project	61%

COURSE END SURVEY - RLMCA204 - Big Data Technologies

Sl.No	Questions & Options
CO1	To what extent you are able to understand Big Data and its analytics in the real world.
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO2	To what extent you are able to demonstrate Hadoop applications for Big Data.
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO3	To what extent you are able to examine Analytic results using HDFS
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO4	To what extent you are able to apply the concepts of MapReduce framework

	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO5	To what extent you are able to compare Big Data Storage Technologies
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO6	To what extent you are able to select an appropriate analysis technique for Data analysis project
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>

CO->PO MAPPING - RLMCA204 - Big Data Technologies

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	3	3		1	1				1	1	1
CO2		2	3						3		1	1
CO3		3	3	1								
CO4	3			3			3			3	2	1
CO5				2	2			1				
CO6		3					1					

CO->PSO MAPPING - RLMCA204 - Big Data Technologies

CO/PSO	PSO1	PSO2	PSO3
CO1	2		
CO2			
CO3			3
CO4			
CO5		3	
CO6			

COURSE->PO MAPPING - RLMCA204 - Big Data Technologies

RLMCA204/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	3	3	3	2	1	3	1	3	3	2	1

COURSE->PSO MAPPING - RLMCA204 - Big Data Technologies

RLMCA204/PSO	PSO1	PSO2	PSO3
	2	3	3

RLMCA206

Course Code	Course Name	L-T-P:C	Year of Introduction
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RLMCA206	Mobile Computing	3-1-0:4	2016
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No.	Course Outcome - RLMCA206 - Mobile Computing	Target
CO1	Analyze the concepts of mobile communication and computing Technologies	61.5%
CO2	Describe the concepts of mobile computing and working of various mobile networks.	62%
CO3	Compare and contrast different mobile OS.	63%
CO4	Explain the key technological principles, protocols and methods for delivering and maintaining mobile applications.	62%
CO5	Identify and evaluate Android Development Environments and development tools	61%
CO6	Identify and understand android UI, application components and storage techniques for the successful deployment of mobile applications.	61%

COURSE END SURVEY - RLMCA206 - Mobile Computing

Sl.No	Questions & Options
CO1	To what extent you are able to analyse the concepts of Mobile Communication and Computing Technologies Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO2	To what extent you are able to describe the concepts of various mobile networks Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO3	To what extent you are able to compare the various Mobile OS concepts? Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO4	To what extent you are able to explain the key technological principles, protocols and methods for delivering and maintaining mobile applications. Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO5	To what extent you are able to understand different Android Development Environments and development tools Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO6	To what extent you are able to identify android components and storage techniques for the successful deployment of mobile applications Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>

CO->PO MAPPING - RLMCA206 - Mobile Computing

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	2	2	1	2				1			2
CO2	2	2			3							2
CO3	2	3	2	2	2							

CO4		1	1	1	2						2	
CO5	1	1	3	3	3	2					2	
CO6	2				3		2	2	2		1	

CO->PSO MAPPING - RLMCA206 - Mobile Computing

CO/PSO	PSO1	PSO2	PSO3
CO1	2	3	1
CO2	2	2	2
CO3	1	1	1
CO4	1	3	2
CO5	3	2	2
CO6	3	2	1

COURSE->PO MAPPING - RLMCA206 - Mobile Computing

RLMCA206/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	3	3	3	3	2	2	2	2		2	2

COURSE->PSO MAPPING - RLMCA206 - Mobile Computing

RLMCA206/PSO	PSO1	PSO2	PSO3
	3	3	2

RLMCA208

Course Code	Course Name	L-T-P:C	Year of Introduction
RLMCA208	Introduction to Machine Learning	3-1-0:4	2016

No.	Course Outcome - RLMCA208 - Introduction to Machine Learning	Target
CO1	Analyze the basic concepts of Machine learning and exploring the input data in detail	60%
CO2	Identify machine learning problems and apply suitable algorithms.	60%
CO3	Interpreting how to apply a variety of learning algorithms to data.	60%
CO4	Examine the strengths and weaknesses of many popular machine learning approaches	60%
CO5	Inferring the basic theory and models used in machine learning.	60%
CO6	Summarizing how to perform evaluation of learning algorithms and improve model selection.	60%

COURSE END SURVEY - RLMCA208 - Introduction to Machine Learning

Sl.No	Questions & Options
CO1	To what extent you are able to explain the basic steps in Machine Learning.
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO2	To what extent you are able to identify a suitable algorithm for a learning task.
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO3	To what extent you are able to apply an appropriate algorithm for a particular problem.
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO4	To what extent you are able to distinguish different machine learning Models.
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO5	To what extent you are able to recognize the basic concepts of different Machine Learning Models.
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO6	To what extent you are able to evaluate and improve the performance of a Machine Learning Model.
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>

CO->PO MAPPING - RLMCA208 - Introduction to Machine Learning

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	1										
CO2	1	3		2								
CO3	2	3		1								
CO4				1								
CO5	3											
CO6	1	1	2									

CO->PSO MAPPING - RLMCA208 - Introduction to Machine Learning

CO/PSO	PSO1	PSO2	PSO3
CO1	2	1	1
CO2	3	2	2
CO3	3	2	2
CO4	1	1	1
CO5	2	2	1
CO6	2	2	1

COURSE->PO MAPPING - RLMCA208 - Introduction to Machine Learning

RLMCA208/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	3	2	2								

COURSE->PSO MAPPING - RLMCA208 - Introduction to Machine Learning

RLMCA208/PSO	PSO1	PSO2	PSO3
	3	2	2

RLMCA266

Course Code	Course Name	L-T-P:C	Year of Introduction
RLMCA266	Advanced Database Systems	3-1-0:4	2016

No.	Course Outcome - RLMCA266 - Advanced Database Systems	Target
CO1	Explain the role that database play in organizing the Storage and access.	62.5%
CO2	Illustrate the basic database structures and access techniques: indexing methods including B+ tree	62%
CO3	Compare the file organization, query optimization, transaction management and database administration techniques.	61.5%
CO4	Demonstrate the basics of Object oriented databases and XML	62%
CO5	Interpret the basics of advanced topics such as database performance tuning, distributed databases	61%
CO6	Support non relational database systems and structures and new generation database systems like MongoDB.	61%

COURSE END SURVEY - RLMCA266 - Advanced Database Systems

Sl.No	Questions & Options
CO1	To what extent you are able to explain the role that database play in organizing the Storage and access
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO2	To what extent you are able to describe the basic database structures and access techniques
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO3	To what extent you are able to explain the file organization, query optimization, transaction management and database administration techniques.
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO4	To what extent you are able to demonstrate the basics of Object oriented databases and XML
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO5	To what extent you are able to identify and apply the basics of database performances tuning and distributed databases

	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO6	To what extent you are able describe non relational database systems and new generation database systems like MongoDB.
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>

CO->PO MAPPING - RLMCA266 - Advanced Database Systems

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3			1			2			2		
CO2	2				3							
CO3			3			2		1				
CO4			2						1			
CO5	1					1						1
CO6	2	1		2							3	2

CO->PSO MAPPING - RLMCA266 - Advanced Database Systems

CO/PSO	PSO1	PSO2	PSO3
CO1	3		
CO2			3
CO3		3	
CO4			
CO5		3	
CO6		2	3

COURSE->PO MAPPING - RLMCA266 - Advanced Database Systems

RLMCA266/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	1	3	2	3	2	2	1	1	2	3	2

COURSE->PSO MAPPING - RLMCA266 - Advanced Database Systems

RLMCA266/PSO	PSO1	PSO2	PSO3
	3	3	3

RLMCA232

Course Code	Course Name	L-T-P:C	Year of Introduction
RLMCA232	System Design Lab	0-0-4:1	2016

No.	Course Outcome - RLMCA232 - System Design Lab	Target
CO1	Experiment basic Linux commands.	65.6%
CO2	Understand the fundamentals of shell scripting/programming.	60.6%
CO3	Practice Shell Programs for system administration.	60.6%
CO4	Practice GIT and gain knowledge in using version control.	65.4%
CO5	Practice and develop programs for client- server communications using various network protocols(TCP/UDP).	61.6%

COURSE END SURVEY - RLMCA232 - System Design Lab

Sl.No	Questions & Options
CO1	To what extent you are able to use basic linux commands
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO2	To what extent you are able to understand the fundamentals of shell scripting/programming.
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO3	To what extent you are able to practice Shell Programs for system administration.
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO4	To what extent you are able to use GIT and gain knowledge in using version control
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO5	To what extent you are able to demonstrate programs for client- server communications using various network protocols(TCP/UDP)
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>

CO->PO MAPPING - RLMCA232 - System Design Lab

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	1		2			1			1		1
CO2	2		1	2	1			3				2
CO3	3	1	1		2		1		2			2
CO4		1	1			1		2	3	2		
CO5	2		3		3			2			2	3

CO->PSO MAPPING - RLMCA232 - System Design Lab

CO/PSO	PSO1	PSO2	PSO3
CO1	1		
CO2			

CO3			
CO4		1	
CO5			

COURSE->PO MAPPING - RLMCA232 - System Design Lab

RLMCA232/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	1	3	2	3	1	1	3	3	2	2	3

COURSE->PSO MAPPING - RLMCA232 - System Design Lab

RLMCA232/PSO	PSO1	PSO2	PSO3
	1	1	

RLMCA234

Course Code	Course Name	L-T-P:C	Year of Introduction
RLMCA234	Mobile Application Development Lab	0-0-4:1	2016

No.	Course Outcome - RLMCA234 - Mobile Application Development Lab	Target
CO1	Setup Android platform and the Android Studio IDE	60%
CO2	Manage UI Design: Widgets and Layouts, UI Events, Event Listeners	60%
CO3	Experiment Android components- Activities , Intents and service	60%
CO4	Debug Android applications using different tools and plugins	60%
CO5	Design and build a functional Android applications using fragments, Menu, Tab, Tab Activity, styles and themes.	60%
CO6	Develop Android application with SQLite Database	60%

COURSE END SURVEY - RLMCA234 - Mobile Application Development Lab

Sl.No	Questions & Options
CO1	To what extent you are able to handle Android platform and the Android Studio IDE
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO2	To what extent you are able to manage form widgets and layouts?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO3	To what extent you learned about android components- activity, services and intents
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
	To what extent you are able to debug an Android application?

CO4	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO5	To what extent you are able to do an application with fragments, Menu, Tab, Tab Activity, styles and themes.?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO6	To what extent you are able to design and build an android application with SQLite Database?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>

CO->PO MAPPING - RLMCA234 - Mobile Application Development Lab

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2		2		3							
CO2	2	2	2		2							2
CO3	2	2	2		2							
CO4	1	1		1	3							2
CO5	2	1	3		2						2	
CO6	2	2	2		3		1		2	1	2	

CO->PSO MAPPING - RLMCA234 - Mobile Application Development Lab

CO/PSO	PSO1	PSO2	PSO3
CO1	2		
CO2		2	
CO3		2	
CO4	2		
CO5	2		
CO6	2		

COURSE->PO MAPPING - RLMCA234 - Mobile Application Development Lab

RLMCA234/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	2	2	3	1	3		1		2	1	2	2

COURSE->PSO MAPPING - RLMCA234 - Mobile Application Development Lab

RLMCA234/PSO	PSO1	PSO2	PSO3
	2	2	

20MCA242

Course Code	Course Name	L-T-P:C	Year of Introduction
20MCA242	Comprehensive Viva	0-0-0:6	2020

No.	Course Outcome - 20MCA242 - Comprehensive Viva	Target
CO1	Articulate the concepts in the core courses learned through this programme.	64%
CO2	Attend technical interviews with confidence.	64%
CO3	Interpret questions and answer them with clarity	64%
CO4	Make use of the concepts learned through this programme in future.	64%

COURSE END SURVEY - 20MCA242 - Comprehensive Viva

Sl.No	Questions & Options
CO1	To what extent you were able to articulate the concepts in the core courses learned through this programme.
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO2	To what extent you were able to attend technical interviews with confidence.
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO3	To what extent you were able to interpret questions and answer them with clarity
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO4	To what extent you were able to make use of the concepts learned through this programme in future
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>

CO->PO MAPPING - 20MCA242 - Comprehensive Viva

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	3		2			2		3			
CO2	3	3	1	2	2	2	3		3			
CO3	1	2			3	2	2		3			
CO4	3	2	3	2	2	3	3		2			

CO->PSO MAPPING - 20MCA242 - Comprehensive Viva

CO/PSO	PSO1	PSO2	PSO3
CO1	3	1	
CO2		3	3
CO3			2
CO4			3

COURSE->PO MAPPING - 20MCA242 - Comprehensive Viva

20MCA242/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	3	3	2	3	3	3		3			

COURSE->PSO MAPPING - 20MCA242 - Comprehensive Viva

20MCA242/PSO	PSO1	PSO2	PSO3
	3	3	3

20MCA244

Course Code	Course Name	L-T-P:C	Year of Introduction
20MCA244	Seminar	0-0-2:2	2020

No.	Course Outcome - 20MCA244 - Seminar	Target
CO1	Annotate the research ideas presented in technical papers	64%
CO2	Comprehend a concept by referring different technical documents	64%
CO3	Prepare technical documents	64%
CO4	Present a topic before an audience	64%
CO5	Interact with the audience	64%

COURSE END SURVEY - 20MCA244 - Seminar

Sl.No	Questions & Options
CO1	At what extend you are able to annotate the ideas presented in technical papers
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO2	At what extend you are able to comprehend a concept by referring different technical documents
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO3	At what extend you are able to prepare technical documents
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO4	At what extend you are able to present a topic before an audience
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO5	At what extend you are able to interact with the audience.
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>

CO->PO MAPPING - 20MCA244 - Seminar

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
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CO1	2	3	1	3	2		3		3	1		2
CO2	2	1	2	3	2		3	1	3	1		2
CO3	2		1	2	3	2	2		3	1		1
CO4	2	2			3	3			3		2	
CO5	2	2			3	3			3		2	

CO->PSO MAPPING - 20MCA244 - Seminar

CO/PSO	PSO1	PSO2	PSO3
CO1	2	2	1
CO2	1	1	1
CO3	1	1	1
CO4	1		1
CO5		1	1

COURSE->PO MAPPING - 20MCA244 - Seminar

20MCA244/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	2	3	2	3	3	3	3	1	3	1	2	2

COURSE->PSO MAPPING - 20MCA244 - Seminar

20MCA244/PSO	PSO1	PSO2	PSO3
	2	2	1

20MCA246

Course Code	Course Name	L-T-P:C	Year of Introduction
20MCA246	Main Project	0-0-27:12	2020

No.	Course Outcome - 20MCA246 - Main Project	Target
CO1	Identify a real-life project which is useful to society / industry	64%
CO2	Interact with people to identify the project requirements	64%
CO3	Apply suitable development methodology for the development of the product / project	64%
CO4	Analyse and design a software product / project	64%
CO5	Test the modules at various stages of project development	64%
CO6	Build and integrate different software modules	64%

COURSE END SURVEY - 20MCA246 - Main Project

Sl.No	Questions & Options
CO1	To what extent you were able to identify a real-life project which is useful to society / industry
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO2	To what extent you were able to interact with people to identify the project requirements
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO3	To what extent you were able to apply suitable development methodology for the development of the product / project PO(s) Mapped:
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO4	To what extent you were able to analyse and design a software product / project
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO5	To what extent you were able to test the modules at various stages of project development
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO6	To what extent you were able to build and integrate different software modules
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>

CO->PO MAPPING - 20MCA246 - Main Project

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	3	3	3	3	2	3	3	3	3	3	3
CO2	2	3	2	3	2	3	2	1	3	2	3	3
CO3	3	3	3	3	3	2	3	3	1	1	2	2
CO4	3	3	3	3	3	2	3	3	1	1	2	2
CO5	3	3	3	3	3	2	2	3	2	1	1	2
CO6	3	3	3	3	3	2	3	3	2	2	3	3

CO->PSO MAPPING - 20MCA246 - Main Project

CO/PSO	PSO1	PSO2	PSO3
CO1	2	1	1
CO2		2	
CO3	2	2	3
CO4	2	3	3
CO5		2	
CO6	3		3

COURSE->PO MAPPING - 20MCA246 - Main Project

20MCA246/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	3	3	3	3	3	3	3	3	3	3	3

COURSE->PSO MAPPING - 20MCA246 - Main Project

20MCA246/PSO	PSO1	PSO2	PSO3
	3	3	3

SEMESTER-5**MCA501**

Course Code	Course Name	L-T-P:C	Year of Introduction
MCA501	Computer Security	4-0-0:4	2014

No.	Course Outcome - MCA501 - Computer Security	Target
CO1	Analyze Network security threats and countermeasures	60%
CO2	Evaluate various kinds of Encryption standards	60%
CO3	Compare different algorithms used in Network Security	60%
CO4	Interpret advanced security issues and technologies	60%
CO5	Analyze various hardware solutions for network security	62%
CO6	Infer various authentication protocols and processes	62%

COURSE END SURVEY - MCA501 - Computer Security

Sl.No	Questions & Options
CO1	To what extent you are able to analyze Network security threats and countermeasures
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO2	To what extent you are able to evaluate various kinds of Encryption standards
	Answer Choice- <i>Very advanced/Advanced/Proficient/Basic/ Minimal</i>
CO3	To what extent you are able to compare different algorithms used in Network Security
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO4	To what extent you are able to interpret advanced security issues and technologies
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO5	To what extent you are able to analyze various hardware solutions for network security
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>

CO6	To what extent you are able to infer various authentication protocols and processes
	Answer Choice- <i>Always/Very often/Sometimes/Rarely/Never</i>

CO->PO MAPPING - MCA501 - Computer Security

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1		2	2									2
CO2	3	2	3									
CO3	2			2								2
CO4						2		2				
CO5	2			1								
CO6				2			3	2	1			

CO->PSO MAPPING - MCA501 - Computer Security

CO/PSO	PSO1	PSO2	PSO3
CO1			
CO2			
CO3			
CO4			
CO5			
CO6			

COURSE->PO MAPPING - MCA501 - Computer Security

MCA501/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	2	3	2		2	3	2	1			2

COURSE->PSO MAPPING - MCA501 - Computer Security

MCA501/PSO	PSO1	PSO2	PSO3

MCA502

Course Code	Course Name	L-T-P:C	Year of Introduction
MCA502	InT AND DISTRIBUTED APPLICATIONS	4-0-0:4	2014

No.	Course Outcome - MCA502 - InT AND DISTRIBUTED APPLICATIONS	Target
CO1	Describe the difference between OSI model and TCP/IP protocol suite.	62%

CO2	Illustrate about different types of protocols used in different levels of TCP/IP protocol suite.	60%
CO3	Analyze why we need different protocols.	60%
CO4	Interpret about the multimedia data from sender to receiver.	60%
CO5	Explain about different types of data which can be sent from sender to receiver.	60%
CO6	Differentiate between different protocols and protocol suites and justify the need of protocols studied.	60%

COURSE END SURVEY - MCA502 - InT AND DISTRIBUTED APPLICATIONS

Sl.No	Questions & Options
CO1	To what extend you are able to recognize the difference between different protocol suites?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO2	To what extend you are able to describe different types of protocols used in different levels of TCP/IP protocol suites?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO3	To what extend you are able to analyze different protocols?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO4	To what extend you are able to recognize the multimedia data?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO5	To what extend you are able to explain about different types of data?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO6	To what extend you are able to demonstrate the relevance of different types of protocols?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>

CO->PO MAPPING - MCA502 - InT AND DISTRIBUTED APPLICATIONS

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	1	1	1	1				1	3		1
CO2	2	1	1	2	1	1	1	1	1	3	1	1
CO3	1	1	1	1	1	1	1		1	3	1	1
CO4	1	1	1		1	1				3	1	
CO5	1	1	1	1	1			1	1	3	1	1
CO6	1			1	1		1	1			1	1

CO->PSO MAPPING - MCA502 - InT AND DISTRIBUTED APPLICATIONS

CO/PSO	PSO1	PSO2	PSO3
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CO1	1	1	1
CO2	1	2	2
CO3	2	1	1
CO4	1	1	1
CO5	1	1	1
CO6	1	1	1

COURSE->PO MAPPING - MCA502 - InT AND DISTRIBUTED APPLICATIONS

MCA502/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	2	1	1	2	1	1	1	1	1	3	1	1

COURSE->PSO MAPPING - MCA502 - InT AND DISTRIBUTED APPLICATIONS

MCA502/PSO	PSO1	PSO2	PSO3
	2	2	2

MCA503

Course Code	Course Name	L-T-P:C	Year of Introduction
MCA503	Computer Graphics	4-0-0:4	2014

No.	Course Outcome - MCA503 - Computer Graphics	Target
CO1	Evaluate the computer graphics display techniques and categorize various graphic software systems	61%
CO2	Analyse the basic output primitive drawing algorithms along with 2D transformation concepts to display the objects	61%
CO3	Devise the projection transformations and explain the 3D object representation models	61%
CO4	Demonstrate the 3D transformation concepts to model an object	60%
CO5	Evaluate different surface detection methods	61%
CO6	Compare different shading methods and ray tracing.	61%

COURSE END SURVEY - MCA503 - Computer Graphics

Sl.No	Questions & Options
CO1	To what extend you are able to explain the difference of display devices and graphics software systems
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>

CO2	To what extend you are able to describe the primitive drawing algorithms along with 2D transformation concepts to display the objects
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO3	To what extend you are able to demonstrate the 3D object representation models
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO4	To what extend you are able to demonstrate the 3D transformation concepts to model an object
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO5	To what extend you are able to identify and apply different surface detection methods
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO6	To what extent you are able to recognize ray tracing method and different shading methods
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>

CO->PO MAPPING - MCA503 - Computer Graphics

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2						2					2
CO2	1	1			1	1				3		
CO3							2		3			
CO4			3								2	
CO5				1								
CO6												

CO->PSO MAPPING - MCA503 - Computer Graphics

CO/PSO	PSO1	PSO2	PSO3
CO1	2		1
CO2	1		2
CO3	1	1	
CO4		2	
CO5			3
CO6			

COURSE->PO MAPPING - MCA503 - Computer Graphics

MCA503/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	2	1	3	1	1	1	2		3	3	2	2

COURSE->PSO MAPPING - MCA503 - Computer Graphics

MCA503/PSO	PSO1	PSO2	PSO3
	2	2	3

MCA504

Course Code	Course Name	L-T-P:C	Year of Introduction
MCA504	Data mining	4-0-0:4	2014

No.	Course Outcome - MCA504 - Data mining	Target
CO1	Explain various concepts of Data mining and Data Warehouse	60.7%
CO2	Experiment different data preprocessing techniques	60%
CO3	Categorize different types of Data	60.5%
CO4	Apply Clustering Methods to analyze Business Trends	60.7%
CO5	Analyze various applications of data mining	60.5%
CO6	Construct frequent itemsets from data sets	60.5%

COURSE END SURVEY - MCA504 - Data mining

Sl.No	Questions & Options
CO1	To what extent you are able to explain data mining and data warehousing concepts
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO2	To what extent you are able to apply data preprocessing techniques
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO3	To what extent you can differentiate the data in a data warehouse
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO4	To what extent you are able to use clustering methods
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO5	To what extent you can analyze data mining applications
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO6	To what level you are able to construct frequent item sets from data sets
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>

CO->PO MAPPING - MCA504 - Data mining

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12

CO1	1											
CO2				1								
CO3												
CO4												1
CO5			1									
CO6												

CO->PSO MAPPING - MCA504 - Data mining

CO/PSO	PSO1	PSO2	PSO3
CO1			
CO2			
CO3			
CO4			
CO5			
CO6			

COURSE->PO MAPPING - MCA504 - Data mining

MCA504/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	1		1		1							1

COURSE->PSO MAPPING - MCA504 - Data mining

MCA504/PSO	PSO1	PSO2	PSO3

MCA505

Course Code	Course Name	L-T-P:C	Year of Introduction
MCA505	USER INTERFACE DESIGN	4-0-0:4	2014

No.	Course Outcome - MCA505 - USER INTERFACE DESIGN	Target
CO1	Identify the importance of the user interface	62%
CO2	Analyse and evaluate user interface design process	61%
CO3	Demonstrate an integrated development environment using menus and navigation schemes	60%
CO4	Discuss the basics of window operations and device based controls	60%
CO5	Demonstrate on internationalization	60%

CO6	Identify and describe testing methods to maintain a good interface	61%
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COURSE END SURVEY - MCA505 - USER INTERFACE DESIGN

Sl.No	Questions & Options
CO1	To what extent you are able to distinguish the benefits of good design
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO2	To what extent you are able to examine perception while designing the inetrfcae
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO3	To what extent you are able to compare formatting and phrasing
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO4	To what extent you are able to illustrate the window presentation styles
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO5	To what extent you are able to Interpret on icon Usability
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO6	To what extent you are able to distinguish testing methods
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>

CO->PO MAPPING - MCA505 - USER INTERFACE DESIGN

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	3	2									
CO2				3		1						
CO3			3									
CO4					3							
CO5												
CO6						1						

CO->PSO MAPPING - MCA505 - USER INTERFACE DESIGN

CO/PSO	PSO1	PSO2	PSO3
CO1			
CO2			
CO3			
CO4			
CO5			

CO6			
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COURSE->PO MAPPING - MCA505 - USER INTERFACE DESIGN

MCA505/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	2	3	3	3	3	1						

COURSE->PSO MAPPING - MCA505 - USER INTERFACE DESIGN

MCA505/PSO	PSO1	PSO2	PSO3

MCA506

Course Code	Course Name	L-T-P:C	Year of Introduction
MCA506	COMPUTER GRAPHICS Lab (using OpenGL)	0-0-2:4	2014

No.	Course Outcome - MCA506 - COMPUTER GRAPHICS Lab (using OpenGL)	Target
CO1	Evaluate the computer graphics display techniques and categorize graphic software systems.	61%
CO2	Analyse the basic primitive drawing algorithms along with 2 D transformation concepts to display the objects	60%
CO3	Derive the projection transformations and explain the 3D object representation models.	60.2%
CO4	Demonstrate the 3D transformation concepts to model an object.	60.3%
CO5	Evaluate different detection methods	60%
CO6	Compare different shading methods and ray tracing methods	60%

COURSE END SURVEY - MCA506 - COMPUTER GRAPHICS Lab (using OpenGL)

Sl.No	Questions & Options
CO1	To what extend you are able to explain the computer graphics display devices and categorize graphic software systems.
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO2	To what extend you are able to describe the basic primitive drawing algorithms along with 2 D transformation concepts to display the objects.
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO3	To what extend you are able to demonstrate the projection transformations and explain the 3D object representation models.
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO4	To what extend you are able to demonstrate the 3D transformation concepts to model an object.

	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO5	To what extent you are able to identify and apply different surface detection methods
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO6	To what extent you are able to recognize ray tracing method and different shading methods
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>

CO->PO MAPPING - MCA506 - COMPUTER GRAPHICS Lab (using OpenGL)

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2						2					2
CO2	1	1				1				3		
CO3							2		3			
CO4			3								2	
CO5				1								
CO6												

CO->PSO MAPPING - MCA506 - COMPUTER GRAPHICS Lab (using OpenGL)

CO/PSO	PSO1	PSO2	PSO3
CO1			
CO2			
CO3			
CO4			
CO5			
CO6			

COURSE->PO MAPPING - MCA506 - COMPUTER GRAPHICS Lab (using OpenGL)

MCA506/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	2	1	3	1		1	2		3	3	2	2

COURSE->PSO MAPPING - MCA506 - COMPUTER GRAPHICS Lab (using OpenGL)

MCA506/PSO	PSO1	PSO2	PSO3

MCA507

Course Code	Course Name	L-T-P:C	Year of Introduction
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MCA507	Seminar	0-0-0:0	2014
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COURSE END SURVEY - MCA507 - Seminar**CO->PO MAPPING - MCA507 - Seminar**

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
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CO->PSO MAPPING - MCA507 - Seminar

CO/PSO	PSO1	PSO2	PSO3
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COURSE->PO MAPPING - MCA507 - Seminar

MCA507/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12

COURSE->PSO MAPPING - MCA507 - Seminar

MCA507/PSO	PSO1	PSO2	PSO3

MCA508

Course Code	Course Name	L-T-P:C	Year of Introduction
MCA508	Mini Project	0-0-0:0	2014

COURSE END SURVEY - MCA508 - Mini Project**CO->PO MAPPING - MCA508 - Mini Project**

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
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CO->PSO MAPPING - MCA508 - Mini Project

CO/PSO	PSO1	PSO2	PSO3
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COURSE->PO MAPPING - MCA508 - Mini Project

MCA508/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12

COURSE->PSO MAPPING - MCA508 - Mini Project

MCA508/PSO	PSO1	PSO2	PSO3

RLMCA301

Course Code	Course Name	L-T-P:C	Year of Introduction
RLMCA301	Web Data Mining	3-1-0:4	2016

COURSE END SURVEY - RLMCA301 - Web Data Mining**CO->PO MAPPING - RLMCA301 - Web Data Mining**

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
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CO->PSO MAPPING - RLMCA301 - Web Data Mining

CO/PSO	PSO1	PSO2	PSO3

COURSE->PO MAPPING - RLMCA301 - Web Data Mining

RLMCA301/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12

COURSE->PSO MAPPING - RLMCA301 - Web Data Mining

RLMCA301/PSO	PSO1	PSO2	PSO3

RLMCA301

Course Code	Course Name	L-T-P:C	Year of Introduction
RLMCA301	Web Data Mining	3-1-0:4	2016

No.	Course Outcome - RLMCA301 - Web Data Mining	Target
CO1	Analyze the basic Data Mining , Web Mining concepts and apply at least one of the algorithms used for Association Rule Mining	60.6%
CO2	Apply a wide range of Classification,Prediction, Estimation and Clustering algorithms including k-means Clustering .	60.6%
CO3	Analyze the quantitative evaluation methods for the IR systems and data mining techniques.	60.8%
CO4	Evaluate various kinds of Text and Web Page Pre-Processing.	60.6%
CO5	Understand the popular Web Search methods and Ranking principles and apply them in problem solving	60.6%
CO6	Analyze the Data Collection and Data Modelling tasks for Web Usage Mining and use it for real world problems.	60.6%

COURSE END SURVEY - RLMCA301 - Web Data Mining

Sl.No	Questions & Options
CO1	To what extent you are able to analyze the basic Data Mining , Web Mining concepts and apply the algorithms used for Association Rule Mining
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO2	To what extent you are able to apply Classification,Prediction, Estimation and Clustering algorithms including k-means Clustering
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO3	To what extent you are able to analyze the quantitative evaluation methods for the IR systems and data mining techniques
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
	To what extent you are able to evaluate various kinds of Text and Web Page Pre-Processing.

CO4	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO5	To what extent you are able to understand the popular Web Search methods and Ranking principles
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO6	To what extent you are able to analyze the Data Collection and Data Modelling tasks for Web Usage Mining
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>

CO->PO MAPPING - RLMCA301 - Web Data Mining

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	2	1	3	2	2		1				2
CO2	3	3	3	3	1	2	2		1	2	1	2
CO3	2	2	2	2	2	2						2
CO4	2			3	2							2
CO5	2	2	2	2	2							3
CO6	2	2	2	2	2	2						3

CO->PSO MAPPING - RLMCA301 - Web Data Mining

CO/PSO	PSO1	PSO2	PSO3
CO1	3	3	2
CO2	3	2	2
CO3	2	2	2
CO4	2	2	2
CO5	2	2	2
CO6	2	2	1

COURSE->PO MAPPING - RLMCA301 - Web Data Mining

RLMCA301/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	3	3	3	2	2	2	1	1	2	1	3

COURSE->PSO MAPPING - RLMCA301 - Web Data Mining

RLMCA301/PSO	PSO1	PSO2	PSO3
	3	3	2

RLMCA305

Course Code	Course Name	L-T-P:C	Year of Introduction
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RLMCA305	Cryptography and Cyber Security	3-1-0:4	2016
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COURSE END SURVEY - RLMCA305 - Cryptography and Cyber Security**CO->PO MAPPING - RLMCA305 - Cryptography and Cyber Security**

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
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CO->PSO MAPPING - RLMCA305 - Cryptography and Cyber Security

CO/PSO	PSO1	PSO2	PSO3
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COURSE->PO MAPPING - RLMCA305 - Cryptography and Cyber Security

RLMCA305/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
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COURSE->PSO MAPPING - RLMCA305 - Cryptography and Cyber Security

RLMCA305/PSO	PSO1	PSO2	PSO3
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RLMCA305

Course Code	Course Name	L-T-P:C	Year of Introduction
RLMCA305	Cryptography and Cyber Security	3-1-0:4	2016

No.	Course Outcome - RLMCA305 - Cryptography and Cyber Security	Target
CO1	Understand fundamentals of secret and public cryptography with mathematical background.	60%
CO2	Understand and analyse information security and its importance	60%
CO3	Evaluate and analyse advanced security issues and technologies	60%
CO4	Study about cryptocurrencies and its transactions based on network security.	60%
CO5	Evaluate different protocols for security services	60%
CO6	Familiar with network security designs using available secure solutions (such as PGP, SSL, IPsec, etc)	60%

COURSE END SURVEY - RLMCA305 - Cryptography and Cyber Security

Sl.No	Questions & Options
CO1	To what extent you are able to understand fundamentals of secret and public cryptography
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO2	To what extent you are able to understand and analyse information security and its importance
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO3	To what extent you are able to evaluate and analyse advanced security issues and technologies
	Answer Choice- <i>Always/Very often/Sometimes/Rarely/Never</i>

CO4	To what extent you are able to make a crypto currency transaction?
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO5	To what extent you are able to evaluate different protocols for security services
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO6	To what extent you are familiar with network security designs using available secure solutions (such as PGP, SSL, IPsec, etc)
	Answer Choice- <i>Always/Very often/Sometimes/Rarely/Never</i>

CO->PO MAPPING - RLMCA305 - Cryptography and Cyber Security

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	2										
CO2	2		2		2						2	
CO3	3	2				2					2	1
CO4				1	1							
CO5	1		1	1	3					3	2	
CO6	1	1		1			1			3		

CO->PSO MAPPING - RLMCA305 - Cryptography and Cyber Security

CO/PSO	PSO1	PSO2	PSO3
CO1	2	1	
CO2		3	1
CO3	1	2	
CO4	2	3	2
CO5	1	2	2
CO6	1	3	1

COURSE->PO MAPPING - RLMCA305 - Cryptography and Cyber Security

RLMCA305/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	2	2	1	3	2	1			3	2	1

COURSE->PSO MAPPING - RLMCA305 - Cryptography and Cyber Security

RLMCA305/PSO	PSO1	PSO2	PSO3
	2	3	2

RLMCA369

Course Code	Course Name	L-T-P:C	Year of Introduction
RLMCA369	PYTHON Programming	3-1-0:4	2016

COURSE END SURVEY - RLMCA369 - PYTHON Programming**CO->PO MAPPING - RLMCA369 - PYTHON Programming**

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12

CO->PSO MAPPING - RLMCA369 - PYTHON Programming

CO/PSO	PSO1	PSO2	PSO3

COURSE->PO MAPPING - RLMCA369 - PYTHON Programming

RLMCA369/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12

COURSE->PSO MAPPING - RLMCA369 - PYTHON Programming

RLMCA369/PSO	PSO1	PSO2	PSO3

RLMCA369

Course Code	Course Name	L-T-P:C	Year of Introduction
RLMCA369	PYTHON Programming	3-1-0:4	2016

No.	Course Outcome - RLMCA369 - PYTHON Programming	Target
CO1	To understand the basic concepts of python programming	61.11%
CO2	Master an understanding of Python especially functions, modules and packages	61.1%
CO3	Be exposed to object oriented concepts in python	60.2%
CO4	To understand the role of regular expressions in python programming	61.1%
CO5	Master an understanding of Database, GUI Programming in Python	61.2%
CO6	be exposed to python frame works and tools	61.4%

COURSE END SURVEY - RLMCA369 - PYTHON Programming

Sl.No	Questions & Options
CO1	To what extent you are able to demonstrate the use of Python lists and dictionaries
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO2	To what extent you are able to master an understanding of Python especially the object-oriented concepts,
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO3	To what extent you are able to master an understanding of the built-in objects of Python

	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO4	To what extent you are able to be exposed to advanced applications such as TCP/IP network programming, Client/Server Programming, Web applications, discrete-event simulations, Scientific Python etc.
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO5	To what extent you are able to master an understanding of Database, GUI Programming in Python
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO6	To what extent you are able to write Python programs to illustrate concise and efficient algorithms
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>

CO->PO MAPPING - RLMCA369 - PYTHON Programming

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2		3	3	3		1			2	1	1
CO2	2		2	2	3		1				1	1
CO3	2		1	1	3		1				1	1
CO4	1	1	2	2	2		1			2	1	1
CO5	1		3	2		1	1			1	1	1
CO6	1	2			3		1			2	1	1

CO->PSO MAPPING - RLMCA369 - PYTHON Programming

CO/PSO	PSO1	PSO2	PSO3
CO1	2	3	2
CO2	2	3	2
CO3	2	2	1
CO4	2	1	1
CO5	2	1	1
CO6	2	3	1

COURSE->PO MAPPING - RLMCA369 - PYTHON Programming

RLMCA369/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	2	2	3	3	3	1	1			2	1	1

COURSE->PSO MAPPING - RLMCA369 - PYTHON Programming

RLMCA369/PSO	PSO1	PSO2	PSO3
	2	3	2

RLMCA381

Course Code	Course Name	L-T-P:C	Year of Introduction
RLMCA381	Cloud Computing	3-1-0:4	2016

COURSE END SURVEY - RLMCA381 - Cloud Computing**CO->PO MAPPING - RLMCA381 - Cloud Computing**

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12

CO->PSO MAPPING - RLMCA381 - Cloud Computing

CO/PSO	PSO1	PSO2	PSO3

COURSE->PO MAPPING - RLMCA381 - Cloud Computing

RLMCA381/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12

COURSE->PSO MAPPING - RLMCA381 - Cloud Computing

RLMCA381/PSO	PSO1	PSO2	PSO3

RLMCA381

Course Code	Course Name	L-T-P:C	Year of Introduction
RLMCA381	Cloud Computing	3-1-0:4	2016

No.	Course Outcome - RLMCA381 - Cloud Computing	Target
CO1	To analyze cloud computing concepts, its classifications, value proportions and architecture.	63%
CO2	Understanding abstraction and virtualization techniques and the basics of capacity planning.	63%
CO3	Exploring the prominent cloud services currently ruling the digital world.	63%
CO4	Evaluate the concepts of cloud management and its security features.	64%
CO5	Compare various Cloud services and applications currently used in industry.	64%
CO6	Understanding how mobile devices are utilizing Cloud services.	64%

COURSE END SURVEY - RLMCA381 - Cloud Computing

Sl.No	Questions & Options
CO1	Could you understand cloud computing concepts, its classifications, value proportions and architecture?
	Answer Choice- 5 out of 5/4 out of 5/3 out of 5/2 out of 5/1 out of 5
CO2	Could you understand abstraction and virtualization techniques and the basics of capacity planning.?
	Answer Choice- 5 out of 5/4 out of 5/3 out of 5/2 out of 5/1 out of 5

CO3	Could you understand the prominent cloud services currently ruling the industry?
	Answer Choice- 5 out of 5/4 out of 5/3 out of 5/2 out of 5/1 out of 5
CO4	Could you evaluate the concepts of cloud management and its security features?
	Answer Choice- 5 out of 5/4 out of 5/3 out of 5/2 out of 5/1 out of 5
CO5	Could you compare various Cloud services and applications currently used in industry?
	Answer Choice- 5 out of 5/4 out of 5/3 out of 5/2 out of 5/1 out of 5
CO6	Could you understand how mobile devices were utilizing Cloud services?
	Answer Choice- 5 out of 5/4 out of 5/3 out of 5/2 out of 5/1 out of 5

CO->PO MAPPING - RLMCA381 - Cloud Computing

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	2	1	2	1		1			1		
CO2	3	3	2	3	2							
CO3	3	2	3	1	2		2			1	1	1
CO4	3	1	2	3	2	1						
CO5	3	1	2	1	2							1
CO6	3	3	2	3	2		1		1		1	

CO->PSO MAPPING - RLMCA381 - Cloud Computing

CO/PSO	PSO1	PSO2	PSO3
CO1	3	2	2
CO2	3	2	2
CO3	3	2	2
CO4	3	2	2
CO5	3	2	1
CO6	3	3	2

COURSE->PO MAPPING - RLMCA381 - Cloud Computing

RLMCA381/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	3	3	3	2	1	2		1	1	1	1

COURSE->PSO MAPPING - RLMCA381 - Cloud Computing

RLMCA381/PSO	PSO1	PSO2	PSO3
	3	3	2

RLMCA341

Course Code	Course Name	L-T-P:C	Year of Introduction
RLMCA341	Seminar	0-0-2:2	2016

COURSE END SURVEY - RLMCA341 - Seminar**CO->PO MAPPING - RLMCA341 - Seminar**

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12

CO->PSO MAPPING - RLMCA341 - Seminar

CO/PSO	PSO1	PSO2	PSO3

COURSE->PO MAPPING - RLMCA341 - Seminar

RLMCA341/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12

COURSE->PSO MAPPING - RLMCA341 - Seminar

RLMCA341/PSO	PSO1	PSO2	PSO3

RLMCA341

Course Code	Course Name	L-T-P:C	Year of Introduction
RLMCA341	Seminar	0-0-2:2	2016

No.	Course Outcome - RLMCA341 - Seminar	Target
CO1	Analyze technically relevant current topics on computer science/information technology/research,	61%
CO2	Use technical tools and resources related to the work.	61.5%
CO3	Create technical documents and give oral presentations related to the work completed	61%
CO4	Develop the confidence in presenting the topic	61%
CO5	Create audience-centered presentations	61%
CO6	Create well-rehearsed and polished presentations meeting time, content, and interactive requirements	61%

COURSE END SURVEY - RLMCA341 - Seminar

Sl.No	Questions & Options
CO1	To what extent you are able to analyze technically relevant current topics on computer science/information technology/research
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO2	To what extent you are able to use technical tools and resources related to the work.

	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO3	To what extent you are able to create technical documents and give oral presentations related to the work completed
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO4	To what extent you are able to develop the confidence in presenting the topic
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO5	To what extent you are able to create audience-centered presentations
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO6	To what extent you are able to create well-rehearsed and polished presentations meeting time, content, and interactive requirements
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>

CO->PO MAPPING - RLMCA341 - Seminar

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	3	2	2		1	2		2	1	1	2
CO2	2	2	2	2	3							
CO3	2	2	3	2			1	3	1	2	2	
CO4			1	1	2	1			3	2		
CO5			2	2					2	3	1	
CO6		2	3				2			2		1

CO->PSO MAPPING - RLMCA341 - Seminar

CO/PSO	PSO1	PSO2	PSO3
CO1		2	
CO2			3
CO3			1
CO4			1
CO5			1
CO6	1		

COURSE->PO MAPPING - RLMCA341 - Seminar

RLMCA341/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	3	3	2	3	1	2	3	3	3	2	2

COURSE->PSO MAPPING - RLMCA341 - Seminar

RLMCA341/PSO	PSO1	PSO2	PSO3
	1	2	3

RLMCA351

Course Code	Course Name	L-T-P:C	Year of Introduction
RLMCA351	Mini Project	0-0-8:2	2016

COURSE END SURVEY - RLMCA351 - Mini Project**CO->PO MAPPING - RLMCA351 - Mini Project**

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12

CO->PSO MAPPING - RLMCA351 - Mini Project

CO/PSO	PSO1	PSO2	PSO3

COURSE->PO MAPPING - RLMCA351 - Mini Project

RLMCA351/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12

COURSE->PSO MAPPING - RLMCA351 - Mini Project

RLMCA351/PSO	PSO1	PSO2	PSO3

RLMCA351

Course Code	Course Name	L-T-P:C	Year of Introduction
RLMCA351	Mini Project	0-0-4:2	2016

No.	Course Outcome - RLMCA351 - Mini Project	Target
CO1	Apply the software engineering principles on a real software project	61%
CO2	Develop a software product using the Agile methodology.	61%
CO3	Apply build tools and IDE Environment	61%
CO4	Work with different version control system such as git	61%
CO5	Apply technology tools to analyze,design,develop and test the application	61%
CO6	Design a system, model, component or a process to meet desired/industrial needs	61%

COURSE END SURVEY - RLMCA351 - Mini Project

Sl.No	Questions & Options
	To what extent you are able to apply the software engineering principles on a real software project

CO1	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO2	To what extent you are able to Develop a software product using the Agile methodology.
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO3	To what extent you are able to Apply build tools and IDE Environment
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO4	To what extent you are able to Work with different version control system such as git
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO5	To what extent you are able to apply technology tools to analyse,design,develop and test the application
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO6	To what extent you are able to Design a system, model, component or a process to meet desired/industrial needs
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>

CO->PO MAPPING - RLMCA351 - Mini Project

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	1				2	2	3	2		1	2
CO2	1		3						1	2	2	1
CO3	1				3							1
CO4	1				1				1		2	
CO5	2			3	2							
CO6		3	2			2						3

CO->PSO MAPPING - RLMCA351 - Mini Project

CO/PSO	PSO1	PSO2	PSO3
CO1	3	1	3
CO2	2	1	3
CO3	3	2	
CO4		2	2
CO5	3	1	2
CO6		1	3

COURSE->PO MAPPING - RLMCA351 - Mini Project

RLMCA351/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	3	3	3	3	2	2	3	2	2	2	3

COURSE->PSO MAPPING - RLMCA351 - Mini Project

RLMCA351/PSO	PSO1	PSO2	PSO3
	3	2	3

RLMCA303

Course Code	Course Name	L-T-P:C	Year of Introduction
RLMCA303	E-Commerce	3-0-0:3	2016

COURSE END SURVEY - RLMCA303 - E-Commerce**CO->PO MAPPING - RLMCA303 - E-Commerce**

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12

CO->PSO MAPPING - RLMCA303 - E-Commerce

CO/PSO	PSO1	PSO2	PSO3

COURSE->PO MAPPING - RLMCA303 - E-Commerce

RLMCA303/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12

COURSE->PSO MAPPING - RLMCA303 - E-Commerce

RLMCA303/PSO	PSO1	PSO2	PSO3

RLMCA303

Course Code	Course Name	L-T-P:C	Year of Introduction
RLMCA303	E-Commerce	3-0-0:3	2016

No.	Course Outcome - RLMCA303 - E-Commerce	Target
CO1	Realise the problems involved in designing and building ecommerce systems	63%
CO2	Design E-Commerce systems that fully meet the requirements of the intended users	62%
CO3	Analyse and evaluate the Internet trading relationships including Business to Consumer, Business-to-Business, Intra-organizational.	63%
CO4	Work with electronic payment systems	63%
CO5	Make ethical decisions related to e-commerce considering laws, privacy, and security	63%
CO6	Demonstrate retailing in E-commerce by analyzing branding and pricing strategies, using and determining the effectiveness of market research	62%

COURSE END SURVEY - RLMCA303 - E-Commerce

Sl.No	Questions & Options
CO1	To what extent you can realise the problems involved in designing and building ecommerce systems?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO2	To what extent you can design E-Commerce systems that fully meet the requirements of the intended users?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO3	To what extent you can analyse and evaluate the Internet trading relationships including Business to Consumer, Business-to-Business, Intra-organizational?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO4	To what extent you can work with electronic payment systems?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO5	To what extent you can make ethical decisions related to e-commerce considering laws, privacy, and security?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO6	To what extent you can demonstrate retailing in E-commerce by analyzing branding and pricing strategies, using and determining the effectiveness of market research?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>

CO->PO MAPPING - RLMCA303 - E-Commerce

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1		1	2	2	2	1		1	1			1
CO2	1	1	2	2	1	1			1	2	1	
CO3		2	1	2		1	1		1	2	3	1
CO4	2	1		2		1	1	1				
CO5				1	1	3	1	2		1	1	1
CO6	1	1	2	2	1	1	3			2	1	

CO->PSO MAPPING - RLMCA303 - E-Commerce

CO/PSO	PSO1	PSO2	PSO3
CO1	3		1
CO2	2	1	1
CO3	2	1	1
CO4		1	
CO5	1		2

CO6	1	1
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COURSE->PO MAPPING - RLMCA303 - E-Commerce

RLMCA303/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	2	2	2	2	2	3	3	2	1	2	3	1

COURSE->PSO MAPPING - RLMCA303 - E-Commerce

RLMCA303/PSO	PSO1	PSO2	PSO3
	3	1	2

SEMESTER-6**RLMCA352**

Course Code	Course Name	L-T-P:C	Year of Introduction
RLMCA352	Project and Viva Voce	0-0-6:12	2016

No.	Course Outcome - RLMCA352 - Project and Viva Voce	Target
CO1	Apply the software engineering principles in a software project.	61%
CO2	Develop a software product using Agile methodology	61%
CO3	Apply build tools and IDE environment.	61%
CO4	Experiment with different version control system such as GitHub.	61%
CO5	Apply technology tools to analyze, design, develop and test the application.	61%

COURSE END SURVEY - RLMCA352 - Project and Viva Voce

Sl.No	Questions & Options
CO1	To what extent you are able to apply the software engineering principles in a software project.
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO2	To what extent you are able to develop a software product using Agile methodology.
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO3	To what extent you are able to apply build tools and IDE environment.
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO4	To what extent you are able to experiment with different version control system such as GitHub.
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO5	To what extent you can able to apply technology tools to analyze, design, develop and test the application.

Answer Choice- *Excellent/Very Good/Good Satisfactory/Needs improvement*

CO->PO MAPPING - RLMCA352 - Project and Viva Voce

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	3	1	1	1		1	1	1		1	
CO2	2	2		3	1	2		1	2		3	2
CO3	2	1	2		2			1				
CO4	2		1		3	1			3	1	3	
CO5	3	2	1	2	2	1					2	

CO->PSO MAPPING - RLMCA352 - Project and Viva Voce

CO/PSO	PSO1	PSO2	PSO3
CO1	2	1	
CO2	2	2	
CO3	1	2	1
CO4	3		2
CO5	3		2

COURSE->PO MAPPING - RLMCA352 - Project and Viva Voce

RLMCA352/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	3	2	3	3	2	1	1	3	1	3	2

COURSE->PSO MAPPING - RLMCA352 - Project and Viva Voce

RLMCA352/PSO	PSO1	PSO2	PSO3
	3	2	2

MCA-INTEGRATED

SEMESTER-10

DMCAX01

Course Code	Course Name	L-T-P:C	Year of Introduction
DMCAX01	Research Project	0-0-6:12	2016

No.	Course Outcome - DMCAX01 - Research Project	Target
CO1	Critical thinking and problem solving skills	68%
CO2	Application of knowledge and skills to plan and execute a substantial research project	72%

CO3	Plan and manage time effectively as a team	72%
CO4	Develop a software product using the Agile methodology.	73%
CO5	Report research findings in written and verbal forms	72%

COURSE END SURVEY - DMCA01 - Research Project

Sl.No	Questions & Options
CO1	To what extent you are able to do critical thinking and develop problem solving skills
	Answer Choice- 5 out of 5/4 out of 5/3 out of 5/2 out of 5/1 out of 5
CO2	To what extent you are able to apply the knowledge and skills to plan and execute a research project
	Answer Choice- 5 out of 5/4 out of 5/3 out of 5/2 out of 5/1 out of 5
CO3	To what extent you are able to plan and manage time effectively as a team
	Answer Choice- 5 out of 5/4 out of 5/3 out of 5/2 out of 5/1 out of 5
CO4	To what extent you are able to develop software product using the Agile methodology
	Answer Choice- 5 out of 5/4 out of 5/3 out of 5/2 out of 5/1 out of 5
CO5	To what extent you are able to report research findings in written and verbal forms
	Answer Choice- 5 out of 5/4 out of 5/3 out of 5/2 out of 5/1 out of 5

CO->PO MAPPING - DMCA01 - Research Project

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	3	3	3								
CO2	3	3	3	3	2	2	2					
CO3								1	3		3	2
CO4	2		2									
CO5										3		

CO->PSO MAPPING - DMCA01 - Research Project

CO/PSO	PSO1	PSO2	PSO3
CO1	3		
CO2	3		1
CO3			1
CO4		2	
CO5		2	

COURSE->PO MAPPING - DMCA01 - Research Project

DMCAX01/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	3	3	3	2	2	2	1	3	3	3	2

COURSE->PSO MAPPING - DMCAX01 - Research Project

DMCAX01/PSO	PSO1	PSO2	PSO3
	3	2	1

SEMESTER-10**RLMCA352**

Course Code	Course Name	L-T-P:C	Year of Introduction
RLMCA352	Project and Viva Voce	0-0-6:12	2016

No.	Course Outcome - RLMCA352 - Project and Viva Voce	Target
CO1	Apply the software engineering principles in a software project	60.1%
CO2	Develop a software product using the Agile methodology.	60.1%
CO3	Apply build tools and IDE Environment	60.1%
CO4	Experiment with different version control system such as GitHub	60.1%
CO5	Apply technology tools to analyse, design, develop and test the application	60.1%
CO6	Design a system, model, component or a process to meet desired/industrial needs	60.1%

COURSE END SURVEY - RLMCA352 - Project and Viva Voce

Sl.No	Questions & Options
CO1	To what extent you are able to apply the software engineering principles in a software project
	Answer Choice- <i>Very advanced/Advanced/Proficient/Basic/ Minimal</i>
CO2	To what extent you are able to develop a software product using the Agile methodology.
	Answer Choice- <i>Very advanced/Advanced/Proficient/Basic/ Minimal</i>
CO3	To what extent you are able to apply build tools and IDE Environment
	Answer Choice- <i>Very advanced/Advanced/Proficient/Basic/ Minimal</i>
CO4	To what extent you are able to experiment different version control system such as GitHub
	Answer Choice- <i>Very advanced/Advanced/Proficient/Basic/ Minimal</i>
CO5	To what extent you are able to apply technology tools to analyse, design, develop and test the application
	Answer Choice- <i>Very advanced/Advanced/Proficient/Basic/ Minimal</i>

CO6	To what extent you are able to design a system, model, component or a process to meet desired/industrial needs
	Answer Choice- <i>Very advanced/Advanced/Proficient/Basic/ Minimal</i>

CO->PO MAPPING - RLMCA352 - Project and Viva Voce

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	3										
CO2			3			2					3	2
CO3	2		2									
CO4			2		3				3		3	
CO5	2		3								2	
CO6				2					3			

CO->PSO MAPPING - RLMCA352 - Project and Viva Voce

CO/PSO	PSO1	PSO2	PSO3
CO1	3	3	
CO2	2		
CO3		1	
CO4			2
CO5			
CO6			2

COURSE->PO MAPPING - RLMCA352 - Project and Viva Voce

RLMCA352/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	3	3	2	3	2			3		3	2

COURSE->PSO MAPPING - RLMCA352 - Project and Viva Voce

RLMCA352/PSO	PSO1	PSO2	PSO3
	3	3	2

SEMESTER-1**INMCA101**

Course Code	Course Name	L-T-P:C	Year of Introduction
INMCA101	English	3-1-0:4	2016

No.	Course Outcome - INMCA101 - English	Target
CO1	Apply active listening strategies to understand instructions and concepts .	61%
CO2	Understand instructions and comprehend complex concepts using reading strategies	61%
CO3	Demonstrate skills to participate in public speaking ,conversations and group discussions	61%
CO4	Apply writing skills in a professional environment	61%
CO5	Understand and apply the features of English in a formal environment	61%
CO6	Understand the different accents of English to work in a Multicultural environment	61%

COURSE END SURVEY - INMCA101 - English

Sl.No	Questions & Options
CO1	To what extent can you understand instructions or messages in a lecture
	Answer Choice- 5 out of 5/4 out of 5/3 out of 5/2 out of 5/1 out of 5
CO2	To what extent can you understand the ideas of a text using reading strategies
	Answer Choice- 5 out of 5/4 out of 5/3 out of 5/2 out of 5/1 out of 5
CO3	To what extent can you effectively speak to an audience or in a group
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO4	To what extent can you write letters and reports without errors
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO5	To what extent are you able to use standard english in a formal environment
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO6	To what extent can you understand the different accents in English
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>

CO->PO MAPPING - INMCA101 - English

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1						1	2	3				
CO2						2	2	3				
CO3						2	2	3				
CO4						1	2	3				
CO5						1	2	3				
CO6							2	3				

CO->PSO MAPPING - INMCA101 - English

CO/PSO	PSO1	PSO2	PSO3
CO1			
CO2			
CO3			
CO4			
CO5			
CO6			

COURSE->PO MAPPING - INMCA101 - English

INMCA101/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
						2	2	3				

COURSE->PSO MAPPING - INMCA101 - English

INMCA101/PSO	PSO1	PSO2	PSO3

INMCA103

Course Code	Course Name	L-T-P:C	Year of Introduction
INMCA103	Mathematical Foundations of Computer Science	3-1-0:4	2016

No.	Course Outcome - INMCA103 - Mathematical Foundations of Computer Science	Target
CO1	Identify and apply basic concepts of Set Theory and proof techniques	60%
CO2	Identify and apply basic concepts of binary relations, their graphs and their properties.	60%
CO3	Analyze the concepts of Partial and Total ordering.	60%
CO4	Aware of a class of relations and functions, which transform a finite set into another finite set, which relates to input output functions in Computer Science	60%
CO5	Demonstrate the method of mathematical Induction and Pigeon Hole Principle	60%
CO6	Apply diverse counting strategies to solve varied problems	60%

COURSE END SURVEY - INMCA103 - Mathematical Foundations of Computer Science

Sl.No	Questions & Options
CO1	To what extent you are able to identify and apply basic concepts of Set Theory and proof techniques
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>

CO2	To what extent you are able to identify and apply basic concepts of binary relations, their graphs and their properties.
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO3	To what extent you are able to analyze the concepts of Partial and Total ordering
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO4	To what extent you are able to be aware of a class of relations and functions, which transform a finite set into another finite set, which relates to input output functions in Computer Science
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO5	To what extent you are able to demonstrate the method of mathematical Induction and Pigeon Hole Principle
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO6	To what extent you are able to apply diverse counting strategies to solve varied problems
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>

CO->PO MAPPING - INMCA103 - Mathematical Foundations of Computer Science

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	3		3								
CO2	3	3		3								
CO3	3	3		3								
CO4	3	3		3								
CO5	3	3		3								
CO6	3	3		3								

CO->PSO MAPPING - INMCA103 - Mathematical Foundations of Computer Science

CO/PSO	PSO1	PSO2	PSO3
CO1	1		1
CO2	1		1
CO3	1		1
CO4	1		1
CO5	1		1
CO6	1		1

COURSE->PO MAPPING - INMCA103 - Mathematical Foundations of Computer Science

INMCA103/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	3		3								

COURSE->PSO MAPPING - INMCA103 - Mathematical Foundations of Computer Science

INMCA103/PSO	PSO1	PSO2	PSO3
	1		1

INMCA107

Course Code	Course Name	L-T-P:C	Year of Introduction
INMCA107	Introduction to Computers and PC hardware	3-1-0:4	2016

No.	Course Outcome - INMCA107 - Introduction to Computers and PC hardware	Target
CO1	State fundamental knowledge on basics of computers hardware and number systems.	50%
CO2	Recognize the memory organization: SRAM, DRAM	60.5%
CO3	Describe fundamental knowledge on Motherboard components and other peripheral devices	60.5%
CO4	Use of different input output systems	60.5%
CO5	Manage assemble and disassemble the computer system	60.5%
CO6	Design the organization of components in computing systems	60.5%

COURSE END SURVEY - INMCA107 - Introduction to Computers and PC hardware

Sl.No	Questions & Options
CO1	To what extent you gain fundamental knowledge on basics of computers hardware and number systems.
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO2	To what extent you can recognize the memory organization: SRAM, DRAM
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO3	To what extent you are able to describe fundamental knowledge on Motherboard components and other peripheral devices
	Answer Choice- <i>Very frequently/Frequently/Rarely Very rarely/Never</i>
CO4	To what extent you can identify the use of different input output systems
	Answer Choice- <i>Always/Very often/Sometimes/Rarely/Never</i>
CO5	To what extent you are able to assemble and disassemble the computer system
	Answer Choice- <i>Always/Very often/Sometimes/Rarely/Never</i>
CO6	To what extent you are able to design the organization of components in computing systems
	Answer Choice- <i>Very advanced/Advanced/Proficient/Basic/ Minimal</i>

CO->PO MAPPING - INMCA107 - Introduction to Computers and PC hardware

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3					2						
CO2		1										
CO3				2								
CO4							1					
CO5										2		
CO6			3					1				

CO->PSO MAPPING - INMCA107 - Introduction to Computers and PC hardware

CO/PSO	PSO1	PSO2	PSO3
CO1	3		3
CO2			
CO3		1	
CO4			
CO5	1	1	
CO6			2

COURSE->PO MAPPING - INMCA107 - Introduction to Computers and PC hardware

INMCA107/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	1	3	2		2	1	1		2		

COURSE->PSO MAPPING - INMCA107 - Introduction to Computers and PC hardware

INMCA107/PSO	PSO1	PSO2	PSO3
	3	1	3

INMCA109

Course Code	Course Name	L-T-P:C	Year of Introduction
INMCA109	Fundamentals of Accountancy	3-1-0:4	2016

No.	Course Outcome - INMCA109 - Fundamentals of Accountancy	Target
CO1	Helps to understand accounting basics, concepts and principles	60.1%
CO2	Analyse and record financial transactions	60.1%
CO3	Understand the accounting cycle or process	60.1%

CO4	Understand the relevance of charging depreciation	60.1%
CO5	Use basic accounting system to create financial statements	60.1%
CO6	Develop an ability to use accounting information to solve different business problem	60.1%

COURSE END SURVEY - INMCA109 - Fundamentals of Accountancy

Sl.No	Questions & Options
CO1	To what extent students are able to understand accounting basics, concepts and principles
	Answer Choice- <i>Very high degree/High Degree/Moderate degree/Small Degree/Not at all</i>
CO2	To what extent students are able to analyse and record financial transactions
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO3	To what extent students are able to understand the accounting cycle or process
	Answer Choice- <i>Very high degree/High Degree/Moderate degree/Small Degree/Not at all</i>
CO4	To what extent students are able to understand the relevance of charging depreciation
	Answer Choice- <i>Very high degree/High Degree/Moderate degree/Small Degree/Not at all</i>
CO5	To what extent students are able to use basic accounting system to create financial statements
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO6	To what extent students are able to develop an ability to use accounting information to solve different business problem
	Answer Choice- <i>Very high degree/High Degree/Moderate degree/Small Degree/Not at all</i>

CO->PO MAPPING - INMCA109 - Fundamentals of Accountancy

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1									1	2		
CO2									1	2	1	
CO3									1		2	
CO4											3	
CO5									2	1	2	
CO6									3	1	3	

CO->PSO MAPPING - INMCA109 - Fundamentals of Accountancy

CO/PSO	PSO1	PSO2	PSO3
CO1			1
CO2			1

CO3			
CO4			
CO5			
CO6			

COURSE->PO MAPPING - INMCA109 - Fundamentals of Accountancy

INMCA109/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
									3	2	3	

COURSE->PSO MAPPING - INMCA109 - Fundamentals of Accountancy

INMCA109/PSO	PSO1	PSO2	PSO3
			1

INMCA131

Course Code	Course Name	L-T-P:C	Year of Introduction
INMCA131	Office Automation Lab	0-0-6:1	2016

No.	Course Outcome - INMCA131 - Office Automation Lab	Target
CO1	Recognize when to use each of the Office programs to create professional and academic documents	61%
CO2	Create high quality document designs and layouts.	60.5%
CO3	Construct formulas, including the use of built-in functions, and relative and absolute references.	60.5%
CO4	Translate data into a meaningful image by creating a chart from spreadsheets	60.5%
CO5	Manage and sort lists that combine text and numerical values	61%
CO6	Create slide presentations that include text, graphics, animation, and transitions	61%

COURSE END SURVEY - INMCA131 - Office Automation Lab

Sl.No	Questions & Options
CO1	To what extent you are able to recognize when to use each of the Office programs to create professional and academic documents
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO2	To what extent you are able to create high quality document designs and layouts.
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO3	To what extent you are able to construct formulas, including the use of built-in functions, and relative and absolute references.

	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO4	To what extent you are able to translate data into a meaningful image by creating a chart from spreadsheets
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO5	To what extent you are able to manage and sort lists that combine text and numerical values
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO6	To what extent you are able to create slide presentations that include text, graphics, animation, and transitions
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>

CO->PO MAPPING - INMCA131 - Office Automation Lab

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	1		2	1	3		1			3		1
CO2	2			2	2					2		1
CO3	2	1		3	3					3	1	2
CO4				3	3					1		1
CO5		1		1	3							1
CO6				2	3					2		1

CO->PSO MAPPING - INMCA131 - Office Automation Lab

CO/PSO	PSO1	PSO2	PSO3
CO1	2	1	1
CO2	1	1	1
CO3	1	1	2
CO4	1		1
CO5		1	1
CO6	1	1	

COURSE->PO MAPPING - INMCA131 - Office Automation Lab

INMCA131/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	2	1	2	3	3		1			3	1	2

COURSE->PSO MAPPING - INMCA131 - Office Automation Lab

INMCA131/PSO	PSO1	PSO2	PSO3
	2	1	2

INMCA133

Course Code	Course Name	L-T-P:C	Year of Introduction
INMCA133	PC hardware Lab	0-0-4:1	2016

No.	Course Outcome - INMCA133 - PC hardware Lab	Target
CO1	Explain how a PC works, and understand the relationship between hardware and software	61%
CO2	Understand purpose and functions of an operating system (OS)	61%
CO3	Understand the purpose and functions of the computer peripherals	60.5%
CO4	Install, troubleshoot and Format Windows and Linux Operating System	60.5%
CO5	Understand and perform diagnostic procedures and troubleshooting techniques to personal computers, portable devices, operating systems and computer peripherals.	60%
CO6	Formulate fundamental knowledge on Motherboard components	60.3%

COURSE END SURVEY - INMCA133 - PC hardware Lab

Sl.No	Questions & Options
CO1	To what extent you are able to explain how a PC works, and understand the relationship between hardware and software
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO2	To what extent you are able to understand purpose and functions of an operating system (OS)
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO3	To what extent you are able to understand the purpose and functions of the computer peripherals
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO4	To what extent you are able to install, troubleshoot and Format Windows and Linux Operating System
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO5	To what extent you are able to understand and perform diagnostic procedures and troubleshooting techniques to personal computers, portable devices, operating systems and computer peripherals.
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO6	To what extent you are able to formulate fundamental knowledge on Motherboard components
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>

CO->PO MAPPING - INMCA133 - PC hardware Lab

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	1		1	1						1		2
CO2	1		1	1	1					1		2

CO3	1		1		2		1			1		2
CO4	3	1	2	1	2							2
CO5	3	2	1	1	2			1			1	1
CO6	2	2	1		3					1	1	1

CO->PSO MAPPING - INMCA133 - PC hardware Lab

CO/PSO	PSO1	PSO2	PSO3
CO1	2	1	
CO2	2	3	
CO3	2	2	
CO4	1	3	1
CO5		2	1
CO6	2		1

COURSE->PO MAPPING - INMCA133 - PC hardware Lab

INMCA133/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	2	2	1	3		1	1		1	1	2

COURSE->PSO MAPPING - INMCA133 - PC hardware Lab

INMCA133/PSO	PSO1	PSO2	PSO3
	2	3	1

INMCA105

Course Code	Course Name	L-T-P:C	Year of Introduction
INMCA105	Introduction to Digital Systems and Logic Design	3-1-0:4	2016

No.	Course Outcome - INMCA105 - Introduction to Digital Systems and Logic Design	Target
CO1	Perform arithmetic operations in many number systems.	60.5%
CO2	Recall various logic gates and the rules of Boolean algebra.	60.5%
CO3	Use minimization techniques to implement Boolean functions by logic gates	60.5%
CO4	Realize the combinational and sequential logic circuits by using various logical blocks.	60.5%
CO5	Analyze and design digital systems with various constraints	60.5%
CO6	Design synchronous counters and develop sequential circuit applications using flip flops and registers.	60.5%

COURSE END SURVEY - INMCA105 - Introduction to Digital Systems and Logic Design

Sl.No	Questions & Options
CO1	To what extent you are able to perform arithmetic operations in many number systems
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO2	To what extent you are able to recall various logic gates and the rules of Boolean algebra
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO3	To what extent you are able to use minimization techniques to implement Boolean functions by logic gates
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO4	To what extent you are able to realize the combinational and sequential logic circuits by using various logical blocks.
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO5	To what extent you are able to analyze and design digital systems with various constraints
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO6	To what extent you are able to design synchronous counters and develop sequential circuit applications using flip flops and registers
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>

CO->PO MAPPING - INMCA105 - Introduction to Digital Systems and Logic Design

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	1	2									
CO2	1	3	1									
CO3	1	2	1	1		1	2					1
CO4		2	2		1		1					1
CO5	1	1	2	1	2	1	2				1	2
CO6	1	1	1	2	2	1					1	2

CO->PSO MAPPING - INMCA105 - Introduction to Digital Systems and Logic Design

CO/PSO	PSO1	PSO2	PSO3
CO1	1	1	
CO2	2	1	
CO3	2	2	1
CO4	2	1	
CO5	2	2	1

CO6	1	1	
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COURSE->PO MAPPING - INMCA105 - Introduction to Digital Systems and Logic Design

INMCA105/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	2	3	2	2	2	1	2				1	2

COURSE->PSO MAPPING - INMCA105 - Introduction to Digital Systems and Logic Design

INMCA105/PSO	PSO1	PSO2	PSO3
	2	2	1

20INMCA103

Course Code	Course Name	L-T-P:C	Year of Introduction
20INMCA103	Basic Mathematics	3-1-0:4	2020

No.	Course Outcome - 20INMCA103 - Basic Mathematics	Target
CO1	Apply the operations of sets and use Venn diagrams to solve applied problems; solve problems using the principle of inclusion-exclusion.	60%
CO2	Describe binary relations between two sets; check their properties and combine relations using set operations and composition.	60%
CO3	Explain the concept and check the properties of functions correspond to input output combinations in computer science	60%
CO4	Understand the concept of differentiation as a rate of change and evaluate the derivative of simple functions	60%
CO5	Compute the indefinite and definite integrals of standard functions	60%

COURSE END SURVEY - 20INMCA103 - Basic Mathematics

Sl.No	Questions & Options
CO1	Are you able to apply the operations of sets and use Venn diagrams to solve applied problems and solve problems using the principle of inclusion-exclusion.
	Answer Choice- <i>Always/Very often/Sometimes/Rarely/Never</i>
CO2	Can you describe binary relations between two sets; check their properties and combine relations using set operations and composition.
	Answer Choice- <i>Always/Very often/Sometimes/Rarely/Never</i>
CO3	Can you explain the concept and check the properties of functions correspond to input output combinations in computer science
	Answer Choice- <i>Always/Very often/Sometimes/Rarely/Never</i>

CO4	Are you capable of understanding the concept of differentiation as a rate of change and evaluate the derivative of simple functions
	Answer Choice- <i>Always/Very often/Sometimes/Rarely/Never</i>
CO5	Are you able to compute the indefinite and definite integrals of standard functions
	Answer Choice- <i>Very frequently/Frequently/Rarely Very rarely/Never</i>

CO->PO MAPPING - 20INMCA103 - Basic Mathematics

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	3					1		1			
CO2	3	3					1		1			
CO3	3	3					1		1			
CO4	3	3					1		1			
CO5	3	3					1		1			

CO->PSO MAPPING - 20INMCA103 - Basic Mathematics

CO/PSO	PSO1	PSO2	PSO3
CO1	3	3	1
CO2	3	3	1
CO3	3	3	1
CO4	3	3	1
CO5	3	3	1

COURSE->PO MAPPING - 20INMCA103 - Basic Mathematics

20INMCA103/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	3					1		1			

COURSE->PSO MAPPING - 20INMCA103 - Basic Mathematics

20INMCA103/PSO	PSO1	PSO2	PSO3
	3	3	1

20INMCA101

Course Code	Course Name	L-T-P:C	Year of Introduction
20INMCA101	English	4-0-0:4	2020

No.	Course Outcome - 20INMCA101 - English	Target
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CO1	Apply language skills in professional and real life situations	66%
CO2	Identify various strategies to actively listen and comprehend messages	66%
CO3	Evaluate various settings and contexts and demonstrate appropriate speaking skills to communicate effectively	66%
CO4	Analyse and interpret various technical and non technical texts and documents critically by using appropriate reading methodologies	66%
CO5	Show the ability to write well-organised academic and professional documents	66%
CO6	Develop vocabulary and grammar skills	66%

COURSE END SURVEY - 20INMCA101 - English

Sl.No	Questions & Options
CO1	To what extent are you able to apply language skills in professional and real life situations
	Answer Choice- 5 out of 5/4 out of 5/3 out of 5/2 out of 5/1 out of 5
CO2	To what extent are you able to identify various strategies to actively listen and comprehend messages
	Answer Choice- Excellent/Very Good/Good/Fair/Poor
CO3	To what extent are you able to evaluate various settings and contexts and demonstrate appropriate speaking skills to communicate effectively
	Answer Choice- Excellent/Very Good/Good/Fair/Poor
CO4	To what extent are you able to analyse and interpret various technical and non technical texts and documents critically by using appropriate reading methodologies
	Answer Choice- Excellent/Very Good/Good/Fair/Poor
CO5	To what extent are you able to write well-organised academic and professional documents
	Answer Choice- 5 out of 5/4 out of 5/3 out of 5/2 out of 5/1 out of 5
CO6	To what extent are you able to use good vocabulary and grammar skills
	Answer Choice- 5 out of 5/4 out of 5/3 out of 5/2 out of 5/1 out of 5

CO->PO MAPPING - 20INMCA101 - English

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2											
CO2		2										
CO3			1									
CO4				1				2	3			
CO5					2		2			1	1	2
CO6						2						

CO->PSO MAPPING - 20INMCA101 - English

CO/PSO	PSO1	PSO2	PSO3
CO1	1		
CO2		2	
CO3		2	
CO4	1		
CO5			1
CO6			1

COURSE->PO MAPPING - 20INMCA101 - English

20INMCA101/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	2	2	1	1	2	2	2	2	3	1	1	2

COURSE->PSO MAPPING - 20INMCA101 - English

20INMCA101/PSO	PSO1	PSO2	PSO3
	1	2	1

20INMCA105

Course Code	Course Name	L-T-P:C	Year of Introduction
20INMCA105	Introduction to Programming	3-1-0:4	2020

No.	Course Outcome - 20INMCA105 - Introduction to Programming	Target
CO1	Understand computer system fundamentals.	60.5%
CO2	Develops basic understanding of the concept of algorithm and algorithmic thinking.	60.5%
CO3	Write algorithms and to draw flowcharts for solving problems.	60.5%
CO4	Develops the ability to analyse a problem and develop an algorithm to solve it.	60.5%
CO5	Apply the concept of algorithm and flowchart to translating algorithms to flowchart programs	60.5%
CO6	Learn about different control statements	60.5%

COURSE END SURVEY - 20INMCA105 - Introduction to Programming

Sl.No	Questions & Options
CO1	To what extent you are able to analyze the foundations of programming. Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO2	To what extent you are able to evaluate the different problem solving methods are choose

	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO3	To what extent you are able to create algorithm and flowchart
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO4	To what extent you are able to understand the different development practices and its advantages of problem solving
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO5	To what extent you are able to create and implement different algorithms and flowcharts
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO6	To what extent you are able to understand work done in a problem solution
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>

CO->PO MAPPING - 20INMCA105 - Introduction to Programming

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2						3				2	
CO2	2				3				2			
CO3				2								
CO4							3					
CO5					1						2	
CO6								1				

CO->PSO MAPPING - 20INMCA105 - Introduction to Programming

CO/PSO	PSO1	PSO2	PSO3
CO1		2	
CO2		2	
CO3		3	
CO4		3	
CO5		2	
CO6		2	

COURSE->PO MAPPING - 20INMCA105 - Introduction to Programming

20INMCA105/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	2			2	3		3	1	2		2	

COURSE->PSO MAPPING - 20INMCA105 - Introduction to Programming

20INMCA105/PSO	PSO1	PSO2	PSO3

3

20INMCA107

Course Code	Course Name	L-T-P:C	Year of Introduction
20INMCA107	INTRODUCTION TO COMPUTERS & PC HARDWARE	3-1-0:4	2020

No.	Course Outcome - 20INMCA107 - INTRODUCTION TO COMPUTERS & PC HARDWARE	Target
CO1	Explain how a PC works and understand the relationship between hardware and software	60.5%
CO2	Understand Motherboards, Power supply and cooling systems	60.5%
CO3	Understand purpose and functions of Mass storage interface	60.5%
CO4	Understand the purpose and functions of the computer peripherals.	60.5%
CO5	Understand diagnostic procedures and troubleshooting techniques to personal computers, portable devices and computer peripherals.	60.5%

COURSE END SURVEY - 20INMCA107 - INTRODUCTION TO COMPUTERS & PC HARDWARE

Sl.No	Questions & Options
CO1	To what extent you are able to understand how a PC works.
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO2	To what extent you are able to understand motherboard and its components
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO3	To what extent you are able to understand purpose and functions of storage interfaces
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO4	To what extent you are able to understand the purpose and functions of the computer peripherals.
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO5	To what extent you are able to understand diagnostic procedures and troubleshooting techniques to personal computers, portable devices and computer peripherals
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>

CO->PO MAPPING - 20INMCA107 - INTRODUCTION TO COMPUTERS & PC HARDWARE

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	2							1			
CO2	2	1	1		1		1	1	3	1		1
CO3	2	1		1	2		1					

CO4	2	1	3		2				1			1
CO5	2	2		2	1							1

CO->PSO MAPPING - 20INMCA107 - INTRODUCTION TO COMPUTERS & PC HARDWARE

CO/PSO	PSO1	PSO2	PSO3
CO1			
CO2			
CO3			
CO4			
CO5			

COURSE->PO MAPPING - 20INMCA107 - INTRODUCTION TO COMPUTERS & PC HARDWARE

20INMCA107/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	2	2	3	2	2		1		3	1		1

COURSE->PSO MAPPING - 20INMCA107 - INTRODUCTION TO COMPUTERS & PC HARDWARE

20INMCA107/PSO	PSO1	PSO2	PSO3

20INMCA109

Course Code	Course Name	L-T-P:C	Year of Introduction
20INMCA109	Fundamentals of Accountancy	3-1-0:4	2020

No.	Course Outcome - 20INMCA109 - Fundamentals of Accountancy	Target
CO1	Equip the students to get an idea on the accounting terminology.	60%
CO2	Familiarize the students with the theoretical and practical aspects of recording transactions in books of accounts.	60%
CO3	Make the students to gain knowledge about the preparation of various financial statements	60%
CO4	Familiarize the students to prepare final accounts of a company.	60%
CO5	Make the students to understand the depreciation concept and its application.	60%
CO6	Understand the application of various methods for analysing the financial statements of a company.	60%

COURSE END SURVEY - 20INMCA109 - Fundamentals of Accountancy

Sl.No	Questions & Options
CO1	To what extent students are able to develop basic understanding of accounting terminology
	Answer Choice- <i>Very high degree/High Degree/Moderate degree/Small Degree/Not at all</i>

CO2	To what extent students are able to familiarize the students with the theoretical and practical aspects of recording transactions in books of accounts.
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO3	To what extend students to gain knowledge about the preparation of various financial statements
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO4	To what extend students are able to prepare final accounts of a company
	Answer Choice- <i>Very high degree/High Degree/Moderate degree/Small Degree/Not at all</i>
CO5	To what extend students are able to understand the depreciation concept and its application.
	Answer Choice- <i>Very high degree/High Degree/Moderate degree/Small Degree/Not at all</i>
CO6	To what extent students are able to Understand the application of various methods for analysing the financial statements of a company.
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>

CO->PO MAPPING - 20INMCA109 - Fundamentals of Accountancy

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1								3	1		1	1
CO2								3	1		1	1
CO3								3	1		1	2
CO4								3	1		1	2
CO5								3	1		1	2
CO6								3	1		1	2

CO->PSO MAPPING - 20INMCA109 - Fundamentals of Accountancy

CO/PSO	PSO1	PSO2	PSO3
CO1			2
CO2			2
CO3			3
CO4			3
CO5			2
CO6			3

COURSE->PO MAPPING - 20INMCA109 - Fundamentals of Accountancy

20INMCA109/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
								3	1		1	2

COURSE->PSO MAPPING - 20INMCA109 - Fundamentals of Accountancy

20INMCA109/PSO	PSO1	PSO2	PSO3
			3

20INMCA131

Course Code	Course Name	L-T-P:C	Year of Introduction
20INMCA131	Office Automation Lab	0-0-5:1	2020

No.	Course Outcome - 20INMCA131 - Office Automation Lab	Target
CO1	Understand the features and functionalities of most commonly used office automation tools.	60.5%
CO2	Prepare professional documents, perform accounting operations, and prepare professional multimedia presentations.	60.5%
CO3	Organize and perform accounting operations on a large volume of data across multiple worksheets or pages of information in the file.	60.5%
CO4	Construct formulas, including the use of built-in functions, and relative and absolute references.	60.5%
CO5	Translate raw data into a meaningful information by creating charts and pivot tables.	60.5%
CO6	Save time, effort and minimize human errors by making use of features like Master templates, Formulas, Mail Merge, Macros etc.	60.5%

COURSE END SURVEY - 20INMCA131 - Office Automation Lab

Sl.No	Questions & Options
CO1	To what extent you are able to analyze the functionalities of office automation tools Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO2	To what extent you are able to perform accounting operations, and prepare professional multimedia presentations. Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO3	To what extent you are able to Organize and perform accounting operations on a large volume of data Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO4	To what extent you are able to use of built-in functions, and relative and absolute references Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO5	To what extent you are able to understand the Translate raw data Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO6	To what extent you are able to understand how to manage Save time, Master templates, Formulas, Mail Merge, Macros etc. Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>

CO->PO MAPPING - 20INMCA131 - Office Automation Lab

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2											
CO2	2											
CO3				3								
CO4					3							
CO5					1	1						
CO6					2	3						

CO->PSO MAPPING - 20INMCA131 - Office Automation Lab

CO/PSO	PSO1	PSO2	PSO3
CO1	3		
CO2	3		
CO3	2		
CO4	2		
CO5			
CO6	3		3

COURSE->PO MAPPING - 20INMCA131 - Office Automation Lab

20INMCA131/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	2			3	3	3						

COURSE->PSO MAPPING - 20INMCA131 - Office Automation Lab

20INMCA131/PSO	PSO1	PSO2	PSO3
	3		3

20INMCA133

Course Code	Course Name	L-T-P:C	Year of Introduction
20INMCA133	Introduction - PC hardware Lab	0-0-4:1	2020

No.	Course Outcome - 20INMCA133 - Introduction - PC hardware Lab	Target
CO1	Explain how a PC works, and understand the relationship between hardware and software	60.5%
CO2	Understand the purpose and functions of the motherboard components	60.5%

CO3	Understand the fundamentals of PC assembly	60.5%
CO4	Install, troubleshoot and format Windows and Linux Operating System	60.5%
CO5	Understand and perform diagnostic procedures and troubleshooting techniques to personal computers	60.5%

COURSE END SURVEY - 20INMCA133 - Introduction - PC hardware Lab

Sl.No	Questions & Options
CO1	To what extent you are able to understand how a PC works
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO2	To what extent you are able to understand the purpose and functions of the motherboard components
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO3	To what extent you are able to understand the fundamentals of PC assembly
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO4	To what extent you are able to understand the Installation, troubleshooting and formatting of Windows and Linux Operating System
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO5	To what extent you are able to understand the diagnostic procedures and troubleshooting techniques
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>

CO->PO MAPPING - 20INMCA133 - Introduction - PC hardware Lab

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	1			1						1		1
CO2	1		1	1	1					1		2
CO3	1		1		2		1			1		2
CO4	3	1	2	1								2
CO5	2	1	2		2					1		

CO->PSO MAPPING - 20INMCA133 - Introduction - PC hardware Lab

CO/PSO	PSO1	PSO2	PSO3
CO1	1	2	
CO2	1	3	
CO3	1	2	
CO4	2	1	1
CO5	3	1	1

COURSE->PO MAPPING - 20INMCA133 - Introduction - PC hardware Lab

20INMCA133/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	1	2	1	2		1			1		2

COURSE->PSO MAPPING - 20INMCA133 - Introduction - PC hardware Lab

20INMCA133/PSO	PSO1	PSO2	PSO3
	3	3	1

SEMESTER-1**DMCA101**

Course Code	Course Name	L-T-P:C	Year of Introduction
DMCA101	English	4-0-0:4	2010

COURSE END SURVEY - DMCA101 - English**CO->PO MAPPING - DMCA101 - English**

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12

CO->PSO MAPPING - DMCA101 - English

CO/PSO	PSO1	PSO2	PSO3

COURSE->PO MAPPING - DMCA101 - English

DMCA101/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12

COURSE->PSO MAPPING - DMCA101 - English

DMCA101/PSO	PSO1	PSO2	PSO3

DMCA102

Course Code	Course Name	L-T-P:C	Year of Introduction
DMCA102	Mathematical Foundations of Computer Science	4-0-0:4	2010

COURSE END SURVEY - DMCA102 - Mathematical Foundations of Computer Science**CO->PO MAPPING - DMCA102 - Mathematical Foundations of Computer Science**

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12

CO->PSO MAPPING - DMCA102 - Mathematical Foundations of Computer Science

CO/PSO	PSO1	PSO2	PSO3

COURSE->PO MAPPING - DMCA102 - Mathematical Foundations of Computer Science

DMCA102/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12

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COURSE->PSO MAPPING - DMCA102 - Mathematical Foundations of Computer Science

DMCA102/PSO	PSO1	PSO2	PSO3

DMCA103

Course Code	Course Name	L-T-P:C	Year of Introduction
DMCA103	Statistics I	4-0-0:4	2010

COURSE END SURVEY - DMCA103 - Statistics I**CO->PO MAPPING - DMCA103 - Statistics I**

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12

CO->PSO MAPPING - DMCA103 - Statistics I

CO/PSO	PSO1	PSO2	PSO3

COURSE->PO MAPPING - DMCA103 - Statistics I

DMCA103/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12

COURSE->PSO MAPPING - DMCA103 - Statistics I

DMCA103/PSO	PSO1	PSO2	PSO3

DMCA104

Course Code	Course Name	L-T-P:C	Year of Introduction
DMCA104	Integrated Circuites & PC Hardware	4-0-0:4	2010

COURSE END SURVEY - DMCA104 - Integrated Circuites & PC Hardware**CO->PO MAPPING - DMCA104 - Integrated Circuites & PC Hardware**

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12

CO->PSO MAPPING - DMCA104 - Integrated Circuites & PC Hardware

CO/PSO	PSO1	PSO2	PSO3

COURSE->PO MAPPING - DMCA104 - Integrated Circuites & PC Hardware

DMCA104/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12

COURSE->PSO MAPPING - DMCA104 - Integrated Circuites & PC Hardware

DMCA104/PSO	PSO1	PSO2	PSO3

DMCA105

Course Code	Course Name	L-T-P:C	Year of Introduction
DMCA105	Programming methodology & C Programming	4-0-0:4	2010

COURSE END SURVEY - DMCA105 - Programming methodology & C Programming**CO->PO MAPPING - DMCA105 - Programming methodology & C Programming**

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12

CO->PSO MAPPING - DMCA105 - Programming methodology & C Programming

CO/PSO	PSO1	PSO2	PSO3

COURSE->PO MAPPING - DMCA105 - Programming methodology & C Programming

DMCA105/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12

COURSE->PSO MAPPING - DMCA105 - Programming methodology & C Programming

DMCA105/PSO	PSO1	PSO2	PSO3

DMCA107

Course Code	Course Name	L-T-P:C	Year of Introduction
DMCA107	C Lab	0-0-4:4	2010

COURSE END SURVEY - DMCA107 - C Lab**CO->PO MAPPING - DMCA107 - C Lab**

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12

CO->PSO MAPPING - DMCA107 - C Lab

CO/PSO	PSO1	PSO2	PSO3

COURSE->PO MAPPING - DMCA107 - C Lab

DMCA107/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12

COURSE->PSO MAPPING - DMCA107 - C Lab

DMCA107/PSO	PSO1	PSO2	PSO3

DMCA106

Course Code	Course Name	L-T-P:C	Year of Introduction
DMCA106	PC hardware Lab	0-0-4:4	2010

COURSE END SURVEY - DMCA106 - PC hardware Lab**CO->PO MAPPING - DMCA106 - PC hardware Lab**

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
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CO->PSO MAPPING - DMCA106 - PC hardware Lab

CO/PSO	PSO1	PSO2	PSO3
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COURSE->PO MAPPING - DMCA106 - PC hardware Lab

DMCA106/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12

COURSE->PSO MAPPING - DMCA106 - PC hardware Lab

DMCA106/PSO	PSO1	PSO2	PSO3

SEMESTER-2**INMCA102**

Course Code	Course Name	L-T-P:C	Year of Introduction
INMCA102	Technical Communication	3-1-0:4	2016

No.	Course Outcome - INMCA102 - Technical Communication	Target
CO1	Apply listening strategies to locate specific details and main points	65%
CO2	Compare and contrast ideas in a reading passage	65%
CO3	Prepare formal Letters	65%
CO4	Deliver points effectively in a formal and informal group	65%
CO5	Prepare Presentations effectively	65%
CO6	Use Standard Vocabulary and Grammar	65%

COURSE END SURVEY - INMCA102 - Technical Communication

Sl.No	Questions & Options
CO1	How far are you able to identify and locate specific details in an academic lecture
	Answer Choice- 5 out of 5/4 out of 5/3 out of 5/2 out of 5/1 out of 5
CO2	How far are you able to identify similar and contradictory points in a reading passage
	Answer Choice- 5 out of 5/4 out of 5/3 out of 5/2 out of 5/1 out of 5
CO3	To what extent are you able to prepare formal letters required in an organisation
	Answer Choice- 5 out of 5/4 out of 5/3 out of 5/2 out of 5/1 out of 5
	To what extent are you able to deliver points effectively in a group

CO4	Answer Choice- 5 out of 5/4 out of 5/3 out of 5/2 out of 5/1 out of 5
CO5	To what extent can you effectively prepare a presentation
	Answer Choice- 5 out of 5/4 out of 5/3 out of 5/2 out of 5/1 out of 5
CO6	To what extent are you able to use standard vocabulary and correct sentence structures in a formal context
	Answer Choice- 5 out of 5/4 out of 5/3 out of 5/2 out of 5/1 out of 5

CO->PO MAPPING - INMCA102 - Technical Communication

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1										2		
CO2										3		
CO3										2		
CO4									3	3		
CO5									3	3		
CO6									3	3		

CO->PSO MAPPING - INMCA102 - Technical Communication

CO/PSO	PSO1	PSO2	PSO3
CO1		1	2
CO2		1	
CO3			
CO4		2	
CO5		2	
CO6		2	

COURSE->PO MAPPING - INMCA102 - Technical Communication

INMCA102/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
									3	3		

COURSE->PSO MAPPING - INMCA102 - Technical Communication

INMCA102/PSO	PSO1	PSO2	PSO3
		2	2

INMCA104

Course Code	Course Name	L-T-P:C	Year of Introduction
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INMCA104	Introduction To Discrete Mathematics	3-1-0:4	2016
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No.	Course Outcome - INMCA104 - Introduction To Discrete Mathematics	Target
CO1	Recognize and apply the concepts needed to test the logic of a program using propositions	62%
CO2	Interpret the concepts needed to test the logic of a program using predicates	62%
CO3	Explain number theory and apply it to ensure secure communication	62%
CO4	Use a combination of theoretical knowledge and independent mathematical thinking in creative evaluation of questions in graph theory	62%
CO5	Differentiate between Eulerian and Hamiltonian graphs	62%
CO6	Analyse the properties of trees and able to find a minimal spanning tree for a given weighted graph	62%

COURSE END SURVEY - INMCA104 - Introduction To Discrete Mathematics

Sl.No	Questions & Options
CO1	To what extent are you able to recognize and apply the concepts needed to test the logic of a program using propositions
	Answer Choice- <i>Always/Very often/Sometimes/Rarely/Never</i>
CO2	To what extent are you able to interpret the concepts needed to test the logic of a program using predicates
	Answer Choice- <i>Always/Very often/Sometimes/Rarely/Never</i>
CO3	To what extent are you able to explain number theory and apply it to ensure secure communication
	Answer Choice- <i>Always/Very often/Sometimes/Rarely/Never</i>
CO4	To what extent are you able to use a combination of theoretical knowledge and independent mathematical thinking in creative evaluation of questions in graph theory
	Answer Choice- <i>Always/Very often/Sometimes/Rarely/Never</i>
CO5	To what extent are you able to differentiate between Eulerian and Hamiltonian graphs
	Answer Choice- <i>Always/Very often/Sometimes/Rarely/Never</i>
CO6	To what extent are you able to analyse the properties of trees and able to find a minimal spanning tree for a given weighted graph
	Answer Choice- <i>Always/Very often/Sometimes/Rarely/Never</i>

CO->PO MAPPING - INMCA104 - Introduction To Discrete Mathematics

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	3				1			1			1
CO2	3	3				1			1			1
CO3	3	3				1			1			1

CO4	3	3				1			1			1
CO5	3	3				1			1			1
CO6	3	3				1			1			1

CO->PSO MAPPING - INMCA104 - Introduction To Discrete Mathematics

CO/PSO	PSO1	PSO2	PSO3
CO1	3		
CO2	3		
CO3	3		
CO4	3		
CO5	3		
CO6	3		

COURSE->PO MAPPING - INMCA104 - Introduction To Discrete Mathematics

INMCA104/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	3				1			1			1

COURSE->PSO MAPPING - INMCA104 - Introduction To Discrete Mathematics

INMCA104/PSO	PSO1	PSO2	PSO3
	3		

INMCA108

Course Code	Course Name	L-T-P:C	Year of Introduction
INMCA108	Problem Solving and Structured Programming	3-1-0:4	2016

No.	Course Outcome - INMCA108 - Problem Solving and Structured Programming	Target
CO1	Design an algorithmic solution for a given problem	64.1%
CO2	Choose the loops and decision making statements to solve the problem	62.1%
CO3	Use simple data structures like arrays, stacks and linked list in solving problems.	62.1%
CO4	Explain programs with pointers and arrays, pointer arithmetic, and use the pre-processor techniques	62.1%
CO5	Practice simple applications of real life using structures and files.	62.1%
CO6	Demonstrate file Operations in C programming for a given application	62.1%

COURSE END SURVEY - INMCA108 - Problem Solving and Structured Programming

Sl.No	Questions & Options

CO1	To what extent you are able to design an algorithmic solution for a given problem
	Answer Choice- <i>Always/Very often/Sometimes/Rarely/Never</i>
CO2	To what extent you are able to Choose the loops and decision making statements to solve the problem
	Answer Choice- <i>Very frequently/Frequently/Rarely Very rarely/Never</i>
CO3	To what extent you are able to use simple data structures like arrays, stacks and linked list in solving problems.
	Answer Choice- <i>Always/Very often/Sometimes/Rarely/Never</i>
CO4	To what extent you are able to explain programs with pointers and arrays,pointer arithmetic, and use the pre-processor techniques
	Answer Choice- <i>Always/Very often/Sometimes/Rarely/Never</i>
CO5	To what extent you are able to practice simple applications of real life using structures and files.
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO6	To what extent you are able to demonstrate file Operations in C programming for a given application
	Answer Choice- <i>Always/Very often/Sometimes/Rarely/Never</i>

CO->PO MAPPING - INMCA108 - Problem Solving and Structured Programming

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	2										
CO2		3	3	1								
CO3	1	2		1					1			
CO4	2	2		1	1				1			
CO5				2	2						1	3
CO6	2		1	2		2	1	1	1			

CO->PSO MAPPING - INMCA108 - Problem Solving and Structured Programming

CO/PSO	PSO1	PSO2	PSO3
CO1	3		
CO2			
CO3		3	
CO4			
CO5			
CO6			3

COURSE->PO MAPPING - INMCA108 - Problem Solving and Structured Programming

INMCA108/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	3	3	2	2	2	1	1	1		1	3

COURSE->PSO MAPPING - INMCA108 - Problem Solving and Structured Programming

INMCA108/PSO	PSO1	PSO2	PSO3
	3	3	3

INMCA132

Course Code	Course Name	L-T-P:C	Year of Introduction
INMCA132	Problem Solving and Structured Programming Lab	0-0-6:1	2016

No.	Course Outcome - INMCA132 - Problem Solving and Structured Programming Lab	Target
CO1	Identify the use of algorithm in program developing.	65%
CO2	Demonstrate basic concepts of data input and output, operators and expression and control statements.	60%
CO3	Formulate structured programming using various programming constructs.	60%
CO4	Illustrate the use of various data types with demonstration programs.	60%
CO5	Use simple data structures like arrays, stacks and linked list in solving problems	60%
CO6	Apply file Operations in C programming for a given application.	60%

COURSE END SURVEY - INMCA132 - Problem Solving and Structured Programming Lab

Sl.No	Questions & Options
CO1	To what extent you are able to identify the use of algorithm in program developing. Answer Choice- <i>Very frequently/Frequently/Rarely Very rarely/Never</i>
CO2	To what extent you are able to demonstrate basic concepts of data input and output, operators and expression and control statements. Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO3	To what extent you are able to formulate structured programming using various programming constructs Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO4	To what extent you are able to illustrate the use of various data types with demonstration programs Answer Choice- <i>Always/Very often/Sometimes/Rarely/Never</i>
CO5	To what extent you are able to use data structures like arrays, stacks and linked list in solving problems Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>

CO6	To what extent you are able to apply file Operations in C programming for a given application.
	Answer Choice- <i>Always/Very often/Sometimes/Rarely/Never</i>

CO->PO MAPPING - INMCA132 - Problem Solving and Structured Programming Lab

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	1											
CO2												
CO3			2								1	
CO4												
CO5				1						2		
CO6							1					

CO->PSO MAPPING - INMCA132 - Problem Solving and Structured Programming Lab

CO/PSO	PSO1	PSO2	PSO3
CO1			
CO2			
CO3			
CO4			
CO5			
CO6			

COURSE->PO MAPPING - INMCA132 - Problem Solving and Structured Programming Lab

INMCA132/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	1		2	1			1			2	1	

COURSE->PSO MAPPING - INMCA132 - Problem Solving and Structured Programming Lab

INMCA132/PSO	PSO1	PSO2	PSO3

INMCA112

Course Code	Course Name	L-T-P:C	Year of Introduction
INMCA112	Personality Development and Soft Skills	3-1-0:4	2016

No.	Course Outcome - INMCA112 - Personality Development and Soft Skills	Target
CO1	Apply interpersonal skills and establish leadership qualities	60.1%

CO2	Manage communication both written and oral for achieving competitive advantage.	60.1%
CO3	Create a resume and prepare for interviews	60.1%
CO4	Demonstrate good communication skills and leadership skills in GD	60.1%
CO5	Demonstrate Soft skills as required by employers	60.1%
CO6	Use e-learning techniques for career building	60.1%

COURSE END SURVEY - INMCA112 - Personality Development and Soft Skills

Sl.No	Questions & Options
CO1	To what extent you are able to apply interpersonal skills and establish leadership qualities
	Answer Choice- <i>Very high degree/High Degree/Moderate degree/Small Degree/Not at all</i>
CO2	To what extent you are able to manage communication both written and oral for achieving competitive advantage.
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO3	To what extent you are able to create a resume and prepare for interviews
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO4	To what extent you are able to demonstrate good communication skills and leadership skills in GD
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO5	To what extent you are able to Demonstrate Soft skills as required by employers
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO6	To what extent you are able to use e-learning techniques for career building
	Answer Choice- <i>Very high degree/High Degree/Moderate degree/Small Degree/Not at all</i>

CO->PO MAPPING - INMCA112 - Personality Development and Soft Skills

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1						1	1	1	3	3	2	1
CO2				2		1	1		2	3	2	1
CO3										1	1	
CO4				1		1	1			3	3	2
CO5				1		1				3	3	1
CO6					1						1	1

CO->PSO MAPPING - INMCA112 - Personality Development and Soft Skills

CO/PSO	PSO1	PSO2	PSO3
CO1	1	1	2

CO2	1	2	1
CO3			
CO4	1	1	1
CO5	1	1	2
CO6	1	1	2

COURSE->PO MAPPING - INMCA112 - Personality Development and Soft Skills

INMCA112/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
				2	1	1	1	1	3	3	3	2

COURSE->PSO MAPPING - INMCA112 - Personality Development and Soft Skills

INMCA112/PSO	PSO1	PSO2	PSO3
	1	2	2

INMCA134

Course Code	Course Name	L-T-P:C	Year of Introduction
INMCA134	Technical Communication Lab	0-0-4:1	2016

No.	Course Outcome - INMCA134 - Technical Communication Lab	Target
CO1	Identify specific and main details in an academic lecture	61%
CO2	Apply reading strategies to compare and contrast information in a text	61%
CO3	Plan ,conduct and demonstrate leadership skills in a Group Discussion	61%
CO4	Use appropriate vocabulary in formal contexts	61%
CO5	Prepare formal letters	61%
CO6	Design formal presentations and posters in a creative manner	61%

COURSE END SURVEY - INMCA134 - Technical Communication Lab

Sl.No	Questions & Options
CO1	To what extent you are able to identify specific and main details in an academic lecture
	Answer Choice- <i>Always/Very often/Sometimes/Rarely/Never</i>
CO2	To what extent you are able to apply reading strategies to compare and contrast information in a text
	Answer Choice- <i>Always/Very often/Sometimes/Rarely/Never</i>
CO3	To what extent you are able to plan ,conduct and demonstrate leadership skills in a Group Discussion

	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO4	To what extent you are able to use appropriate vocabulary in formal contexts
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO5	To what extent you are able to prepare formal letters
	Answer Choice- <i>Always/Very often/Sometimes/Rarely/Never</i>
CO6	To what extent you are able to design formal presentations and posters in a creative manner
	Answer Choice- <i>Very frequently/Frequently/Rarely Very rarely/Never</i>

CO->PO MAPPING - INMCA134 - Technical Communication Lab

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	1											
CO2					2							
CO3		2										
CO4								1				
CO5			1									
CO6												

CO->PSO MAPPING - INMCA134 - Technical Communication Lab

CO/PSO	PSO1	PSO2	PSO3
CO1			
CO2			
CO3			
CO4			
CO5			
CO6			

COURSE->PO MAPPING - INMCA134 - Technical Communication Lab

INMCA134/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	1	2	1		2			1				

COURSE->PSO MAPPING - INMCA134 - Technical Communication Lab

INMCA134/PSO	PSO1	PSO2	PSO3

INMCA106

Course Code	Course Name	L-T-P:C	Year of Introduction
INMCA106	Computer Organization	3-1-0:4	2016

No.	Course Outcome - INMCA106 - Computer Organization	Target
CO1	Identify the basic structure and functional units of a digital computer	58.5%
CO2	Illustrate the effect of addressing modes on the execution time of a program	63.2%
CO3	compare different arithmetic and logic operations used in ALU design	62.2%
CO4	Examine the different types of control logic designs in processors	58.5%
CO5	Categorize the computer memory types based on performance and cost	65.1%
CO6	Select appropriate interfacing standards for I/O devices.	62.2%

COURSE END SURVEY - INMCA106 - Computer Organization

Sl.No	Questions & Options
CO1	To what extent you are able to identify the basic structure and functional units of a digital computer
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO2	To what extent you are able to illustrate the effect of addressing modes on the execution time of a program
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO3	To what extent you are able to compare different arithmetic and logic operations used in ALU design
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO4	To what extent you are able to examine the different types of control logic designs in processors
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO5	To what extent you are able to categorize the computer memory types based on performance and cost
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO6	To what extent you are able to select appropriate interfacing standards for I/O devices.
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>

CO->PO MAPPING - INMCA106 - Computer Organization

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2											
CO2	3			1								
CO3	1	1	1									
CO4							2					

CO5	2		2									
CO6	1	1	2		1							

CO->PSO MAPPING - INMCA106 - Computer Organization

CO/PSO	PSO1	PSO2	PSO3
CO1	3		
CO2	1		
CO3		2	
CO4			1
CO5	2		
CO6		1	

COURSE->PO MAPPING - INMCA106 - Computer Organization

INMCA106/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	1	2	1	1		2					

COURSE->PSO MAPPING - INMCA106 - Computer Organization

INMCA106/PSO	PSO1	PSO2	PSO3
	3	2	1

20INMCA102

Course Code	Course Name	L-T-P:C	Year of Introduction
20INMCA102	Technical Communication	3-1-0:4	2020

No.	Course Outcome - 20INMCA102 - Technical Communication	Target
CO1	Apply effective technical communication skills in a professional environment	66%
CO2	Analyse professional documents and comprehend messages by applying various techniques of reading us techniques	66%
CO3	Create various technical and non-technical documents in in an organised ,clear and precise manner	66%
CO4	Identify various listening strategies to analyse and comprehend technical knowledge and information	66%
CO5	Discuss and present ideas & opinions in an effective manner	66%
CO6	Develop ,choose and apply vocabulary and grammar skills	66%

COURSE END SURVEY - 20INMCA102 - Technical Communication

Sl.No	Questions & Options
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CO1	To what extent are you able to understand technical communication skills in a professional environment
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO2	To what extent are you able to analyse professional documents and comprehend messages by applying various techniques of reading
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO3	To what extent are you able to create technical and non -technical documents in an organised, clear and precise manner
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO4	To what extent are you able to identify various listening strategies to analyse and comprehend technical knowledge and information
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO5	To what extent are you able to present ideas and opinions in an effective manner
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO6	

CO->PO MAPPING - 20INMCA102 - Technical Communication

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	1		2			1		2				2
CO2	1	1					1			1	1	
CO3			1						1			
CO4			1	1	1							
CO5			1									
CO6					1							

CO->PSO MAPPING - 20INMCA102 - Technical Communication

CO/PSO	PSO1	PSO2	PSO3
CO1	1		
CO2	1		1
CO3			
CO4		1	
CO5	2		
CO6			

COURSE->PO MAPPING - 20INMCA102 - Technical Communication

20INMCA102/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12

	1	1	2	1	1	1	1	2	1	1	1	2
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COURSE->PSO MAPPING - 20INMCA102 - Technical Communication

20INMCA102/PSO	PSO1	PSO2	PSO3
	2	1	1

20INMCA104

Course Code	Course Name	L-T-P:C	Year of Introduction
20INMCA104	Introduction To Discrete Mathematics	3-1-0:4	2020

No.	Course Outcome - 20INMCA104 - Introduction To Discrete Mathematics	Target
CO1	Recognize and apply the concepts needed to test the logic of a program using propositions.	60%
CO2	Apply the principle of mathematical induction and pigeon hole principle to solve problems.	60%
CO3	Explain number theory and apply it to ensure secure communication.	60%
CO4	Use a combination of theoretical knowledge and independent mathematical thinking in creative evaluation of questions in graph theory.	60%
CO5	Analyse the properties of trees and implement tree algorithms.	60%

COURSE END SURVEY - 20INMCA104 - Introduction To Discrete Mathematics

Sl.No	Questions & Options
CO1	To what extend are you able to recognize and apply the concepts needed to test the logic of a program using propositions.
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO2	To what extend are you able to apply the principle of mathematical induction and pigeon hole principle to solve problems.
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO3	To what extend are you able to explain number theory and apply it to ensure secure communication.
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO4	To what extend are you able to use a combination of theoretical knowledge and independent mathematical thinking in creative evaluation of questions in graph theory
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO5	To what extend are you able to analyse the properties of trees and implement tree algorithms
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>

CO->PO MAPPING - 20INMCA104 - Introduction To Discrete Mathematics

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12

CO1	3	3				1			1			1
CO2	3	3				1			1			1
CO3	3	3				1			1			1
CO4	3	3				1			1			1
CO5	3	3				1			1			1

CO->PSO MAPPING - 20INMCA104 - Introduction To Discrete Mathematics

CO/PSO	PSO1	PSO2	PSO3
CO1	3		
CO2	3		
CO3	3		
CO4	3		
CO5	3		

COURSE->PO MAPPING - 20INMCA104 - Introduction To Discrete Mathematics

20INMCA104/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	3				1			1			1

COURSE->PSO MAPPING - 20INMCA104 - Introduction To Discrete Mathematics

20INMCA104/PSO	PSO1	PSO2	PSO3
	3		

20INMCA106

Course Code	Course Name	L-T-P:C	Year of Introduction
20INMCA106	Introduction to Digital Systems & Logic Designs	3-1-0:4	2020

No.	Course Outcome - 20INMCA106 - Introduction to Digital Systems & Logic Designs	Target
CO1	Gain knowledge in different types of number systems and their conversions.	60.1%
CO2	Understand the basics of Boolean Algebra and design various complex Logic gates	60.1%
CO3	Minimization technique to implement Boolean functions and design various sequential circuits	60.1%
CO4	Analyze and design various combinational circuits.	60.1%
CO5	Examine the structure of shift registers, counters and programmable logic chip	60.1%

COURSE END SURVEY - 20INMCA106 - Introduction to Digital Systems & Logic Designs

Sl.No	Questions & Options
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CO1	To what extend you are able to explain different types of number system and their conversion
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO2	To what extend you are able to design different logic gates.
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO3	To what extend you are able to design various sequential circuits
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO4	To what extend you are able to design various combinational circuits
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO5	To what extend you are able to construct registers,counters and logic chips
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>

CO->PO MAPPING - 20INMCA106 - Introduction to Digital Systems & Logic Designs

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3						2					
CO2	3	2	3	2	3					1		2
CO3	3	2		2	3							2
CO4	3			2	3							2
CO5	3		3		3		2			1		3

CO->PSO MAPPING - 20INMCA106 - Introduction to Digital Systems & Logic Designs

CO/PSO	PSO1	PSO2	PSO3
CO1	3		
CO2	3	1	
CO3	3		
CO4	3		
CO5	3		1

COURSE->PO MAPPING - 20INMCA106 - Introduction to Digital Systems & Logic Designs

20INMCA106/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	2	3	2	3		2			1		3

COURSE->PSO MAPPING - 20INMCA106 - Introduction to Digital Systems & Logic Designs

20INMCA106/PSO	PSO1	PSO2	PSO3
	3	1	1

20INMCA108

Course Code	Course Name	L-T-P:C	Year of Introduction
20INMCA108	Problem Solving and Structured Programming	3-1-0:4	2020

No.	Course Outcome - 20INMCA108 - Problem Solving and Structured Programming	Target
CO1	Understand computer programming fundamentals.	61.5%
CO2	Learn about different control statements in C programming.	61.5%
CO3	Apply the concept of implementing C programs with arrays and strings.	61.5%
CO4	Divide a given computational problem into a number of modules by defining user defined functions and to understand the concept of structure and union in C programming language.	61.5%
CO5	Understand the concept of pointers and file handling.	61.5%
CO6	Develop readable* C programs, to solve real life computational problems.	61.5%

COURSE END SURVEY - 20INMCA108 - Problem Solving and Structured Programming

Sl.No	Questions & Options
CO1	To what extent the students are able to understand computer programming fundamentals?
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO2	To what extent the students learn about different control statements in C programming.
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO3	To what extent the students are able to apply the concept of C programs with arrays and strings.
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO4	To what extent the students understand the concept of user defined functions and concept of structures and union
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO5	To what extent the students learn the concept of pointers and file handling
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO6	To what extent the students are capable to develop C programs to solve the real life computational problems
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>

CO->PO MAPPING - 20INMCA108 - Problem Solving and Structured Programming

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	3	2	2	1	2		2	2	1	1	2
CO2	3	2	2	2	1	2	1	3	1		1	1
CO3	3	2	2	1	1	2	1	3				1

CO4	3	3	2	1	1	2	1	3		1	1	1
CO5	2	2	2	1	1	2	1	3			1	1
CO6	3	3	3	3	2	2	2	3	1	2	2	2

CO->PSO MAPPING - 20INMCA108 - Problem Solving and Structured Programming

CO/PSO	PSO1	PSO2	PSO3
CO1	2	1	1
CO2	1	2	1
CO3	2	3	1
CO4	2	3	1
CO5	2	2	1
CO6	3	3	1

COURSE->PO MAPPING - 20INMCA108 - Problem Solving and Structured Programming

20INMCA108/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	3	3	3	2	2	2	3	2	2	2	2

COURSE->PSO MAPPING - 20INMCA108 - Problem Solving and Structured Programming

20INMCA108/PSO	PSO1	PSO2	PSO3
	3	3	1

20INMCA110

Course Code	Course Name	L-T-P:C	Year of Introduction
20INMCA110	Personality Development and Soft Skills	3-1-0:4	2020

No.	Course Outcome - 20INMCA110 - Personality Development and Soft Skills	Target
CO1	Describe personality types and interpersonal skills.	62%
CO2	Create a SWOT analysis to assess their career perspective.	62%
CO3	Develop an awareness of the self and apply well-defined techniques to cope with emotions and stress.	62%
CO4	Demonstrate appropriate etiquettes in meetings, group discussions and interviews.	62%
CO5	Develop creative CVs and present their skills and abilities to employers.	62%
CO6	Identify an e-learning course suitable for their career growth.	62%

COURSE END SURVEY - 20INMCA110 - Personality Development and Soft Skills

Sl.No	Questions & Options
CO1	To what extent you are able to describe personality types and interpersonal skills
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO2	To what extend are you able to create a personal SWOT analysis to assess your career perspective
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO3	To what extend are you able to Develop an awareness of the self and apply well-defined techniques to cope with emotions and stress.
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO4	To what extend are you able to demonstrate appropriate etiquettes in meetings, group discussions and interviews.
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO5	To what extend are you able to develop creative CVs and present their skills and abilities to employers.
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO6	to what extend are you able to identify an e-learning course suitable for their career growth.
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>

CO->PO MAPPING - 20INMCA110 - Personality Development and Soft Skills

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1						3	1				3	
CO2						3	1				3	
CO3						3	1				3	
CO4						3	1		2		3	
CO5						3	1		3		3	
CO6							1		3		3	

CO->PSO MAPPING - 20INMCA110 - Personality Development and Soft Skills

CO/PSO	PSO1	PSO2	PSO3
CO1			2
CO2			3
CO3			2
CO4			2
CO5			3
CO6			3

COURSE->PO MAPPING - 20INMCA110 - Personality Development and Soft Skills

20INMCA110/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
						3	1		3		3	

COURSE->PSO MAPPING - 20INMCA110 - Personality Development and Soft Skills

20INMCA110/PSO	PSO1	PSO2	PSO3
			3

20INMCA132

Course Code	Course Name	L-T-P:C	Year of Introduction
20INMCA132	Problem Solving and Structured Programming Lab	0-0-5:1	2020

No.	Course Outcome - 20INMCA132 - Problem Solving and Structured Programming Lab	Target
CO1	Analyse a computational problem and develop an algorithm/flowchart to find its solution.	21.5%
CO2	Apply the basic concepts of data input and output, operators and expression and control Statements.	21.5%
CO3	Implement structured programming using various programming constructs such as arrays and string.	21.5%
CO4	Illustrate the use of functions, structures and unions with demonstration programs.	21.5%
CO5	Implement lab experiments of pointers.	21.5%
CO6	Identify the use of structure and file in program development.	21.5%

COURSE END SURVEY - 20INMCA132 - Problem Solving and Structured Programming Lab

Sl.No	Questions & Options
CO1	To what extend you are able to analyse a computational problem and develop an algorithm/flowchart to find its solution.
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO2	To what extend you are able to apply the basic concepts of data input and output, operators and expression and control Statements.
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO3	To what extend you are able to implement structured programming using various programming constructs such as arrays and string.
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO4	To what extend you are able to understand the use of functions, structures and unions .
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>

CO5	To what extend you are able to analyze and interpret the concept of pointers.
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO6	To what extend you are able to identify the use of structure and file in program development.
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>

CO->PO MAPPING - 20INMCA132 - Problem Solving and Structured Programming Lab

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	3	2	2	2		2					1
CO2	2	2	3	1			2				1	2
CO3	2	2	3	2			2			2		2
CO4	3	2	3	2			2				3	2
CO5	2	2	2	2			2					2
CO6	2	2	3	2			2				1	2

CO->PSO MAPPING - 20INMCA132 - Problem Solving and Structured Programming Lab

CO/PSO	PSO1	PSO2	PSO3
CO1	3	2	1
CO2	3	2	2
CO3	3	2	2
CO4	3	3	2
CO5	3	2	2
CO6	3	2	2

COURSE->PO MAPPING - 20INMCA132 - Problem Solving and Structured Programming Lab

20INMCA132/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	3	3	2	2		2			2	3	2

COURSE->PSO MAPPING - 20INMCA132 - Problem Solving and Structured Programming Lab

20INMCA132/PSO	PSO1	PSO2	PSO3
	3	3	2

20INMCA134

Course Code	Course Name	L-T-P:C	Year of Introduction
20INMCA134	Technical Communication Lab	0-0-4:1	2020

No.	Course Outcome - 20INMCA134 - Technical Communication Lab	Target
CO1	develop effective communication skills in various situations	66%
CO2	show efficiency in participating in formal discussions and delivering presentations through effective speaking skills	66%
CO3	demonstrate advanced listening skills ,draw conclusions from discussions & oral presentations	66%
CO4	compose letters, emails and other technical documents in well- organized and precise structure	66%
CO5	illustrate reading skills in comprehending and critically analyzing technical and non- technical texts	66%
CO6	develop technical and non- technical vocabulary for implementing in various contexts	66%

COURSE END SURVEY - 20INMCA134 - Technical Communication Lab

Sl.No	Questions & Options
CO1	To what extent are you able to develop effective communication skills in various situations
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO2	To what extent are you able to participate in formal discussions and deliver presentations through effective speaking skills
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO3	To what extent are you able to demonstrate advanced listening skills and draw conclusions from discussions and oral presentations
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO4	To what extent are you able to compose letters ,emails and other technical documents in a well organized manner
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO5	To what extent can you use your reading skills to comprehend and critically analyse technical and non technical texts
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO6	To what extent are you able to develop technical and non technical vocabulary for implementing in various contexts
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>

CO->PO MAPPING - 20INMCA134 - Technical Communication Lab

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1		1	2		1							
CO2												
CO3						3						
CO4						2	1					

CO5							2					
CO6								1				

CO->PSO MAPPING - 20INMCA134 - Technical Communication Lab

CO/PSO	PSO1	PSO2	PSO3
CO1			
CO2			
CO3			
CO4			
CO5			
CO6			

COURSE->PO MAPPING - 20INMCA134 - Technical Communication Lab

20INMCA134/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
		1	2		1	3	2	1				

COURSE->PSO MAPPING - 20INMCA134 - Technical Communication Lab

20INMCA134/PSO	PSO1	PSO2	PSO3

SEMESTER-3**INMCA201**

Course Code	Course Name	L-T-P:C	Year of Introduction
INMCA201	Principles of Programming	3-1-0:4	2016

No.	Course Outcome - INMCA201 - Principles of Programming	Target
CO1	Analyse the history and application of programming languages	61.1%
CO2	Understand the design issues of object oriented programming and Procedural oriented programming	61.1%
CO3	Be familiar with language abstraction, construct of classes, interfaces, packages and Procedures	61.1%
CO4	Be exposed to using logic languages	61.1%
CO5	Be familiar with using functional languages	61.1%
CO6	Analyse the application and the concept of object oriented programming	61.1%

COURSE END SURVEY - INMCA201 - Principles of Programming

Sl.No	Questions & Options

CO1	To what extent you are able to understand the application of programming languages
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO2	to what extent you are able to distinguish object oriented programming and procedure oriented programming
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO3	To what extent you are able to work with oops concept
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO4	To what extent you are able to use logic languages
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO5	To what extent you are able to use functional languages
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO6	To what extent you are able to design an application based on the concept of OOP
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>

CO->PO MAPPING - INMCA201 - Principles of Programming

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1			1	2		1	3		2	1		2
CO2	1	2	2	3			1		1	2		1
CO3				2	3	1		1	2	1	1	
CO4	1	2	2	3	2		1			1		
CO5	2	3			1	2		1			1	2
CO6		3	2	2	3		1		2			2

CO->PSO MAPPING - INMCA201 - Principles of Programming

CO/PSO	PSO1	PSO2	PSO3
CO1	1	2	3
CO2	2		2
CO3	2		1
CO4		3	2
CO5	2	2	
CO6	3	2	

COURSE->PO MAPPING - INMCA201 - Principles of Programming

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12

INMCA201/PO	2	3	2	3	3	2	3	1	2	2	1	2
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COURSE->PSO MAPPING - INMCA201 - Principles of Programming

INMCA201/PSO	PSO1	PSO2	PSO3
	3	3	3

INMCA205

Course Code	Course Name	L-T-P:C	Year of Introduction
INMCA205	Introduction to Object Oriented Programming	3-1-0:4	2016

No.	Course Outcome - INMCA205 - Introduction to Object Oriented Programming	Target
CO1	Apply the important concepts of object oriented programming like object and class, encapsulation, inheritance and polymorphism	61.5%
CO2	Apply the features of C++ like type conversion, inheritance, polymorphism, I/O streams and files to develop programs for real life problems	61%
CO3	Use advance features like templates and exception to make programs supporting reusability and sophistication	61%
CO4	Use standard template library for faster development	61%
CO5	Demonstrate the applications using object oriented programming with C++	61.5%
CO6	Learn how to test, verify, and debug object-oriented programs and create programs using object oriented principles	61%

COURSE END SURVEY - INMCA205 - Introduction to Object Oriented Programming

Sl.No	Questions & Options
CO1	To what extent you can understand the concepts of object oriented programming like object and class, encapsulation, inheritance and polymorphism Answer Choice- <i>Always/Very often/Sometimes/Rarely/Never</i>
CO2	To what extent you can understand the features of C++ like type conversion, inheritance, polymorphism, I/O streams and files to develop programs for real life problems Answer Choice- <i>Very frequently/Frequently/Rarely Very rarely/Never</i>
CO3	To what extent you can understand the advance features like templates and exception to make programs supporting reusability and sophistication Answer Choice- <i>Very frequently/Frequently/Rarely Very rarely/Never</i>
CO4	To what extent you are able to use the standard template library for faster development Answer Choice- <i>Always/Very often/Sometimes/Rarely/Never</i>
	To what extent you are able to use the applications using object oriented programming with C++

CO5	Answer Choice- <i>Very advanced/Advanced/Proficient/Basic/ Minimal</i>
CO6	To what extent you can test, verify, and debug object-oriented programs and create programs using object oriented principles
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>

CO->PO MAPPING - INMCA205 - Introduction to Object Oriented Programming

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	3	2							1		
CO2		3				3						
CO3			1									
CO4				1								
CO5					3							2
CO6	2		2		2							

CO->PSO MAPPING - INMCA205 - Introduction to Object Oriented Programming

CO/PSO	PSO1	PSO2	PSO3
CO1	2	1	
CO2	3	2	2
CO3	3		2
CO4		1	
CO5	1		2
CO6	2		

COURSE->PO MAPPING - INMCA205 - Introduction to Object Oriented Programming

INMCA205/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	3	2	1	3	3				1		2

COURSE->PSO MAPPING - INMCA205 - Introduction to Object Oriented Programming

INMCA205/PSO	PSO1	PSO2	PSO3
	3	2	2

INMCA209

Course Code	Course Name	L-T-P:C	Year of Introduction
INMCA209	Introduction to Data Structures	3-1-0:4	2016

No.	Course Outcome - INMCA209 - Introduction to Data Structures	Target
CO1	Relate which algorithm or data structure to use in different scenarios.	61%
CO2	Implement standard algorithms for searching and sorting	61%
CO3	To do critical analysis of efficiency of algorithms.	61%
CO4	Implement applications using basic data structures such as array, stack, queue and linked list	61%
CO5	Choose appropriate data structure as applied to specified problem definition.	61%
CO6	Analyse the concept of trees and graphs and their implementation using basic data structures and algorithms	61%

COURSE END SURVEY - INMCA209 - Introduction to Data Structures

Sl.No	Questions & Options
CO1	To what extent you are able to determine which algorithm or data structure to use in different scenarios?
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO2	To what extent you are able to implement standard algorithms for searching and sorting?
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO3	To what extent you are able to do critical analysis of efficiency of algorithms.
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO4	To what extent you are able to implement applications using basic data structures such as array, stack, queue and linked list?
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO5	To what extent you are able to choose appropriate data structure as applied to specified problem definition?
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO6	To what extent you are able to understand the concept of trees and graphs and their implementation using basic data structures and algorithms?
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>

CO->PO MAPPING - INMCA209 - Introduction to Data Structures

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	2		2				1				2
CO2	3	1	3	2	1		1		1			
CO3	2	2	2							1		
CO4		2	2		2							
CO5	3	2	1	2	1			1				1
CO6	3		1	2				1				1

CO->PSO MAPPING - INMCA209 - Introduction to Data Structures

CO/PSO	PSO1	PSO2	PSO3
CO1	2	1	2
CO2	2		
CO3		2	1
CO4	1		2
CO5	3		
CO6	1		1

COURSE->PO MAPPING - INMCA209 - Introduction to Data Structures

INMCA209/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	2	3	2	2		1	1	1	1		2

COURSE->PSO MAPPING - INMCA209 - Introduction to Data Structures

INMCA209/PSO	PSO1	PSO2	PSO3
	3	2	2

INMCA231

Course Code	Course Name	L-T-P:C	Year of Introduction
INMCA231	Basic Data Structures Lab	0-0-6:1	2016

No.	Course Outcome - INMCA231 - Basic Data Structures Lab	Target
CO1	Analyze and evaluate Arrays and its operations.	61%
CO2	Implement Linked Data structures and use it in problem solving	61%
CO3	Solve problem systematically with Stack data structure	61%
CO4	Solve problem systematically with Queue data structure	61%
CO5	Handle operations like searching, sorting, insertion, deletion, traversing mechanism etc. on various data structures.	61%
CO6	Solve problem systematically with Tree and Graph data structure	61%

COURSE END SURVEY - INMCA231 - Basic Data Structures Lab

Sl.No	Questions & Options
CO1	To what extent you are able to evaluate Arrays and its operations.
	Answer Choice- 5 out of 5/4 out of 5/3 out of 5/2 out of 5/1 out of 5

CO2	To what extent you are able to implement Linked Data structures and use it in problem solving
	Answer Choice- 5 out of 5/4 out of 5/3 out of 5/2 out of 5/1 out of 5
CO3	To what extent you can solve problem systematically with Stack data structure
	Answer Choice- 5 out of 5/4 out of 5/3 out of 5/2 out of 5/1 out of 5
CO4	To what extent you can solve problem systematically with Queue data structure
	Answer Choice- 5 out of 5/4 out of 5/3 out of 5/2 out of 5/1 out of 5
CO5	To what extent you can handle operations like like searching, sorting, insertion, deletion, traversing mechanism etc. on various data structures.
	Answer Choice- 5 out of 5/4 out of 5/3 out of 5/2 out of 5/1 out of 5
CO6	To what extent you can solve problem systematically with Tree and Graph data structure
	Answer Choice- 5 out of 5/4 out of 5/3 out of 5/2 out of 5/1 out of 5

CO->PO MAPPING - INMCA231 - Basic Data Structures Lab

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2					1						
CO2		3					1					
CO3			3						2			
CO4				3				1				
CO5		2			2							
CO6			3	2			1					

CO->PSO MAPPING - INMCA231 - Basic Data Structures Lab

CO/PSO	PSO1	PSO2	PSO3
CO1	2		1
CO2		1	2
CO3			2
CO4			3
CO5	3	2	
CO6		3	

COURSE->PO MAPPING - INMCA231 - Basic Data Structures Lab

INMCA231/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	2	3	3	3	2	1	1	1	2			

COURSE->PSO MAPPING - INMCA231 - Basic Data Structures Lab

INMCA231/PSO	PSO1	PSO2	PSO3
	3	3	3

INMCA233

Course Code	Course Name	L-T-P:C	Year of Introduction
INMCA233	Basic Object Oriented Programming Lab	0-0-4:1	2016

No.	Course Outcome - INMCA233 - Basic Object Oriented Programming Lab	Target
CO1	Describe the important concepts of object oriented programming like object and class, encapsulation, inheritance and polymorphism	62.5%
CO2	Use features of C++ like type conversion, inheritance, polymorphism, I/O streams and files to develop programs for real life problems	62.5%
CO3	Use advance features like templates and exception to make programs supporting reusability and sophistication	60.5%
CO4	Use standard template library for faster development	62.5%
CO5	Demonstrate the applications using object oriented programming with C++	62.5%
CO6	Design new algorithms or modify existing algorithms in problem solving	62.5%

COURSE END SURVEY - INMCA233 - Basic Object Oriented Programming Lab

Sl.No	Questions & Options
CO1	To what extent you are able to use the important concepts of object oriented programming like object and class, encapsulation, inheritance and polymorphism Answer Choice- <i>Very frequently/Frequently/Rarely Very rarely/Never</i>
CO2	To what extent you are able to use the features of C++ like type conversion, inheritance, polymorphism, I/O streams and files to develop programs for real life problems Answer Choice- <i>Very advanced/Advanced/Proficient/Basic/ Minimal</i>
CO3	To what extent you are able to use the advance features like templates and exception to make programs supporting reusability and sophistication Answer Choice- <i>Always/Very often/Sometimes/Rarely/Never</i>
CO4	To what extent you are able to use the standard template library for faster development Answer Choice- <i>Always/Very often/Sometimes/Rarely/Never</i>
CO5	To what extent you are able to understand the applications using object oriented programming with C++ Answer Choice- <i>Very frequently/Frequently/Rarely Very rarely/Never</i>
CO6	To what extent you are able to design new algorithms or modify existing algorithms in problem solving

Answer Choice- *Very frequently/Frequently/Rarely Very rarely/Never*

CO->PO MAPPING - INMCA233 - Basic Object Oriented Programming Lab

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	1	2	3									
CO2		1				2						
CO3			3									2
CO4					1				3			
CO5	1		2								2	
CO6	2		2									

CO->PSO MAPPING - INMCA233 - Basic Object Oriented Programming Lab

CO/PSO	PSO1	PSO2	PSO3
CO1	2		
CO2		2	
CO3	3		2
CO4			1
CO5			
CO6			3

COURSE->PO MAPPING - INMCA233 - Basic Object Oriented Programming Lab

INMCA233/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	2	2	3		1	2			3		2	2

COURSE->PSO MAPPING - INMCA233 - Basic Object Oriented Programming Lab

INMCA233/PSO	PSO1	PSO2	PSO3
	3	2	3

INMCA203

Course Code	Course Name	L-T-P:C	Year of Introduction
INMCA203	Probability and Statistics	3-1-0:4	2016

No.	Course Outcome - INMCA203 - Probability and Statistics	Target
CO1	Interpret a set of descriptive Statistics including measures of Central Tendency and measures of Dispersion	60%

CO2	Understand moments as a convenient method for summarizing several descriptive Statistical methods	60%
CO3	Describe the nature of the relationship between two variables	60%
CO4	Understand the basic principles of Probability	60%
CO5	Understand random variables and probability distributions;	60%
CO6	Apply theoretical distributions to various real world problems	60%

COURSE END SURVEY - INMCA203 - Probability and Statistics

Sl.No	Questions & Options
CO1	How much are you able to interpret a set of descriptive Statistics including measures of Central Tendency and measures of Dispersion
	Answer Choice- <i>Very frequently/Frequently/Rarely Very rarely/Never</i>
CO2	How much are you able to understand moments as a convenient method for summarizing several descriptive Statistical methods
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO3	How much are you able to describe the nature of the relationship between two variables
	Answer Choice- <i>Always/Very often/Sometimes/Rarely/Never</i>
CO4	How much are you able to understand the basic principles of Probability?
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO5	How much are you able to understand random variables and probability distributions
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO6	How much are you able to apply theoretical distributions to various real world problems
	Answer Choice- <i>Always/Very often/Sometimes/Rarely/Never</i>

CO->PO MAPPING - INMCA203 - Probability and Statistics

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	3		1	2					3	2	
CO2	3	3		1	2					3	2	
CO3	3	3		1	2					3	2	
CO4	3	3		1	2					3	2	
CO5	3	3		1	2					3	2	
CO6	3	3		1	2					3	2	

CO->PSO MAPPING - INMCA203 - Probability and Statistics

CO/PSO	PSO1	PSO2	PSO3
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CO1	2		
CO2	2		
CO3	2		
CO4	2		
CO5	2		
CO6	2		

COURSE->PO MAPPING - INMCA203 - Probability and Statistics

INMCA203/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	3		1	2					3	2	

COURSE->PSO MAPPING - INMCA203 - Probability and Statistics

INMCA203/PSO	PSO1	PSO2	PSO3
	2		

INMCA207

Course Code	Course Name	L-T-P:C	Year of Introduction
INMCA207	Accounting and Financial Management	3-1-0:4	2016

No.	Course Outcome - INMCA207 - Accounting and Financial Management	Target
CO1	Develop basic understanding of financial management functions	60.2%
CO2	Explain how financial statement analysis can be used for decision making	60.2%
CO3	Develop an ability to use accounting information to solve different business problems	60.2%
CO4	Use different terminology and concepts in identifying and classifying cost	60.2%
CO5	familiarise with the Indian financial system	60.2%
CO6	Analyse different financial sources	60.2%

COURSE END SURVEY - INMCA207 - Accounting and Financial Management

Sl.No	Questions & Options
CO1	To what extent students are able to develop basic understanding of financial management functions
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO2	To what extent students are able to explain how financial statement analysis can be used for decision making
	Answer Choice- <i>Very high degree/High Degree/Moderate degree/Small Degree/Not at all</i>

CO3	To what extent students are able to develop an ability to use accounting information to solve different business problems
	Answer Choice- <i>Very high degree/High Degree/Moderate degree/Small Degree/Not at all</i>
CO4	To what extent students are able to use different terminology and concepts in identifying and classifying cost
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO5	To what extent students are able to familiarize Indian financial system
	Answer Choice- <i>Very high degree/High Degree/Moderate degree/Small Degree/Not at all</i>
CO6	To what extent students are able to analyse different financial sources
	Answer Choice- <i>Very high degree/High Degree/Moderate degree/Small Degree/Not at all</i>

CO->PO MAPPING - INMCA207 - Accounting and Financial Management

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1									3	1	2	
CO2									1	1	3	
CO3									1	1	2	
CO4									2	1		
CO5										1		
CO6									1	1	1	

CO->PSO MAPPING - INMCA207 - Accounting and Financial Management

CO/PSO	PSO1	PSO2	PSO3
CO1			
CO2			2
CO3			3
CO4			
CO5			
CO6			1

COURSE->PO MAPPING - INMCA207 - Accounting and Financial Management

INMCA207/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
									3	1	3	

COURSE->PSO MAPPING - INMCA207 - Accounting and Financial Management

INMCA207/PSO	PSO1	PSO2	PSO3
			3

20INMCA201

Course Code	Course Name	L-T-P:C	Year of Introduction
20INMCA201	Computer Organization	3-1-0:4	2020

No.	Course Outcome - 20INMCA201 - Computer Organization	Target
CO1	Understand the internal organization and operations of a computer	71%
CO2	Examine the different types of control logic designs in processors.	71%
CO3	Understand arithmetic procedures used in the design of the Arithmetic Logic Unit.	71%
CO4	Analyze Input/Output (I/O) management from the perspective of a processor.	71%
CO5	Distinguish the organization of various parts of a system memory hierarchy	71%

COURSE END SURVEY - 20INMCA201 - Computer Organization

Sl.No	Questions & Options
CO1	To what extend you are able to understand the internal organization and operations of a computer
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO2	To what extend you are able to examine the different types of control logic designs in processors.
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO3	To what extend you are able to understand arithmetic procedures used in the design of the Arithmetic Logic Unit.
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO4	To what extend you are able to analyze Input/Output (I/O) management from the perspective of a processor.
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO5	To what extend you are able to distinguish the organization of various parts of a system memory hierarchy
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>

CO->PO MAPPING - 20INMCA201 - Computer Organization

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	1	3	2	1		2	2	1	1		
CO2	3	2	3	2	2					2	1	1
CO3	3	3	3	3		1		2				2
CO4	3	3	3	2	2	2	2			2		
CO5	3	2	3	2		1	2	1		2	1	1

CO->PSO MAPPING - 20INMCA201 - Computer Organization

CO/PSO	PSO1	PSO2	PSO3
CO1			
CO2			
CO3			
CO4			
CO5			

COURSE->PO MAPPING - 20INMCA201 - Computer Organization

20INMCA201/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	3	3	3	2	2	2	2	1	2	1	2

COURSE->PSO MAPPING - 20INMCA201 - Computer Organization

20INMCA201/PSO	PSO1	PSO2	PSO3

20INMCA207

Course Code	Course Name	L-T-P:C	Year of Introduction
20INMCA207	Accounting and Financial Management	3-1-0:4	2020

No.	Course Outcome - 20INMCA207 - Accounting and Financial Management	Target
CO1	To equip students to gain knowledge on Financial management	71%
CO2	To analyse theoretical and practical aspects of ratio analysis and prepare Fund Flow Statement	71%
CO3	Prepare cash flow statement	71%
CO4	Implement various cost control measures	71%
CO5	Understand Indian Financial system and short term money market	71%
CO6	Take decision related to capital markets and long term sources	71%

COURSE END SURVEY - 20INMCA207 - Accounting and Financial Management

Sl.No	Questions & Options
CO1	To what extent students were able to gain knowledge on Financial management
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO2	To what extent students were able to analyse theoretical and practical aspects of ratio analysis and prepare Fund Flow Statement

	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO3	To what extend students are able to prepare cash flow statement
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO4	To what extend students are able to implement various cost control measures
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO5	To what extend students are able to Understand Indian financial system and short term money market
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO6	To what extend students are able to take decision related to capital markets and long term sources
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>

CO->PO MAPPING - 20INMCA207 - Accounting and Financial Management

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1								3	1			2
CO2									1			2
CO3								3	1			2
CO4								3	1			2
CO5								3	1			2
CO6								3	1			2

CO->PSO MAPPING - 20INMCA207 - Accounting and Financial Management

CO/PSO	PSO1	PSO2	PSO3
CO1			2
CO2			2
CO3			2
CO4			2
CO5			2
CO6			2

COURSE->PO MAPPING - 20INMCA207 - Accounting and Financial Management

20INMCA207/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
								3	1			2

COURSE->PSO MAPPING - 20INMCA207 - Accounting and Financial Management

	PSO1	PSO2	PSO3

20INMCA207/PSO			2
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20INMCA205

Course Code	Course Name	L-T-P:C	Year of Introduction
20INMCA205	Introduction to Object Oriented Programming	3-1-0:4	2020

No.	Course Outcome - 20INMCA205 - Introduction to Object Oriented Programming	Target
CO1	Understand the object oriented programming fundamentals	62.1%
CO2	Understand the dynamic memory management techniques using pointers, constructors and destructors	62.1%
CO3	Apply the various object-oriented concepts to solve real life problems	62.1%
CO4	Illustrate how stream classes support input/output operations in C++	62.1%
CO5	Demonstrate the advanced programming concepts templates and exception handling	62.1%

COURSE END SURVEY - 20INMCA205 - Introduction to Object Oriented Programming

Sl.No	Questions & Options
CO1	To what extent you are able to understand the object oriented programming fundamentals
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO2	To what extent you are able to Understand the dynamic memory management techniques using pointers, constructors and destructors
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO3	To what extend you are able to Apply the various object-oriented concepts to solve real life problems
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO4	To what extend you are able to Illustrate how stream classes support input/output operations in C++
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO5	To what extend you are able to Demonstrate the advanced programming concepts templates and exception handling
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>

CO->PO MAPPING - 20INMCA205 - Introduction to Object Oriented Programming

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	3	1		1		2	2	1		1	
CO2	3	1	1		1		1					
CO3	3	3	3	1		1	2	1			1	1

CO4	3	1	1		1							
CO5	1	1	3		2							

CO->PSO MAPPING - 20INMCA205 - Introduction to Object Oriented Programming

CO/PSO	PSO1	PSO2	PSO3
CO1	2	3	2
CO2	1		2
CO3	3	1	2
CO4	1		
CO5	1	3	

COURSE->PO MAPPING - 20INMCA205 - Introduction to Object Oriented Programming

20INMCA205/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	3	3	1	2	1	2	2	1		1	1

COURSE->PSO MAPPING - 20INMCA205 - Introduction to Object Oriented Programming

20INMCA205/PSO	PSO1	PSO2	PSO3
	3	3	2

20INMCA209

Course Code	Course Name	L-T-P:C	Year of Introduction
20INMCA209	Data Structures	3-1-0:4	2020

No.	Course Outcome - 20INMCA209 - Data Structures	Target
CO1	Relate which algorithm or data structure to use in different scenarios	61%
CO2	Implement standard algorithms for searching and sorting	61%
CO3	Use appropriate data structure and algorithms to solve a problem using Linear List;	61%
CO4	Implement applications using basic data structures such as array, stack, queue	61%
CO5	Analyse the concept of trees and graphs and their implementation using basic data structures and algorithms	61%

COURSE END SURVEY - 20INMCA209 - Data Structures

Sl.No	Questions & Options
CO1	To what extent you are able to analyze which algorithm or data structure to use in different scenarios
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>

CO2	To what extend you are able to implement standard algorithms for searching and sorting?
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO3	To what extend you are able to Use appropriate data structure and algorithms to solve a problem using Linear List?
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO4	To what extend you are able to implement applications using basic data structures such as array, stack, queue?
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO5	To what extend you are able to analyse the concept of trees and graphs and their implementation using basic data structures and algorithms
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>

CO->PO MAPPING - 20INMCA209 - Data Structures

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	3	3	1	2	2	1				1	
CO2	3	3	3	1	2	2	1				1	
CO3	3	3	3	1	2	2	1		1		1	
CO4	3	3	3	1	2	2	1		1		1	
CO5	3	3	3	1	2	2	1		1		1	

CO->PSO MAPPING - 20INMCA209 - Data Structures

CO/PSO	PSO1	PSO2	PSO3
CO1	3	2	1
CO2	3	2	1
CO3	3	2	1
CO4	3	2	1
CO5	3	2	1

COURSE->PO MAPPING - 20INMCA209 - Data Structures

20INMCA209/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	3	3	1	2	2	1		1		1	

COURSE->PSO MAPPING - 20INMCA209 - Data Structures

20INMCA209/PSO	PSO1	PSO2	PSO3
	3	2	1

20INMCA231

Course Code	Course Name	L-T-P:C	Year of Introduction
20INMCA231	Data Structures Lab	0-0-5:1	2020

No.	Course Outcome - 20INMCA231 - Data Structures Lab	Target
CO1	Implement abstract data types using arrays	72%
CO2	Apply Algorithm for solving problems like sorting and searching	72%
CO3	Implement various types of linked lists and their applications	72%
CO4	Apply the different linear data structures like stack and queue to various computing problems	72%
CO5	Solve problems using nonlinear data structures	72%
CO6	Solve problems using Graph	72%

COURSE END SURVEY - 20INMCA231 - Data Structures Lab

Sl.No	Questions & Options
CO1	To what extend you are able to implement abstract data types using arrays
	Answer Choice- <i>Always/Very often/Sometimes/Rarely/Never</i>
CO2	To what extend you are able to apply Algorithm for solving problems like sorting and searching
	Answer Choice- <i>Always/Very often/Sometimes/Rarely/Never</i>
CO3	To what extend you are able to implement various types of linked lists and their applications
	Answer Choice- <i>Very frequently/Frequently/Rarely Very rarely/Never</i>
CO4	To what extend you are able to apply the different linear data structures like stack and queue to various computing problems
	Answer Choice- <i>Always/Very often/Sometimes/Rarely/Never</i>
CO5	To what extend you are able to solve problems using nonlinear data structures
	Answer Choice- <i>Always/Very often/Sometimes/Rarely/Never</i>
CO6	To what extend you are able to solve problems using Graph data structure
	Answer Choice- <i>Always/Very often/Sometimes/Rarely/Never</i>

CO->PO MAPPING - 20INMCA231 - Data Structures Lab

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1												
CO2												
CO3												

CO4												
CO5												
CO6												

CO->PSO MAPPING - 20INMCA231 - Data Structures Lab

CO/PSO	PSO1	PSO2	PSO3
CO1			
CO2			
CO3			
CO4			
CO5			
CO6			

COURSE->PO MAPPING - 20INMCA231 - Data Structures Lab

20INMCA231/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12

COURSE->PSO MAPPING - 20INMCA231 - Data Structures Lab

20INMCA231/PSO	PSO1	PSO2	PSO3

20INMCA233

Course Code	Course Name	L-T-P:C	Year of Introduction
20INMCA233	Basic Object Oriented Programming Lab	0-0-4:1	2020

No.	Course Outcome - 20INMCA233 - Basic Object Oriented Programming Lab	Target
CO1	Understand the difference between procedural and object oriented programming	62.1%
CO2	Recognize and understand the syntax and construction of object oriented programming language with functions	62.1%
CO3	Create applications using constructors and destructors	62.1%
CO4	Apply various inheritance concepts and polymorphism in programming	62.1%
CO5	Use advanced features like templates and exception handling	62.1%

COURSE END SURVEY - 20INMCA233 - Basic Object Oriented Programming Lab

Sl.No	Questions & Options

CO1	To what extent you are able to Understand the difference between procedural and object oriented programming
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO2	To what extent you are able to Recognize and understand the syntax and construction of object oriented programming language with functions
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO3	To what extent you are able to Create applications using constructors and destructors
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO4	To what extent you are able to Apply various inheritance concepts and polymorphism in programming
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO5	To what extent you are able to Use advanced features like templates and exception handling
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>

CO->PO MAPPING - 20INMCA233 - Basic Object Oriented Programming Lab

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	3	1	1	2		2	1	1			
CO2	3	3	3	2	1		2	1				
CO3	2	2	1	1	2							
CO4	3	3	2		2							
CO5	3	2			1							

CO->PSO MAPPING - 20INMCA233 - Basic Object Oriented Programming Lab

CO/PSO	PSO1	PSO2	PSO3
CO1	1		1
CO2	3	2	
CO3	2	1	1
CO4	2	2	
CO5			1

COURSE->PO MAPPING - 20INMCA233 - Basic Object Oriented Programming Lab

20INMCA233/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	3	3	2	2		2	1	1			

COURSE->PSO MAPPING - 20INMCA233 - Basic Object Oriented Programming Lab

	PSO1	PSO2	PSO3

20INMCA233/PSO	3	2	1
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20INMCA203

Course Code	Course Name	L-T-P:C	Year of Introduction
20INMCA203	Probability and Statistics	3-1-0:4	2020

No.	Course Outcome - 20INMCA203 - Probability and Statistics	Target
CO1	Evaluate various measures of central tendency and dispersion	60%
CO2	Understand the concepts of permutations and combinations.	60%
CO3	Apply concept of probability theory to solve different real life problems	60%
CO4	Describe random variables, discrete probability distributions and related problems	60%
CO5	Analyze various continuous probability distributions in solving different problems.	60%

COURSE END SURVEY - 20INMCA203 - Probability and Statistics

Sl.No	Questions & Options
CO1	To what extent are you able to evaluate various measures of central tendency and dispersion
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO2	To what extent you are able to understand the concepts of permutations and combinations.
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO3	To what extent you are able to apply concept of probability theory to solve different real life problems
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO4	To what extent you are able to describe random variables, discrete probability distributions and related problems
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO5	To what extent you are able to analyze various continuous probability distributions in solving different problems.
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>

CO->PO MAPPING - 20INMCA203 - Probability and Statistics

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	3	1	3			1					
CO2	3	3	1	3			1					
CO3	3	3	1	3			1					

CO4	3	3	1	3			1					
CO5	3	3	1	3			1					

CO->PSO MAPPING - 20INMCA203 - Probability and Statistics

CO/PSO	PSO1	PSO2	PSO3
CO1	2		
CO2	2		
CO3	2		
CO4	2		
CO5	2		

COURSE->PO MAPPING - 20INMCA203 - Probability and Statistics

20INMCA203/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	3	1	3			1					

COURSE->PSO MAPPING - 20INMCA203 - Probability and Statistics

20INMCA203/PSO	PSO1	PSO2	PSO3
	2		

SEMESTER-4**INMCA202**

Course Code	Course Name	L-T-P:C	Year of Introduction
INMCA202	Introduction to Visual Programming	3-1-0:4	2016

No.	Course Outcome - INMCA202 - Introduction to Visual Programming	Target
CO1	Explain the advantages of .NET technology, Architecture and common run time environments	61.5%
CO2	Analyse and evaluate the use of various datatypes and data structures	61.5%
CO3	Practice decision structures and loop structures for determining different operations and to perform repetitive tasks	62.1%
CO4	Construct and debug Visual Basic applications	65.5%
CO5	Construct and Deploy Windows and Web applications	61.5%
CO6	Construct GUI programming with database application	61.5%

COURSE END SURVEY - INMCA202 - Introduction to Visual Programming

Sl.No	Questions & Options
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CO1	To what extent you are able to explain the role of .NET framework in software Industry?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO2	To what extent you are able to demonstrate the relevance of datatypes and Data structures
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO3	To what extent you are able to apply and demonstrate looping and branching concepts
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO4	To what extent you are able to construct and debug windows application in VB.NET
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO5	To what extent you are able to construct and deploy windows application in VB.Net
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO6	To what extent you are able to construct GUI programming with database application in VB.Net
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>

CO->PO MAPPING - INMCA202 - Introduction to Visual Programming

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1						3	2					1
CO2	1	2	2									
CO3				2					2			
CO4					2			1				
CO5					3					1		
CO6	2		3								1	

CO->PSO MAPPING - INMCA202 - Introduction to Visual Programming

CO/PSO	PSO1	PSO2	PSO3
CO1	2	3	3
CO2	2	2	
CO3	3	2	
CO4	2		2
CO5		2	2
CO6	2	2	2

COURSE->PO MAPPING - INMCA202 - Introduction to Visual Programming

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12

INMCA202/PO	2	2	3	2	3	3	2	1	2	1	1	1
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COURSE->PSO MAPPING - INMCA202 - Introduction to Visual Programming

INMCA202/PSO	PSO1	PSO2	PSO3
	3	3	3

INMCA204

Course Code	Course Name	L-T-P:C	Year of Introduction
INMCA204	Applied Statistics	3-1-0:4	2016

No.	Course Outcome - INMCA204 - Applied Statistics	Target
CO1	Analyse time series.	60%
CO2	Estimate sample parameters using different methods .	60%
CO3	Explain the concept of statistical inference.	60%
CO4	Estimate parameters for small samples.	60%
CO5	Use various statistical control units and sampling plans.	60%
CO6	Set up an analysis of variance.	60%

COURSE END SURVEY - INMCA204 - Applied Statistics

Sl.No	Questions & Options
CO1	To what extent you can analyse a Time series?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO2	To what extent you can apply different estimation methods?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO3	To what extent you can make an inference after testing a hypothesis?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO4	To what extent you can apply testing of hypothesis for small samples?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO5	To what extent you can use various statistical control units and sampling plans?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO6	To what extent you can set up an analysis of variance?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>

CO->PO MAPPING - INMCA204 - Applied Statistics

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	3		3								1
CO2	3	3		3								1
CO3	3	3		3								1
CO4	3	3		3								1
CO5	3	3		3								1
CO6	3	3		3								1

CO->PSO MAPPING - INMCA204 - Applied Statistics

CO/PSO	PSO1	PSO2	PSO3
CO1	3		
CO2	3		
CO3	3		
CO4	3		
CO5	3		
CO6	3		

COURSE->PO MAPPING - INMCA204 - Applied Statistics

INMCA204/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	3		3								1

COURSE->PSO MAPPING - INMCA204 - Applied Statistics

INMCA204/PSO	PSO1	PSO2	PSO3
	3		

INMCA206

Course Code	Course Name	L-T-P:C	Year of Introduction
INMCA206	Introduction to Operating Systems	3-1-0:4	2016

No.	Course Outcome - INMCA206 - Introduction to Operating Systems	Target
CO1	Analyze the basic types and functionalities of OS and its working.	62%
CO2	Analyze the concept of process and its scheduling.	62%
CO3	Explain process synchronization, deadlock detection and prevention methods.	62%

CO4	Relate the mechanisms involved in memory management in contemporary OS	62%
CO5	Interpret the concepts and implementation of virtual memory and disk management.	62%
CO6	Interpret the mechanisms adopted for file sharing in distributed applications.	62%

COURSE END SURVEY - INMCA206 - Introduction to Operating Systems

Sl.No	Questions & Options
CO1	To what extent you are able to analyze the basic types and functionalities of OS and its working?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO2	To what extent you are able to analyze the concept of processes and its scheduling?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO3	To what extent you are able to explain process synchronization, deadlock detection and its prevention methods?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO4	To what extent you are able to relate the mechanisms involved in memory management in contemporary OS?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO5	To what extent you are able to interpret the concepts and implementation of virtual memory and disk management?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO6	To what extent you are able to interpret the mechanisms adopted for file sharing in distributed applications?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>

CO->PO MAPPING - INMCA206 - Introduction to Operating Systems

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	3										1
CO2	3	2			1							1
CO3	3	2			2							1
CO4	3	2			1							1
CO5	3	1			2							1
CO6	2	2			1							1

CO->PSO MAPPING - INMCA206 - Introduction to Operating Systems

CO/PSO	PSO1	PSO2	PSO3
CO1	1	1	1
CO2	2	3	1

CO3	1	3	1
CO4	3	3	1
CO5	2	2	1
CO6	1	1	1

COURSE->PO MAPPING - INMCA206 - Introduction to Operating Systems

INMCA206/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	3			2							1

COURSE->PSO MAPPING - INMCA206 - Introduction to Operating Systems

INMCA206/PSO	PSO1	PSO2	PSO3
	3	3	1

INMCA208

Course Code	Course Name	L-T-P:C	Year of Introduction
INMCA208	Elements of Business Management	3-1-0:4	2016

No.	Course Outcome - INMCA208 - Elements of Business Management	Target
CO1	Describe managerial skills and explain managerial function	61%
CO2	Apply management theories and practices	65.1%
CO3	Differentiate organisational structure and examine relationship among departments.	65.1%
CO4	Explain staffing and related human resource development function.	61%
CO5	Demonstrate leadership skills and choose control techniques for teams	61%
CO6	Design and apply marketing strategies	61%

COURSE END SURVEY - INMCA208 - Elements of Business Management

Sl.No	Questions & Options
CO1	To what extent you are able to describe managerial skills and explain managerial function
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO2	To what extent you are able to apply management theories and practices
	Answer Choice- <i>Very high degree/High Degree/Moderate degree/Small Degree/Not at all</i>
CO3	To what extent you are able to differentiate organisational structure and examine relationship among departments.
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>

CO4	To what extent you are able to explain staffing and related human resource development function
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO5	To what extent you are able to demonstrate leadership skills and choose control techniques for team
	Answer Choice- <i>Very high degree/High Degree/Moderate degree/Small Degree/Not at all</i>
CO6	To what extent you are able to design and apply marketing strategies
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>

CO->PO MAPPING - INMCA208 - Elements of Business Management

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1				1	1	1		1	3	1	2	1
CO2								2	3		1	
CO3	1				1				3	1	2	1
CO4			1		1	1		2	3		3	
CO5			1		1	1			3	1	3	1
CO6		1			1	1		2	2	1	1	

CO->PSO MAPPING - INMCA208 - Elements of Business Management

CO/PSO	PSO1	PSO2	PSO3
CO1	2	2	2
CO2	2		2
CO3	2	2	2
CO4			2
CO5	2		2
CO6	2		2

COURSE->PO MAPPING - INMCA208 - Elements of Business Management

INMCA208/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	1	1	1	1	1	1		2	3	1	3	1

COURSE->PSO MAPPING - INMCA208 - Elements of Business Management

INMCA208/PSO	PSO1	PSO2	PSO3
	2	2	2

INMCA212

Course Code	Course Name	L-T-P:C	Year of Introduction
INMCA212	Internet Concepts and Web Design	3-1-0:4	2016

No.	Course Outcome - INMCA212 - Internet Concepts and Web Design	Target
CO1	Differentiate the terminology and concepts of the OSI reference model and the TCP-IP reference model and protocols	62.5%
CO2	Experiment and practice to register domain names, URL, port number and concepts of internet service protocols	62.5%
CO3	Applying elementary tags in HTML 5	62%
CO4	Applying graphics, image and color management tags in HTML 5	62%
CO5	Applying CSS style to page elements	62%
CO6	Experimenting and applying JavaScript as an interactive tool for web development	62%

COURSE END SURVEY - INMCA212 - Internet Concepts and Web Design

Sl.No	Questions & Options
CO1	To what extent you are able to differentiate the terminology and concepts of the OSI.reference model and the TCP-IP reference model and protocols
	Answer Choice- 5 out of 5/4 out of 5/3 out of 5/2 out of 5/1 out of 5
CO2	To what extent you are able to explain registering domain names, URL, port number and concepts of internet service protocols
	Answer Choice- 5 out of 5/4 out of 5/3 out of 5/2 out of 5/1 out of 5
CO3	To what extent you are able to apply elementary tags in HTML 5
	Answer Choice- 5 out of 5/4 out of 5/3 out of 5/2 out of 5/1 out of 5
CO4	To what extent you are able to apply graphics, image and color management tags in HTML 5
	Answer Choice- 5 out of 5/4 out of 5/3 out of 5/2 out of 5/1 out of 5
CO5	To what extent you are able to apply style rules to page elements
	Answer Choice- Excellent/Very Good/Good Satisfactory/Needs improvement
CO6	To what extent you are able to apply JavaScript as an interactive tool for web development
	Answer Choice- Excellent/Very Good/Good/Fair/Poor

CO->PO MAPPING - INMCA212 - Internet Concepts and Web Design

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1		1	1	1		1		1		1	1	1
CO2	1	1	1	1	2	1		1	1	1	2	1

CO3		1	1	1	1	1	1		1	1	2	2
CO4		1	1	1	1	1	1			1	2	1
CO5			1	1	1	1	1	1	1	1	2	1
CO6			1	1	1	1	1		1	1	2	2

CO->PSO MAPPING - INMCA212 - Internet Concepts and Web Design

CO/PSO	PSO1	PSO2	PSO3
CO1	1	1	1
CO2	2		1
CO3	1		
CO4	1	1	
CO5	1	1	1
CO6	1	1	1

COURSE->PO MAPPING - INMCA212 - Internet Concepts and Web Design

INMCA212/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	1	1	1	1	2	1	1	1	1	1	2	2

COURSE->PSO MAPPING - INMCA212 - Internet Concepts and Web Design

INMCA212/PSO	PSO1	PSO2	PSO3
	2	1	1

INMCA232

Course Code	Course Name	L-T-P:C	Year of Introduction
INMCA232	Visual Programming Lab	0-0-6:1	2016

No.	Course Outcome - INMCA232 - Visual Programming Lab	Target
CO1	Explain the advantages of .NET technology, Architecture and common run time environments	67%
CO2	Analyse and evaluate the use of various datatypes and data structures	70.1%
CO3	Practice decision structures and loop structures for determining different operations and to perform repetitive tasks	70.1%
CO4	Construct and debug Visual Basic applications	75.1%
CO5	Construct and Deploy Windows and Web applications	75.5%
CO6	Construct GUI programming with database application	71.5%

COURSE END SURVEY - INMCA232 - Visual Programming Lab

Sl.No	Questions & Options
CO1	To what extent you are able to explain the role of .NET framework in software Industry?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO2	To what extent you are able to demonstrate the relevance of datatypes and Data structures?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO3	To what extent you are able to apply and demonstrate looping and branching concepts?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO4	To what extent you are able to construct and debug windows application in VB.NET?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO5	To what extent you are able to construct and deploy windows application in VB.Net?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO6	To what extent you are able to construct GUI programming with database application in VB.Net?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>

CO->PO MAPPING - INMCA232 - Visual Programming Lab

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1						3	2					1
CO2	1	2	2									
CO3				2					2			
CO4					2			1				
CO5					3					1		
CO6	2		3								1	

CO->PSO MAPPING - INMCA232 - Visual Programming Lab

CO/PSO	PSO1	PSO2	PSO3
CO1	2		
CO2	2	2	
CO3	2	2	
CO4	2		2
CO5		2	2
CO6	2	2	2

COURSE->PO MAPPING - INMCA232 - Visual Programming Lab

INMCA232/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	2	2	3	2	3	3	2	1	2	1	1	1

COURSE->PSO MAPPING - INMCA232 - Visual Programming Lab

INMCA232/PSO	PSO1	PSO2	PSO3
	2	2	2

INMCA234

Course Code	Course Name	L-T-P:C	Year of Introduction
INMCA234	Statistics Lab	0-0-4:1	2016

No.	Course Outcome - INMCA234 - Statistics Lab	Target
CO1	Apply statistical methods to real life problems	62%
CO2	Evaluate graphical and numerical summaries of data based on the type of data and the context in which the data is collected	62%
CO3	Apply probability concepts to analyze different data sets	62%
CO4	Analyze sampled data using statistical tests	63%
CO5	Apply various forms of analysis on business data	63%
CO6	Test big data analysis	63%

COURSE END SURVEY - INMCA234 - Statistics Lab

Sl.No	Questions & Options
CO1	To what extent you are able to apply statistical methods to real life problems
	Answer Choice- 5 out of 5/4 out of 5/3 out of 5/2 out of 5/1 out of 5
CO2	To what extent you are able to evaluate graphical and numerical summaries of data based on the type of data and the context in which the data is collected
	Answer Choice- 5 out of 5/4 out of 5/3 out of 5/2 out of 5/1 out of 5
CO3	To what extent you are able to apply probability concepts to analyze different data sets
	Answer Choice- 5 out of 5/4 out of 5/3 out of 5/2 out of 5/1 out of 5
CO4	To what extent you are able to analyze sampled data using statistical tests
	Answer Choice- 5 out of 5/4 out of 5/3 out of 5/2 out of 5/1 out of 5
CO5	To what extent you are able to apply various forms of analysis on business data
	Answer Choice- 5 out of 5/4 out of 5/3 out of 5/2 out of 5/1 out of 5

CO6	To what extent you are able to explain and test big data analysis
	Answer Choice- 5 out of 5/4 out of 5/3 out of 5/2 out of 5/1 out of 5

CO->PO MAPPING - INMCA234 - Statistics Lab

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1				2			2		1		1	
CO2	3		1		2					1		
CO3									2			
CO4	1	3				2		2				1
CO5				2			2		1			
CO6	1		3			1			2		1	

CO->PSO MAPPING - INMCA234 - Statistics Lab

CO/PSO	PSO1	PSO2	PSO3
CO1	2	3	3
CO2	2	2	3
CO3	3	2	2
CO4	2	2	2
CO5	2	2	2
CO6	2	2	2

COURSE->PO MAPPING - INMCA234 - Statistics Lab

INMCA234/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	3	3	2	2	2	2	2	2	1	1	1

COURSE->PSO MAPPING - INMCA234 - Statistics Lab

INMCA234/PSO	PSO1	PSO2	PSO3
	3	3	3

20INMCA202

Course Code	Course Name	L-T-P:C	Year of Introduction
20INMCA202	Linux/ Unix Fundamentals	3-1-0:4	2020

No.	Course Outcome - 20INMCA202 - Linux/ Unix Fundamentals	Target
CO1	Demonstrate the fundamental concepts of open source operating system Linux.	16%

CO2	Understand the basic set of commands and editors of Linux. Create their own shell programs for practical level problems	16%
CO3	Illustrate to manage documents and control process execution.	16%
CO4	Demonstrate the roles and responsibilities of Linux System Administrator.	16%
CO5	Understand different packages and various server commands.	16%

COURSE END SURVEY - 20INMCA202 - Linux/ Unix Fundamentals

Sl.No	Questions & Options
CO1	To what extend you are able to understand the fundamental concepts of open source operating system Linux.
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO2	To what extend you are able to understand the basic set of commands and editors of Linux. Create their own shell programs for practical level problems
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO3	To what extend you are able to illustrate to manage documents and control process execution.
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO4	To what extend you are able to demonstrate the roles and responsibilities of Linux System Administrator.
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO5	To what extend you are able to understand different packages and various server commands.
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>

CO->PO MAPPING - 20INMCA202 - Linux/ Unix Fundamentals

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	3	3	2	2	2	2	1	1		1	1
CO2	3	2	2	2	1	2	2	1	1	1		1
CO3	3	2	2	2	3	2	2	3	1	1		
CO4	3	3	1	2	3	2	1	1	1	1		1
CO5	3	2	2	1	3	1	2	1	1	2		1

CO->PSO MAPPING - 20INMCA202 - Linux/ Unix Fundamentals

CO/PSO	PSO1	PSO2	PSO3
CO1	3	3	1
CO2	2	1	2
CO3	3	2	1
CO4	3	2	2

CO5	3	2	3
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COURSE->PO MAPPING - 20INMCA202 - Linux/ Unix Fundamentals

20INMCA202/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	3	3	2	3	2	2	3	1	2	1	1

COURSE->PSO MAPPING - 20INMCA202 - Linux/ Unix Fundamentals

20INMCA202/PSO	PSO1	PSO2	PSO3
	3	3	3

20INMCA204

Course Code	Course Name	L-T-P:C	Year of Introduction
20INMCA204	Statistical Applications	3-1-0:4	2020

No.	Course Outcome - 20INMCA204 - Statistical Applications	Target
CO1	Analyse practical problems using the principles of correlation	60%
CO2	Analyse practical problems using the principles of regression	60%
CO3	Estimate sample parameters using different methods	60%
CO4	Explain the concept of statistical inference	60%
CO5	Evaluate parameters for small samples	60%

COURSE END SURVEY - 20INMCA204 - Statistical Applications

Sl.No	Questions & Options
CO1	To what extend you are able to analyse practical problems using the principles of correlation
	Answer Choice- <i>Very frequently/Frequently/Rarely Very rarely/Never</i>
CO2	To what extend you are able to analyse practical problems using the principles of regression
	Answer Choice- <i>Very frequently/Frequently/Rarely Very rarely/Never</i>
CO3	To what extend you are able to estimate sample parameters using different methods
	Answer Choice- <i>Very frequently/Frequently/Rarely Very rarely/Never</i>
CO4	To what extend you are able to explain the concept of statistical inference
	Answer Choice- <i>Very frequently/Frequently/Rarely Very rarely/Never</i>
CO5	To what extend you are able to valuate parameters for small samples
	Answer Choice- <i>Very frequently/Frequently/Rarely Very rarely/Never</i>

CO->PO MAPPING - 20INMCA204 - Statistical Applications

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	3		3							1	
CO2	3	3		3							1	
CO3	3	3		3							1	
CO4	3	3		3							1	
CO5	3	3		3							1	

CO->PSO MAPPING - 20INMCA204 - Statistical Applications

CO/PSO	PSO1	PSO2	PSO3
CO1	3		1
CO2	3		1
CO3	3		1
CO4	3		1
CO5	3		1

COURSE->PO MAPPING - 20INMCA204 - Statistical Applications

20INMCA204/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	3		3							1	

COURSE->PSO MAPPING - 20INMCA204 - Statistical Applications

20INMCA204/PSO	PSO1	PSO2	PSO3
	3		1

20INMCA206

Course Code	Course Name	L-T-P:C	Year of Introduction
20INMCA206	Operating Systems	3-1-0:4	2020

No.	Course Outcome - 20INMCA206 - Operating Systems	Target
CO1	Understand the Basic Concept of Operating Systems concepts	60%
CO2	Understand the concepts of process management	60%
CO3	Understand the concepts of process synchronization and deadlock management.	60%
CO4	Understand the concepts of memory management.	60%
CO5	Understand the concepts of I/O and file system management.	60%

COURSE END SURVEY - 20INMCA206 - Operating Systems

Sl.No	Questions & Options
CO1	To what extent you were able to understand the basic concept of Operating Systems concepts
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO2	To what extent you understood the concepts of process management
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO3	To what extent you understood the concepts of process synchronization and deadlock management.
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO4	To what extent you understood the concepts of memory management.
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO5	To what extent you understood the concepts of I/O and file system management.
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>

CO->PO MAPPING - 20INMCA206 - Operating Systems

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	3		2	2		2		3			
CO2	3	3	1	2	3	2	3		3			
CO3	1	2				2	2		3			
CO4	3	1	3	2	2	3	3		2			
CO5												

CO->PSO MAPPING - 20INMCA206 - Operating Systems

CO/PSO	PSO1	PSO2	PSO3
CO1	1		
CO2		2	
CO3			2
CO4			
CO5			

COURSE->PO MAPPING - 20INMCA206 - Operating Systems

20INMCA206/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	3	3	2	3	3	3		3			

COURSE->PSO MAPPING - 20INMCA206 - Operating Systems

20INMCA206/PSO	PSO1	PSO2	PSO3

	1	2	2
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20INMCA208

Course Code	Course Name	L-T-P:C	Year of Introduction
20INMCA208	Elements of Business Management	3-1-0:4	2020

No.	Course Outcome - 20INMCA208 - Elements of Business Management	Target
CO1	Describe management as a process and Critically analyze and evaluate management theories and practice.	60%
CO2	Perform planning and organizing for an organization.	60%
CO3	Do staffing and related human resource development function.	60%
CO4	Take proper decisions to get competitive advantage.	60%
CO5	Describe and analyze basic functions of marketing management.	60%

COURSE END SURVEY - 20INMCA208 - Elements of Business Management

Sl.No	Questions & Options
CO1	To what extent you are able to analyze and evaluate management theories and practice. Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO2	To what an extent you are able to understand the process of planning & organizing followed in a enterprise, by Illustrating different steps in planning. Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO3	To what extent you are able to understand staffing, directing and related human resource development function. Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO4	To what extent you are able to understand Managerial Decision Making and Controlling process. Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO5	To what extent you are able to analyze, evaluate & explain basic functions of marketing management. Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>

CO->PO MAPPING - 20INMCA208 - Elements of Business Management

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1								2				1
CO2								2				1
CO3								2			3	

CO4								2			2	1
CO5								2				1

CO->PSO MAPPING - 20INMCA208 - Elements of Business Management

CO/PSO	PSO1	PSO2	PSO3
CO1			
CO2			
CO3			
CO4			
CO5			

COURSE->PO MAPPING - 20INMCA208 - Elements of Business Management

20INMCA208/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
								2			3	1

COURSE->PSO MAPPING - 20INMCA208 - Elements of Business Management

20INMCA208/PSO	PSO1	PSO2	PSO3

20INMCA210

Course Code	Course Name	L-T-P:C	Year of Introduction
20INMCA210	Internet Concepts and Web Technology	3-1-0:4	2020

No.	Course Outcome - 20INMCA210 - Internet Concepts and Web Technology	Target
CO1	Understand the basic network concepts and domain name systems.	60%
CO2	Understand the architecture of World Wide Web and gain knowledge in the internet service protocols	60%
CO3	Apply tags and elements in HTML for the creation of web page.	60%
CO4	Apply CSS styles to page elements	60%
CO5	Apply JavaScript as an interactive tool for web development	60%

COURSE END SURVEY - 20INMCA210 - Internet Concepts and Web Technology

Sl.No	Questions & Options
CO1	At what extend you are able to understand the basic network concepts and domain name systems.
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>

CO2	At what extend you are able to understand the architecture of World Wide Web and gain knowledge in the internet service protocols
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO3	At what extend you are able to apply tags and elements in HTML for the creation of web pag.e
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO4	At what extend you are able to apply CSS styles to page elements.
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO5	At what extend you are able to apply JavaScript as an interactive tool for web development
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>

CO->PO MAPPING - 20INMCA210 - Internet Concepts and Web Technology

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	1	1			1	1	2	1	1		
CO2	2	1	1	1	1	1	1	2	2	1		
CO3	1		1		1			3				
CO4	1		1		1			3				
CO5	1				1			3				

CO->PSO MAPPING - 20INMCA210 - Internet Concepts and Web Technology

CO/PSO	PSO1	PSO2	PSO3
CO1	2	1	2
CO2	2	2	1
CO3	1		1
CO4	1		
CO5	1		

COURSE->PO MAPPING - 20INMCA210 - Internet Concepts and Web Technology

20INMCA210/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	1	1	1	1	1	1	3	2	1		

COURSE->PSO MAPPING - 20INMCA210 - Internet Concepts and Web Technology

20INMCA210/PSO	PSO1	PSO2	PSO3
	2	2	2

20INMCA232

Course Code	Course Name	L-T-P:C	Year of Introduction
20INMCA232	Scripting Lab	0-0-5:1	2020

No.	Course Outcome - 20INMCA232 - Scripting Lab	Target
CO1	Create animation on a web page and dynamic styles	16%
CO2	Apply and analyse operators, variables, arrays, control structure	16%
CO3	Implement functions ,objects and JavaScript validations in forms	16%
CO4	Use regular expressions for form validation and JavaScript functions	16%
CO5	Implement jQuery AND AJAX in web pages	16%

COURSE END SURVEY - 20INMCA232 - Scripting Lab

Sl.No	Questions & Options
CO1	To what extend you are able to create animation on a web page and dynamic styles
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO2	To what extend you are able to apply and analyse operators, variables, arrays, control structure
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO3	To what extend you are able to implement functions ,objects and JavaScript validations in forms
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO4	To what extend you are able to use regular expressions for form validation and JavaScript functions
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO5	To what extend you are able to Implement jQuery AND AJAX in web pages
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>

CO->PO MAPPING - 20INMCA232 - Scripting Lab

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	2	3	2	3	1	2	3		1	1	3
CO2	3	3	3	3	3	1	2	2	1	2	1	1
CO3	3	2	1	1	3	1	1	2	1	1	2	2
CO4	3	3	3	3	3	3	2	2	1	1	3	2
CO5	3	3	3	2	3	1	1	3	1	1	3	1

CO->PSO MAPPING - 20INMCA232 - Scripting Lab

CO/PSO	PSO1	PSO2	PSO3
CO1	3	3	1

CO2	3	3	1
CO3	3	2	3
CO4	3	3	2
CO5	3	2	3

COURSE->PO MAPPING - 20INMCA232 - Scripting Lab

20INMCA232/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	3	3	3	3	3	2	3	1	2	3	3

COURSE->PSO MAPPING - 20INMCA232 - Scripting Lab

20INMCA232/PSO	PSO1	PSO2	PSO3
	3	3	3

20INMCA234

Course Code	Course Name	L-T-P:C	Year of Introduction
20INMCA234	Statistics Lab	0-0-4:1	2020

No.	Course Outcome - 20INMCA234 - Statistics Lab	Target
CO1	Understand the basics of R and evaluate graphical and numerical summaries of data based on the type of data and the context in which the data is collected.	60%
CO2	Evaluate Measures of central tendency and dispersion	60%
CO3	Understand discrete, continuous probability density functions and special probability distributions in practical situations.	60%
CO4	Use correlation and regression analysis applications for purposes of comparison and prediction.	60%
CO5	Analyse sampled data using statistical tests	60%

COURSE END SURVEY - 20INMCA234 - Statistics Lab

Sl.No	Questions & Options
CO1	To what extent are you able to understand the basics of R and evaluate graphical and numerical summaries of data based on the type of data and the context in which the data is collected.
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO2	To what extent are you able to evaluate Measures of central tendency and dispersion
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO3	To what extent are you able to understand discrete, continuous probability density functions and special probability distributions in practical situations.
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>

CO4	To what extent are you able to use correlation and regression analysis applications for purposes of comparison and prediction.
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO5	To what extent are you able to analyse sampled data using statistical tests
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>

CO->PO MAPPING - 20INMCA234 - Statistics Lab

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	3	1	3	3		1					
CO2	3	3	1	3	3		1					
CO3	3	3	1	3	3		1					
CO4	3	3	1	3	3		1					
CO5	3	3	1	3	3		1					

CO->PSO MAPPING - 20INMCA234 - Statistics Lab

CO/PSO	PSO1	PSO2	PSO3
CO1			
CO2			
CO3			
CO4			
CO5			

COURSE->PO MAPPING - 20INMCA234 - Statistics Lab

20INMCA234/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	3	1	3	3		1					

COURSE->PSO MAPPING - 20INMCA234 - Statistics Lab

20INMCA234/PSO	PSO1	PSO2	PSO3

SEMESTER-5**INMCA303**

Course Code	Course Name	L-T-P:C	Year of Introduction
INMCA303	Introduction to E-Commerce	3-1-0:4	2016

No.	Course Outcome - INMCA303 - Introduction to E-Commerce	Target

CO1	Analyze the basics of e- commerce, m-commerce and to comprehend its potential	62%
CO2	Handle the security issues	62%
CO3	Examine architecture and system design	62.5%
CO4	Critically analyze different e-business models	62.5%
CO5	Comprehend e-payment systems	62.5%
CO6	Distinguish the eCommerce Laws	62.5%

COURSE END SURVEY - INMCA303 - Introduction to E-Commerce

Sl.No	Questions & Options
CO1	To what extent you are able to analyze the basics of e- commerce, m-commerce and to comprehend its potential?
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO2	To what extent you are able to handle the security issues?
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO3	To what extent you are able to examine architecture and system design?
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO4	To what extent you are able to critically analyze different e-business models?
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO5	To what extent you are able to comprehend e-payment systems?
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO6	To what extent you are able to distinguish the eCommerce Laws?
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>

CO->PO MAPPING - INMCA303 - Introduction to E-Commerce

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	2	1				1				1	
CO2	3	2	2	2	1					1		
CO3	2	1	2	1								
CO4	1	2	2			1						1
CO5	2	2	3					1				
CO6	1	1	2	2					1			

CO->PSO MAPPING - INMCA303 - Introduction to E-Commerce

CO/PSO	PSO1	PSO2	PSO3
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CO1	3	2	
CO2	3	3	
CO3	3	2	2
CO4	2	2	2
CO5	2	1	
CO6	3	1	1

COURSE->PO MAPPING - INMCA303 - Introduction to E-Commerce

INMCA303/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	2	3	2	1	1	1	1	1	1	1	1

COURSE->PSO MAPPING - INMCA303 - Introduction to E-Commerce

INMCA303/PSO	PSO1	PSO2	PSO3
	3	3	2

INMCA305

Course Code	Course Name	L-T-P:C	Year of Introduction
INMCA305	Introduction to RDBMS and SQL	3-1-0:4	2016

No.	Course Outcome - INMCA305 - Introduction to RDBMS and SQL	Target
CO1	State the importance of DBMS and describe fundamental elements of a relational data models	60%
CO2	Design ER-models to represent simple database application scenarios	60%
CO3	Generate simple and moderately advanced database queries using Structured Query Language (SQL).	60%
CO4	Develop and manage efficient and effective database applications that requires understanding the fundamentals of database management systems, techniques for the design of databases, and principles of database administration.	60%
CO5	Understand the fundamentals of relational, object-oriented, and distributed database systems including: data models, database architectures, and database manipulations.	60%
CO6	Identify the basic issues of transaction processing, concurrency control ,recovery techniques	60%

COURSE END SURVEY - INMCA305 - Introduction to RDBMS and SQL

Sl.No	Questions & Options
CO1	To what extent you are able to describe fundamental elements of a relational database
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>

CO2	To what extent you are able to design E-R model to represent database application scenarios
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO3	To what extent you are able to use SQL
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO4	To what extent you are able to use the techniques for database design
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO5	To what extent you are able to manage database systems
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO6	To what extent you are able to use database recovery techniques
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>

CO->PO MAPPING - INMCA305 - Introduction to RDBMS and SQL

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1			1			2		3		1	1	2
CO2		2	2	3	1				2	2	1	3
CO3		1	3	2	2	1			2	1		
CO4	1	2	1		2	1	1	1		1	2	
CO5		2	3	1	3		1			2		
CO6	1	1		2	3	1		1	1	2	3	2

CO->PSO MAPPING - INMCA305 - Introduction to RDBMS and SQL

CO/PSO	PSO1	PSO2	PSO3
CO1	2	3	
CO2		2	1
CO3	3	2	1
CO4	1	2	1
CO5	3		
CO6	1	2	1

COURSE->PO MAPPING - INMCA305 - Introduction to RDBMS and SQL

INMCA305/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	1	2	3	3	3	2	1	3	2	2	3	3

COURSE->PSO MAPPING - INMCA305 - Introduction to RDBMS and SQL

INMCA305/PSO	PSO1	PSO2	PSO3
	3	3	1

INMCA331

Course Code	Course Name	L-T-P:C	Year of Introduction
INMCA331	RDBMS Lab	0-0-4:1	2016

No.	Course Outcome - INMCA331 - RDBMS Lab	Target
CO1	Produce simple and moderately advanced database queries using Structured Query Language (SQL).	60%
CO2	Design and implement a database schema for a given problem-domain.	60%
CO3	Populate and query a database using SQL DML commands.	60%
CO4	Populate and query a database using SQL DDL commands.	60%
CO5	Create programmed solutions using the PL/SQL	60%
CO6	Use any popular RDBMS for data access and updating.	60%

COURSE END SURVEY - INMCA331 - RDBMS Lab

Sl.No	Questions & Options
CO1	To what extent you are able to work with simple database queries
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO2	To what extent you are able to manage database schema for a given problem-domain
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO3	To what extent you are able to work with simple DML Queries
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO4	To what extent you are able to work with simple DDL Queries
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO5	To what extent you are able to design a PL/SQL program
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO6	To what extent you are able to design a database system
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>

CO->PO MAPPING - INMCA331 - RDBMS Lab

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	1	2	1		3	1			2	3		2
CO2	1	3		1	3		1		2	2		
CO3		1	3	2	3			1			1	
CO4		2	3	3	2	1			2	1	1	
CO5		2	3	3	2	1		1	2	1	1	
CO6		2	2		3	1		1	2	2		1

CO->PSO MAPPING - INMCA331 - RDBMS Lab

CO/PSO	PSO1	PSO2	PSO3
CO1	1	2	
CO2		3	1
CO3	1	3	
CO4	1	2	
CO5	1	2	3
CO6		2	3

COURSE->PO MAPPING - INMCA331 - RDBMS Lab

INMCA331/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	1	3	3	3	3	1	1	1	2	3	1	2

COURSE->PSO MAPPING - INMCA331 - RDBMS Lab

INMCA331/PSO	PSO1	PSO2	PSO3
	1	3	3

INMCA333

Course Code	Course Name	L-T-P:C	Year of Introduction
INMCA333	Scripting Lab	0-0-6:1	2016

No.	Course Outcome - INMCA333 - Scripting Lab	Target
CO1	Use operators, variables, arrays, control structures, functions and objects in JavaScript	62%
CO2	Identify popular JavaScript Libraries	62%
CO3	Create dynamic styles	62.8%

CO4	Create animation on a web page	61%
CO5	Use regular expressions for form validation	61%
CO6	Use JS validations	62%

COURSE END SURVEY - INMCA333 - Scripting Lab

Sl.No	Questions & Options
CO1	To what extent you are able to use operators, variables, arrays, control structures, functions and objects in JavaScript?
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO2	To what extent you are able to identify popular JavaScript Libraries?
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO3	To what extent you are able to create dynamic styles?
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO4	To what extent you are able to create animation on a web page?
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO5	To what extent you are able to use regular expressions for form validation?
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO6	To what extent you are able to use JS validations?
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>

CO->PO MAPPING - INMCA333 - Scripting Lab

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	2	3		1				1			
CO2	2	2	1	1				2		2		
CO3	3	3	1	3	2		2				1	
CO4	3	2	3	2	2					2		
CO5	3	2	3	2	1	1			1			1
CO6	3	2	2	2					1			

CO->PSO MAPPING - INMCA333 - Scripting Lab

CO/PSO	PSO1	PSO2	PSO3
CO1	3	2	
CO2	3	2	

CO3	3	2	
CO4	3	2	
CO5	3	2	
CO6	3	2	

COURSE->PO MAPPING - INMCA333 - Scripting Lab

INMCA333/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	3	3	3	2	1	2	2	1	2	1	1

COURSE->PSO MAPPING - INMCA333 - Scripting Lab

INMCA333/PSO	PSO1	PSO2	PSO3
	3	2	

INMCA301

Course Code	Course Name	L-T-P:C	Year of Introduction
INMCA301	Mathematics for Computer Applications	3-1-0:4	2016

No.	Course Outcome - INMCA301 - Mathematics for Computer Applications	Target
CO1	Solve any given system of linear equations	60%
CO2	Evaluate the Eigenvalues and Eigenvectors of a matrix and apply them in real life problems	60%
CO3	Solve problems using algebraic structures	60%
CO4	Illustrate the use of Lattices and Boolean algebra	60%
CO5	Simulate the operation of a dynamic system and make improvement according to the simulation results	60%
CO6	Demonstrate the use of concepts of Fuzzy Sets and Fuzzy Logic in real life problems	60%

COURSE END SURVEY - INMCA301 - Mathematics for Computer Applications

Sl.No	Questions & Options
CO1	To what extent you are able to solve any given system of linear equations
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO2	To what extent you are able to evaluate the Eigenvalues and Eigenvectors of a matrix and apply them in real life problems
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO3	To what extent you are able to solve problems using algebraic structures
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>

CO4	To what extent you are able to illustrate the use of Lattices and Boolean algebra
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO5	To what extent you are able to simulate the operation of a dynamic system and make improvement according to the simulation results
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO6	To what extent you are able to demonstrate the use of concepts of Fuzzy Sets and Fuzzy Logic in real life problems
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>

CO->PO MAPPING - INMCA301 - Mathematics for Computer Applications

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	3		2			2				2	2
CO2	3	3		2			2				2	2
CO3	3	3		2			2				2	2
CO4	3	3		2			2				2	2
CO5	3	3		2			2				2	2
CO6	3	3		2			2				2	2

CO->PSO MAPPING - INMCA301 - Mathematics for Computer Applications

CO/PSO	PSO1	PSO2	PSO3
CO1	3	2	2
CO2	3	2	2
CO3	3	2	2
CO4	3	2	2
CO5	3	2	2
CO6	3	2	2

COURSE->PO MAPPING - INMCA301 - Mathematics for Computer Applications

INMCA301/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	3		2			2				2	2

COURSE->PSO MAPPING - INMCA301 - Mathematics for Computer Applications

INMCA301/PSO	PSO1	PSO2	PSO3
	3	2	2

INMCA309

Course Code	Course Name	L-T-P:C	Year of Introduction
INMCA309	Introduction to Operations Research	3-1-0:4	2016

No.	Course Outcome - INMCA309 - Introduction to Operations Research	Target
CO1	The students would be able to develop an idea about LPP as a tool used to solve decision making problems in a wide range of areas	60%
CO2	The students would be able to learn about the concept of dual simplex method	60%
CO3	The students would be able to solve Transportation problem and Assignment problem	60%
CO4	The students would be able to make use of game theory to solve problems in computer applications	60%
CO5	The students would be able to learn about project scheduling by PERT/CPM	60%
CO6	The students would be able to understand Queuing models	60%

COURSE END SURVEY - INMCA309 - Introduction to Operations Research

Sl.No	Questions & Options
CO1	To what extent you are able to apply LPP as a tool used to solve decision making problems in a wide range of areas
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO2	To what extent you are able to apply dual simplex method in real world problems
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO3	To what extent you are able to apply the concept of Transportation problem and Assignment problem in real world problems
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO4	To what extent you are able to apply the concept of game theory to solve problems in computer applications
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO5	To what extent you are able to apply project scheduling by PERT/CPM
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO6	To what extent you are able to apply the concept of Queuing models in real world problems
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>

CO->PO MAPPING - INMCA309 - Introduction to Operations Research

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	1		2	3					2	3	
CO2	3	3			2						1	
CO3	3			2	2						2	1

CO4	3			2							2	2
CO5	3	2	1	2								2
CO6	3											2

CO->PSO MAPPING - INMCA309 - Introduction to Operations Research

CO/PSO	PSO1	PSO2	PSO3
CO1	3		2
CO2	2		1
CO3	2		1
CO4	3		1
CO5	3		1
CO6	3		1

COURSE->PO MAPPING - INMCA309 - Introduction to Operations Research

INMCA309/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	3	1	2	3					2	3	2

COURSE->PSO MAPPING - INMCA309 - Introduction to Operations Research

INMCA309/PSO	PSO1	PSO2	PSO3
	3		2

INMCA307

Course Code	Course Name	L-T-P:C	Year of Introduction
INMCA307	IT Infrastructure Management	3-1-0:4	2016

No.	Course Outcome - INMCA307 - IT Infrastructure Management	Target
CO1	Analyse IT and get familiar with IT components	71.5%
CO2	Examine different storage management techniques	62.5%
CO3	Analyse IT infrastructure and its requirements	62.5%
CO4	Examine different security management tasks	62.5%
CO5	Analyse cyber ethics and understand different ethical issues	62.5%
CO6	Analyse emerging trends in IT	62.5%

COURSE END SURVEY - INMCA307 - IT Infrastructure Management

Sl.No	Questions & Options
CO1	To what extent you can analyse IT Infrastructure and get familiar with IT components
	Answer Choice- 5 out of 5/4 out of 5/3 out of 5/2 out of 5/1 out of 5
CO2	To what extent you are able to examine different storage management techniques
	Answer Choice- 5 out of 5/4 out of 5/3 out of 5/2 out of 5/1 out of 5
CO3	To what extent you can analyse IT Infrastructure and its requirements
	Answer Choice- 5 out of 5/4 out of 5/3 out of 5/2 out of 5/1 out of 5
CO4	To what extent can you able to examine different security management tasks
	Answer Choice- 5 out of 5/4 out of 5/3 out of 5/2 out of 5/1 out of 5
CO5	To what extent you can analyse cyber ethics
	Answer Choice- 5 out of 5/4 out of 5/3 out of 5/2 out of 5/1 out of 5
CO6	To what extent you can able to analyse emerging trends in IT
	Answer Choice- 5 out of 5/4 out of 5/3 out of 5/2 out of 5/1 out of 5

CO->PO MAPPING - INMCA307 - IT Infrastructure Management

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3								2	2		
CO2	2		1		3						2	
CO3	2							1				
CO4	2	2	2		2	3						
CO5	3		2	3		2		3				2
CO6	3		3	2	3	3	3			2		3

CO->PSO MAPPING - INMCA307 - IT Infrastructure Management

CO/PSO	PSO1	PSO2	PSO3
CO1	2	2	
CO2	3	2	2
CO3	2		
CO4	2	1	2
CO5	2		2
CO6	2	3	1

COURSE->PO MAPPING - INMCA307 - IT Infrastructure Management

INMCA307/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	2	3	3	3	3	3	3	2	2	2	3

COURSE->PSO MAPPING - INMCA307 - IT Infrastructure Management

INMCA307/PSO	PSO1	PSO2	PSO3
	3	3	2

SEMESTER-5**DMCA502**

Course Code	Course Name	L-T-P:C	Year of Introduction
DMCA502	PHP Programming	4-0-0:4	2010

COURSE END SURVEY - DMCA502 - PHP Programming**CO->PO MAPPING - DMCA502 - PHP Programming**

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12

CO->PSO MAPPING - DMCA502 - PHP Programming

CO/PSO	PSO1	PSO2	PSO3

COURSE->PO MAPPING - DMCA502 - PHP Programming

DMCA502/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12

COURSE->PSO MAPPING - DMCA502 - PHP Programming

DMCA502/PSO	PSO1	PSO2	PSO3

DMCA503

Course Code	Course Name	L-T-P:C	Year of Introduction
DMCA503	Linux and Shell Programming	4-0-0:4	2010

COURSE END SURVEY - DMCA503 - Linux and Shell Programming**CO->PO MAPPING - DMCA503 - Linux and Shell Programming**

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12

CO->PSO MAPPING - DMCA503 - Linux and Shell Programming

CO/PSO	PSO1	PSO2	PSO3

COURSE->PO MAPPING - DMCA503 - Linux and Shell Programming

DMCA503/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12

COURSE->PSO MAPPING - DMCA503 - Linux and Shell Programming

DMCA503/PSO	PSO1	PSO2	PSO3

SEMESTER-6**INMCA302**

Course Code	Course Name	L-T-P:C	Year of Introduction
INMCA302	Introduction to Software Engineering	3-1-0:4	2016

No.	Course Outcome - INMCA302 - Introduction to Software Engineering	Target
CO1	Analyze the theory and foundations of software engineering, evaluate common life cycle processes including waterfall (linear), incremental approaches (such as Unified process), and agile approaches.	60.75%
CO2	Evaluate the different process models and choose the best model, create requirement models	60.75%
CO3	Design a solution to a given problem using one or more design patterns and implement the design in a programming language.	60.75%
CO4	Apply software testing and quality assurance techniques at the module level, and understand these techniques at the system and organization level	60.75%
CO5	Create test cases and implement different testing strategies	60.75%
CO6	Apply new software models, techniques and technologies to bring out innovative and novelistic solutions	60.75%

COURSE END SURVEY - INMCA302 - Introduction to Software Engineering

Sl.No	Questions & Options
CO1	To what extent you can analyze and evaluate the theory and foundations of software engineering , waterfall , incremental and agile approaches? Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO2	To what extent you can evaluate and choose the different process models and create requirement model? Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO3	To what extent you can design and implement a solution for a problem using design patterns? Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO4	To what extent you are able to apply software testing and quality assurance techniques at the module level, and understand these techniques at the system and organization level Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO5	To what extent you can create test cases and implement different testing strategies? Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>

CO6	To what extent you are able to apply new software models, techniques and technologies to bring out innovative and novelistic solutions?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>

CO->PO MAPPING - INMCA302 - Introduction to Software Engineering

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	1	1	1	1		1				1	1
CO2	2	1	2	1	2	3		2	2		1	2
CO3	1	1	2		1	2	3				3	
CO4	2	3	1	3			1		1			1
CO5	1			1	1		2		3	3		
CO6			1		1				1		1	1

CO->PSO MAPPING - INMCA302 - Introduction to Software Engineering

CO/PSO	PSO1	PSO2	PSO3
CO1	2	1	1
CO2	2	1	2
CO3	3	1	1
CO4	1	1	1
CO5	1	1	1
CO6	2		1

COURSE->PO MAPPING - INMCA302 - Introduction to Software Engineering

INMCA302/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	2	3	2	3	2	3	3	2	3	3	3	2

COURSE->PSO MAPPING - INMCA302 - Introduction to Software Engineering

INMCA302/PSO	PSO1	PSO2	PSO3
	3	1	2

INMCA306

Course Code	Course Name	L-T-P:C	Year of Introduction
INMCA306	Computational Sustainability	3-1-0:4	2016

No.	Course Outcome - INMCA306 - Computational Sustainability	Target

CO1	Able to understand about sustainability and how important is the sustainability	60.7%
CO2	Able to understand different types of environmental pollution problems	60.7%
CO3	Able to identify different standards to measure sustainability	60.7%
CO4	Identify the different design aspects of a sustainable building	60.7%
CO5	Able to identify different types of energy sources - both renewable and non-renewable	60.7%
CO6	Identify various application levels of implementation of sustainability	60.7%

COURSE END SURVEY - INMCA306 - Computational Sustainability

Sl.No	Questions & Options
CO1	To what extent you are able to understand about sustainability and its importance?
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO2	To what extent you are able to understand environmental pollution problem?
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO3	To what extent you are able to identify measurement standards?
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO4	To what extent you are able to identify design aspects of sustainable building?
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO5	To what extent you are able to identify various energy sources?
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO6	To what extent you are able to identify application levels of sustainability?
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>

CO->PO MAPPING - INMCA306 - Computational Sustainability

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1						1	2					
CO2		1					3					
CO3							3					
CO4		1					3					
CO5							3					
CO6							3					

CO->PSO MAPPING - INMCA306 - Computational Sustainability

CO/PSO	PSO1	PSO2	PSO3

CO1			
CO2	1		
CO3	1		
CO4	1		
CO5	1		
CO6	1		

COURSE->PO MAPPING - INMCA306 - Computational Sustainability

INMCA306/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
		1				1	3					

COURSE->PSO MAPPING - INMCA306 - Computational Sustainability

INMCA306/PSO	PSO1	PSO2	PSO3
	1		

INMCA308

Course Code	Course Name	L-T-P:C	Year of Introduction
INMCA308	Open Source Platforms	3-1-0:4	2016

No.	Course Outcome - INMCA308 - Open Source Platforms	Target
CO1	Have a good understanding of Open Source Community	65.3%
CO2	Have an understanding of intellectual property rights, open source licensing, and the implications of using open source tools in developing web-enabled software	65.3%
CO3	Develop open source Software Projects using Python	65.3%
CO4	Have a good understanding of information system architectures, software platforms, and Application Programming Interfaces (APIs)	65.3%
CO5	Have an understanding of intellectual property rights, open source licensing, and the implications of using open source tools in developing web-enabled software	65.3%
CO6	Participate in developing Open Source Projects	65.3%

COURSE END SURVEY - INMCA308 - Open Source Platforms

Sl.No	Questions & Options
CO1	To what extent you are able to understand open source community
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
	To what extent you are able to have an understanding of intellectual property rights, open source licensing, and the implications of using open source tools in developing web-enabled software

CO2	
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO3	To what extent you are able to develop open source Software Projects using Python
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO4	To what extent you have a good understanding of information system architectures, software platforms, and Application Programming Interfaces (APIs)
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO5	To what extent you have an understanding of intellectual property rights, open source licensing, and the implications of using open source tools in developing web-enabled software
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO6	To what extent you have the confidence to participate in developing an Open Source Projects
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>

CO->PO MAPPING - INMCA308 - Open Source Platforms

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	1	1	2	2	1	3	2	3	2	1	3
CO2	1	2	1	3	2	3	2	3	1	3	3	1
CO3	2	1	2	2	2	2	1	3	2	3	1	1
CO4	2	3	2	1	2	2	2	3	1	3	3	3
CO5	1	1	1	3	1	2	2	2	2	1	3	3
CO6	2	3	3	3	2	1	2	2	3	3	2	3

CO->PSO MAPPING - INMCA308 - Open Source Platforms

CO/PSO	PSO1	PSO2	PSO3
CO1	2	3	1
CO2	2	1	2
CO3	1	2	2
CO4	3	3	2
CO5	1	1	3
CO6	2	2	1

COURSE->PO MAPPING - INMCA308 - Open Source Platforms

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
INMCA308/PO												

	2	3	3	3	2	3	3	3	3	3	3	3
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COURSE->PSO MAPPING - INMCA308 - Open Source Platforms

INMCA308/PSO	PSO1	PSO2	PSO3
	3	3	3

INMCA312

Course Code	Course Name	L-T-P:C	Year of Introduction
INMCA312	Advanced Object Oriented Programming	3-1-0:4	2016

No.	Course Outcome - INMCA312 - Advanced Object Oriented Programming	Target
CO1	Understand the concepts of object-oriented programming paradigms and develop skills in these paradigms using Java	61.5%
CO2	Apply the concepts of inheritance and polymorphism	61.5%
CO3	Analyse and evaluate the use of interfaces, strings and arrays	61.5%
CO4	Create Java application programs using sound OOP practices and proper program structuring (e.g., by using Exception Handling, Multithreaded Programming)	61.5%
CO5	Apply and understand JAVA I/O operations	61.5%
CO6	Be exposed to advanced applications such as TCP and UDP network programming, Web applications using Applets etc.	61.5%

COURSE END SURVEY - INMCA312 - Advanced Object Oriented Programming

Sl.No	Questions & Options
CO1	To what extent you are able to explain object-oriented programming paradigms Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO2	To what extent you are able to demonstrate the concept of Inheritance and Polymorphism Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO3	To what extent you are able to identify and apply the concept of Interfaces to develop a user friendly java application program Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO4	To what extent you are able to create Multi threaded Java application programs Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO5	To what extent you are able to demonstrate JAVA I/O operations Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
	To what extent you are able to develop a client-server GUI using Java

CO6	
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>

CO->PO MAPPING - INMCA312 - Advanced Object Oriented Programming

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	1	1		3	2	1		1	1			3
CO2	2			3	3	1	1	3	2	2	2	1
CO3	2	2		2	3			2	3	1		1
CO4			1	3	2		3	2	3	2		3
CO5	1		3			2	1				2	2
CO6		2	2		1	3		2			2	

CO->PSO MAPPING - INMCA312 - Advanced Object Oriented Programming

CO/PSO	PSO1	PSO2	PSO3
CO1	2	3	1
CO2	1	3	2
CO3	3	2	1
CO4	2	2	3
CO5	2	3	1
CO6	3	1	1

COURSE->PO MAPPING - INMCA312 - Advanced Object Oriented Programming

INMCA312/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	2	2	3	3	3	3	3	3	3	2	2	3

COURSE->PSO MAPPING - INMCA312 - Advanced Object Oriented Programming

INMCA312/PSO	PSO1	PSO2	PSO3
	3	3	3

INMCA332

Course Code	Course Name	L-T-P:C	Year of Introduction
INMCA332	Advanced Object Oriented Programming Lab	0-0-6:1	2016

No.	Course Outcome - INMCA332 - Advanced Object Oriented Programming Lab	Target

CO1	Describe the important concepts of object oriented programming like object and class, encapsulation and basics of JAVA	64.5%
CO2	Apply the concepts of inheritance and polymorphism	62.5%
CO3	Analyze and evaluate the use of interfaces, strings and arrays	63.5%
CO4	Create Java application programs using sound OOP practices and proper program structuring (e.g., by using Exception Handling, Multithreaded Programming)	64.5%
CO5	Apply and understand JAVA I/O operations	62.5%
CO6	Be exposed to advanced applications such as TCP and UDP network programming, Web applications using Applets etc.	63.5%

COURSE END SURVEY - INMCA332 - Advanced Object Oriented Programming Lab

Sl.No	Questions & Options
CO1	To what extent you are able to implement the important concepts of oops
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO2	To what extent you are able to implement the real time application using the concepts of inheritance and polymorphism
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO3	To what extent you are able to analyze and evaluate the use of interfaces, strings and arrays.
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO4	To what extent you are able to implement the Java application programs using sound OOP practices and proper program structuring (e.g., by using Exception Handling, Multithreaded Programming)
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO5	To what extent you are able to implement the JAVA I/O operations
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO6	To what extent you are able to implement the advanced applications such as TCP and UDP network programming, Web applications using Applets etc.
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>

CO->PO MAPPING - INMCA332 - Advanced Object Oriented Programming Lab

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1		2	2		1		1	1		2	3	3
CO2	3			3	2		1		2	1	3	2
CO3	1		2		1						1	
CO4	3		1		1		3					2
CO5	2			3			3			1		1

CO6	3	2		3		1	2		3		3	3
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CO->PSO MAPPING - INMCA332 - Advanced Object Oriented Programming Lab

CO/PSO	PSO1	PSO2	PSO3
CO1	3	2	2
CO2	2	1	2
CO3	3	2	3
CO4	3	2	3
CO5	3	3	3
CO6	2	2	1

COURSE->PO MAPPING - INMCA332 - Advanced Object Oriented Programming Lab

INMCA332/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	2	2	3	2	1	3	1	3	2	3	3

COURSE->PSO MAPPING - INMCA332 - Advanced Object Oriented Programming Lab

INMCA332/PSO	PSO1	PSO2	PSO3
	3	3	3

INMCA334

Course Code	Course Name	L-T-P:C	Year of Introduction
INMCA334	Open Source Platforms Lab	0-0-4:1	2016

No.	Course Outcome - INMCA334 - Open Source Platforms Lab	Target
CO1	Have a good understanding of how to develop software in a team with other developers	61.3%
CO2	Able to develop web-enabled software using open source tools (such as HTML5, JavaScript and modern web frameworks) and methodologies	61.3%
CO3	Have a good understanding of information system architectures, software platforms, and Application Programming Interfaces (APIs)	61.3%
CO4	Have an understanding of intellectual property rights, open source licensing, and the implications of using open source tools in developing web-enabled software	61.3%
CO5	Participate in developing DHIS2, one of the largest health information systems in the world	61.3%
CO6	Develop open source Software Projects	61.3%

COURSE END SURVEY - INMCA334 - Open Source Platforms Lab

Sl.No	Questions & Options
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CO1	To what extent you are able to develop software in a team
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO2	To what extent you are able to develop web-enabled software using open source tools
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO3	To what extent you are able to understand information system architectures, software platforms, and Application Programming Interfaces (APIs)
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO4	To what extent you are able to understand intellectual property rights, open source licensing, and the implications of using open source tools in developing web-enabled software
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO5	To what extent you are able to take part in the design and development of DHIS2
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO6	To what extent you are able to develop open source Software Projects
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>

CO->PO MAPPING - INMCA334 - Open Source Platforms Lab

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	3	1	3		1	1	3		2		2
CO2	1	2	2	1	3	1		1	2	2	1	3
CO3	2	2	1	2	2	3	2		3	1	1	3
CO4	2				2	1	2	2	2			3
CO5	2		3	3	1	2	3	1	3	2	2	2
CO6	3	2	2		2			3	2	1	2	2

CO->PSO MAPPING - INMCA334 - Open Source Platforms Lab

CO/PSO	PSO1	PSO2	PSO3
CO1	2	3	1
CO2	1	2	3
CO3	2	3	2
CO4	3	2	2
CO5	2	3	3
CO6	2	2	2

COURSE->PO MAPPING - INMCA334 - Open Source Platforms Lab

INMCA334/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	3	3	3	3	3	3	3	3	2	2	3

COURSE->PSO MAPPING - INMCA334 - Open Source Platforms Lab

INMCA334/PSO	PSO1	PSO2	PSO3
	3	3	3

INMCA304

Course Code	Course Name	L-T-P:C	Year of Introduction
INMCA304	Numerical Methods	3-1-0:4	2016

No.	Course Outcome - INMCA304 - Numerical Methods	Target
CO1	Solve equations and find eigenvectors numerically	60%
CO2	Fit the best curve using experimental observations	60%
CO3	Use the concepts of Interpolation	60%
CO4	Calculate a differential coefficient or a definite integral using an appropriate numerical method	60%
CO5	Solve an ordinary differential equation using an appropriate numerical method	60%
CO6	Employ different methods to solve partial differential equation	60%

COURSE END SURVEY - INMCA304 - Numerical Methods

Sl.No	Questions & Options
CO1	To what extent are you able to solve equations and find eigenvectors numerically?
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO2	To what extent are you able to fit a best curve using experimental observations?
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO3	To what extent are you able to use the concepts of Interpolation?
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO4	To what extent are you able to calculate a differential coefficient or a definite integral using an appropriate numerical method
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO5	To what extent are you able to solve an ordinary differential equation using an appropriate numerical method ?
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>

CO6	To what extent are you able to employ different methods to solve partial differential equation?
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>

CO->PO MAPPING - INMCA304 - Numerical Methods

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	3		2	2	1	1					
CO2	3	3		2	2	1	1					
CO3	3	3		2	2	1	1					
CO4	3	3		2	2	1	1					
CO5	3	3		2	2	1	1					
CO6	3	3		2	2	1	1					

CO->PSO MAPPING - INMCA304 - Numerical Methods

CO/PSO	PSO1	PSO2	PSO3
CO1	3	2	1
CO2	3	2	1
CO3	3	2	1
CO4	3	2	1
CO5	3	2	1
CO6	3	2	1

COURSE->PO MAPPING - INMCA304 - Numerical Methods

INMCA304/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	3		2	2	1	1					

COURSE->PSO MAPPING - INMCA304 - Numerical Methods

INMCA304/PSO	PSO1	PSO2	PSO3
	3	2	1

SEMESTER-6**DMCA602**

Course Code	Course Name	L-T-P:C	Year of Introduction
DMCA602	IT Infrastructure Management	4-0-0:4	2014

No.	Course Outcome - DMCA602 - IT Infrastructure Management	Target
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CO1	Analyze area of IT Infrastructure and its Management	60%
CO2	Identify IT infrastructure and various management aspects	60%
CO3	Design Issues of IT infrastructure Management Process, IT Service Management Process, Information System Design	60%
CO4	Practice Service delivery process	60%
CO5	Tell Service support is the framework that enables effective IT Services	60%
CO6	Manage Security Management is an important activity that aims to control the provision of information and to prevent unauthorized use of information	60%

COURSE END SURVEY - DMCA602 - IT Infrastructure Management

Sl.No	Questions & Options
CO1	To what extent you are able to analyze, IT Infrastructure and its Management
	Answer Choice- 5 out of 5/4 out of 5/3 out of 5/2 out of 5/1 out of 5
CO2	To what extent you are able to identify IT infrastructure and various management aspects
	Answer Choice- Excellent/Very Good/Good/Satisfactory/Poor
CO3	To what extent you are able to explain the role of Design Issues of IT infrastructure Management Process
	Answer Choice- Very satisfied/Satisfied/Neither satisfied nor dissatisfied/Dissatisfied /Very dissatisfied
CO4	To what extent you are able to describe Service delivery process
	Answer Choice- Very high degree/High Degree/Moderate degree/Small Degree/Not at all
CO5	To what extent you are able to apply service support is the framework that enables effective IT Services
	Answer Choice- 5 out of 5/4 out of 5/3 out of 5/2 out of 5/1 out of 5
CO6	

CO->PO MAPPING - DMCA602 - IT Infrastructure Management

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2											
CO2												
CO3			2								2	
CO4		2										
CO5		2										
CO6					2							

CO->PSO MAPPING - DMCA602 - IT Infrastructure Management

CO/PSO	PSO1	PSO2	PSO3

CO1	2	2	2
CO2		2	2
CO3			
CO4			
CO5	2		
CO6			

COURSE->PO MAPPING - DMCA602 - IT Infrastructure Management

DMCA602/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	2	2	2		2						2	

COURSE->PSO MAPPING - DMCA602 - IT Infrastructure Management

DMCA602/PSO	PSO1	PSO2	PSO3
	2	2	2

DMCA605

Course Code	Course Name	L-T-P:C	Year of Introduction
DMCA605	Software Development- Project I	0-0-4:4	2014

No.	Course Outcome - DMCA605 - Software Development- Project I	Target
CO1	Apply the software engineering principles on a real software project	62%
CO2	Develop a software product using the Agile methodology	61%
CO3	Apply build tools and IDE Environment	60%
CO4	Work with different version control system such as git	63%
CO5	Apply technology tools to analyse, design, develop and test the application	60%
CO6	Design a system, model, component or a process to meet desired/industrial needs	62%

COURSE END SURVEY - DMCA605 - Software Development- Project I

Sl.No	Questions & Options
CO1	To what extent you are able to apply the software engineering principles on a real software project
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO2	To what extent you are able to develop a software product using the Agile methodology
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>

CO3	To what extent you are able to apply build tools and IDE Environment
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO4	To what extent you are able to work with different version control system such as git
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO5	To what extent you are able to apply technology tools to analyse, design, develop and test the application
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO6	To what extent you are able to design a system, model, component or a process to meet desired/industrial needs
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>

CO->PO MAPPING - DMCA605 - Software Development- Project I

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1		3		3		2						
CO2		2										
CO3												
CO4												
CO5								3				
CO6		2	3									

CO->PSO MAPPING - DMCA605 - Software Development- Project I

CO/PSO	PSO1	PSO2	PSO3
CO1			
CO2			
CO3			
CO4			
CO5			
CO6			

COURSE->PO MAPPING - DMCA605 - Software Development- Project I

DMCA605/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
		3	3	3		2		3				

COURSE->PSO MAPPING - DMCA605 - Software Development- Project I

DMCA605/PSO	PSO1	PSO2	PSO3

DMCA601

Course Code	Course Name	L-T-P:C	Year of Introduction
DMCA601	Object Oriented Modeling & Designing	4-0-0:4	2014

No.	Course Outcome - DMCA601 - Object Oriented Modeling & Designing	Target
CO1	Create a requirements model using UML class notations and use-cases based on statements of user requirements, and to analyze requirements models given to them for correctness and quality.	50%
CO2	Create the OO design of a system from the requirements model in terms of a high-level architecture description, and low-level models of structural organization and dynamic behavior using UML class, object, and sequence diagrams.	50%
CO3	Create software that implements the OO designs modeled using UML.	50%
CO4	Identify the nature of design patterns by understanding a small number of examples from different pattern categories, and to be able to apply these patterns in creating an OO design.	50%
CO5	Evaluate a design for applicability, reasonableness, and relation to other design criteria against given OO design heuristics, patterns or published guidance.	50%

COURSE END SURVEY - DMCA601 - Object Oriented Modeling & Designing

Sl.No	Questions & Options
CO1	To what extent you are able to create a requirements model using UML class notations and use-cases based on statements of user requirements, and to analyze requirements models given to them for correctness and quality.
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO2	To what extent you are able to create the OO design of a system from the requirements model in terms of a high-level architecture description, and low-level models of structural organization and dynamic behavior using UML class, object, and sequence diagrams.
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO3	To what extent you are able to create software that implements the OO designs modeled using UML.
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO4	To what extent you are able to identify the nature of design patterns by understanding a small number of examples from different pattern categories, and to apply these patterns in creating an OO design.
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO5	To what extent you are able to evaluate a design for applicability, reasonableness, and relation to other design criteria against given OO design heuristics, patterns or published guidance.
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>

CO->PO MAPPING - DMCA601 - Object Oriented Modeling & Designing

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3											

CO2	2		2									
CO3	3											
CO4		3										
CO5						2						

CO->PSO MAPPING - DMCA601 - Object Oriented Modeling & Designing

CO/PSO	PSO1	PSO2	PSO3
CO1			
CO2			
CO3			
CO4			
CO5			

COURSE->PO MAPPING - DMCA601 - Object Oriented Modeling & Designing

DMCA601/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	3	2			2						

COURSE->PSO MAPPING - DMCA601 - Object Oriented Modeling & Designing

DMCA601/PSO	PSO1	PSO2	PSO3

DMCA603

Course Code	Course Name	L-T-P:C	Year of Introduction
DMCA603	Elective I - E-Commerce	4-0-0:4	2014

No.	Course Outcome - DMCA603 - Elective I - E-Commerce	Target
CO1	Describe the scope and importance of E-commerce	60%
CO2	Distinguish infrastructures for E Commerce	60%
CO3	Identify web based tools for E commerce	60%
CO4	Discuss security threads and security measures on web	61%
CO5	Compare and discriminate various electronic payment systems	61%
CO6	Demonstrate web based marketing and online advertisement	60%

COURSE END SURVEY - DMCA603 - Elective I - E-Commerce

Sl.No	Questions & Options

CO1	To what extent you are able to describe the scope and importance of E-commerce?
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO2	To what extent you are able to distinguish infrastructures for E Commerce?
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO3	To what extent you are able to identify web based tools for E commerce
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO4	To what extent you are able to discuss security threads and security measures on web?
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO5	To what extent you are able to compare and discriminate various electronic payment systems?
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO6	To what extent you are able to demonstrate web based marketing and online advertisement?
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>

CO->PO MAPPING - DMCA603 - Elective I - E-Commerce

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1			1	1								
CO2	1	1		2								
CO3				1	2							
CO4		1				1		2				
CO5		2				1						
CO6	1						2				1	

CO->PSO MAPPING - DMCA603 - Elective I - E-Commerce

CO/PSO	PSO1	PSO2	PSO3
CO1	1		
CO2		1	
CO3		1	
CO4			1
CO5	1		
CO6			

COURSE->PO MAPPING - DMCA603 - Elective I - E-Commerce

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12

DMCA603/PO	1	2	1	2	2	1	2	2			1	
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COURSE->PSO MAPPING - DMCA603 - Elective I - E-Commerce

DMCA603/PSO	PSO1	PSO2	PSO3
	1	1	1

DMCA604

Course Code	Course Name	L-T-P:C	Year of Introduction
DMCA604	Seminar- I	0-0-2:2	2014

No.	Course Outcome - DMCA604 - Seminar- I	Target
CO1	Express competence in identifying relevant information, defining and explaining topics under discussion.	70%
CO2	Employ appropriate registers and vocabulary, and will demonstrate command of voice modulation, voice projection, and pacing.	80%
CO3	Demonstrate the ability to ask disciplinarily appropriate questions of the material and recognize when lines of inquiry fall outside of disciplinary boundaries.	75%
CO4	Use visual, audio and audio-visual material to support their presentation, and will be able to speak cogently with or without notes	75%
CO5	Create proper listening skills and the development of confidence in their own thinking	85%
CO6	Apply principles of ethics and respect in interaction with others	80%

COURSE END SURVEY - DMCA604 - Seminar- I

Sl.No	Questions & Options
CO1	To what extent you are able to express competence in identifying relevant information, defining and explaining topics under discussion Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO2	To what extent you are able to employ appropriate registers and vocabulary, and will demonstrate command of voice modulation, voice projection, and pacing Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO3	To what extent you are able to demonstrate the ability to ask disciplinarily appropriate questions of the material and recognize when lines of inquiry fall outside of disciplinary boundaries Answer Choice- <i>Always/Very often/Sometimes/Rarely/Never</i>
CO4	To what extent you are able to use visual, audio and audio-visual material to support their presentation, and will be able to speak cogently with or without notes Answer Choice- <i>Very advanced/Advanced/Proficient/Basic/ Minimal</i>

CO5	To what extent you are able to create proper listening skills and the development of confidence in their own thinking
	Answer Choice- <i>Very advanced/Advanced/Proficient/Basic/ Minimal</i>
CO6	To what extent you are able to apply principles of ethics and respect in interaction with others
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>

CO->PO MAPPING - DMCA604 - Seminar- I

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1												
CO2	2									2		
CO3	2	3				1						
CO4			2		1							
CO5												
CO6								3	2			

CO->PSO MAPPING - DMCA604 - Seminar- I

CO/PSO	PSO1	PSO2	PSO3
CO1			
CO2			
CO3			
CO4			
CO5			
CO6			

COURSE->PO MAPPING - DMCA604 - Seminar- I

DMCA604/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	2	3	2		1	1		3	2	2		

COURSE->PSO MAPPING - DMCA604 - Seminar- I

DMCA604/PSO	PSO1	PSO2	PSO3

SEMESTER-7**RLMCA201**

Course Code	Course Name	L-T-P:C	Year of Introduction
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RLMCA201	Computer Networks	3-1-0:4	2016
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No.	Course Outcome - RLMCA201 - Computer Networks	Target
CO1	Master the terminology and concepts of the OSI reference model and the TCP-IP reference model	61%
CO2	Analyze basic taxonomy and terminology of the computer networking area.	60.5%
CO3	Distinguish advanced networking concepts of protocols, network interfaces, and design/performance issues in local area networks and wide area networks.	61%
CO4	Design and implement layer protocols within an environment	61%
CO5	Evaluate various related technical, administrative and social aspects of specific computer network protocols from standards documents and other primary materials found through research	60.5%
CO6	Expertise in some specific areas of networking such as the design and maintenance of individual networks	61%

COURSE END SURVEY - RLMCA201 - Computer Networks

Sl.No	Questions & Options
CO1	To what extent students are able to master the terminology and concepts of the OSI reference model and the TCP-IP reference model
	Answer Choice- <i>Strongly Agree/Agree/Neutral Disagree/Strongly disagree</i>
CO2	To what extent students are able to analyze basic taxonomy and terminology of the computer networking area.
	Answer Choice- <i>Very satisfied/Satisfied/Neither satisfied nor dissatisfied/Dissatisfied /Very dissatisfied</i>
CO3	To what extent students are able to analyze basic taxonomy and terminology of the computer networking area.
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO4	To what extent students are able to design and implement layer protocols within an environment
	Answer Choice- <i>Very advanced/Advanced/Proficient/Basic/ Minimal</i>
CO5	To what extent students are able to evaluate various related technical, administrative and social aspects of specific computer network protocols from standards documents and other primary materials found through research.
	Answer Choice- <i>Very frequently/Frequently/Rarely Very rarely/Never</i>
CO6	To what extent students are able to expertise in some specific areas of networking such as the design and maintenance of individual networks
	Answer Choice- <i>Very advanced/Advanced/Proficient/Basic/ Minimal</i>

CO->PO MAPPING - RLMCA201 - Computer Networks

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	2			2		1		1			3

CO2	2	1			2		1	1			1	2
CO3	2	1	1	1	1		2	2	2			2
CO4	1	1	1		3		2	1	2			
CO5			2		2		1	1	2			1
CO6	2	3			2		1	1	2		1	1

CO->PSO MAPPING - RLMCA201 - Computer Networks

CO/PSO	PSO1	PSO2	PSO3
CO1	1	2	3
CO2	3	2	2
CO3	3	1	2
CO4	2	2	2
CO5	1		2
CO6	2		

COURSE->PO MAPPING - RLMCA201 - Computer Networks

RLMCA201/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	3	2	1	3		2	2	2		1	3

COURSE->PSO MAPPING - RLMCA201 - Computer Networks

RLMCA201/PSO	PSO1	PSO2	PSO3
	3	2	3

RLMCA203

Course Code	Course Name	L-T-P:C	Year of Introduction
RLMCA203	Software Engineering	3-1-0:4	2016

No.	Course Outcome - RLMCA203 - Software Engineering	Target
CO1	Analyze the theory and foundations of software engineering.	64%
CO2	Evaluate the different process models and choose the best model for their project	65%
CO3	Create requirement models	65%
CO4	Understand the different development practices and its advantages	66%
CO5	Create test cases and implement different testing strategies	65%

CO6	Understand the environment and work culture in a software organization	65%
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COURSE END SURVEY - RLMCA203 - Software Engineering

Sl.No	Questions & Options
CO1	To what extent you were able to analyze the theory and foundations of software engineering?
	Answer Choice- <i>Very advanced/Advanced/Proficient/Basic/ Minimal</i>
CO2	Could you evaluate the different process models and choose the best one for your project?
	Answer Choice- <i>Extremely helpful/Moderately helpful/ Helpful/A little helpful/Not at all helpful</i>
CO3	To what extent you were able to create requirement models ?
	Answer Choice- <i>Very high degree/High Degree/Moderate degree/Small Degree/Not at all</i>
CO4	To what extent you understood the different development practices and its advantages
	Answer Choice- <i>Very advanced/Advanced/Proficient/Basic/ Minimal</i>
CO5	To what extent you were able to create test cases and implement different testing strategies ?
	Answer Choice- <i>Always/Very often/Sometimes/Rarely/Never</i>
CO6	To what extent you were able to understand the environment and work culture in a software organization
	Answer Choice- <i>Always/Very often/Sometimes/Rarely/Never</i>

CO->PO MAPPING - RLMCA203 - Software Engineering

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3									3		3
CO2			3	3		2			3		3	
CO3	3		3		3		3					
CO4		2										
CO5		3										
CO6		2										

CO->PSO MAPPING - RLMCA203 - Software Engineering

CO/PSO	PSO1	PSO2	PSO3
CO1			
CO2			
CO3			
CO4			
CO5			

CO6			
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COURSE->PO MAPPING - RLMCA203 - Software Engineering

RLMCA203/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	3	3	3	3	2	3		3	3	3	3

COURSE->PSO MAPPING - RLMCA203 - Software Engineering

RLMCA203/PSO	PSO1	PSO2	PSO3

RLMCA205

Course Code	Course Name	L-T-P:C	Year of Introduction
RLMCA205	Database Management Systems	3-1-0:4	2016

No.	Course Outcome - RLMCA205 - Database Management Systems	Target
CO1	Identify the purpose of database system, data modeling concepts and E R features	61.5%
CO2	Identify the relational model concepts and relational algebra	60.5%
CO3	Apply structured query language	61.5%
CO4	Apply different normalization techniques	61.5%
CO5	Analyse the foundations of database transaction processing	60.5%
CO6	Describe the basics of datamining and data warehousing	60.5%

COURSE END SURVEY - RLMCA205 - Database Management Systems

Sl.No	Questions & Options
CO1	To what extent you could identify the purpose of database system, data modeling concepts and ER features
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO2	To what extent you are able identify the relational model concepts and relational algebra.
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO3	To what extent you are able to apply structured query language
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO4	To what extent you are able to apply different normalization techniques
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO5	To what extent you are able to analyse the foundations of database transaction processing
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>

CO6	To what extent you are able to describe the basics of datamining and data warehousing
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>

CO->PO MAPPING - RLMCA205 - Database Management Systems

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1		2	2	1			1					2
CO2	3	2	2	3	2	2					3	2
CO3	3	2	3	2	1	2	2	2			2	3
CO4	3	3	3	2			2	2			2	2
CO5		2	2	2		2					2	2
CO6		2	2	3			2					3

CO->PSO MAPPING - RLMCA205 - Database Management Systems

CO/PSO	PSO1	PSO2	PSO3
CO1	2	2	2
CO2	3	2	2
CO3	3	3	2
CO4	2	2	2
CO5	2	1	1
CO6	2	1	2

COURSE->PO MAPPING - RLMCA205 - Database Management Systems

RLMCA205/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	3	3	3	2	2	2	2			3	3

COURSE->PSO MAPPING - RLMCA205 - Database Management Systems

RLMCA205/PSO	PSO1	PSO2	PSO3
	3	3	2

RLMCA209

Course Code	Course Name	L-T-P:C	Year of Introduction
RLMCA209	Web Programming	3-1-0:4	2016

No.	Course Outcome - RLMCA209 - Web Programming	Target
CO1	Acquire knowledge about functionalities of world wide web.	71%

CO2	Explore markup languages features and create interactive web pages using them.	71%
CO3	Structure Client side validation using scripting languages.	71%
CO4	Acquire knowledge about Open source JavaScript libraries.	71%
CO5	Implement front end web page and connect to the back end databases.	71%
CO6	Execute Client-side & Server-side scripting.	66%

COURSE END SURVEY - RLMCA209 - Web Programming

Sl.No	Questions & Options
CO1	To what extent the students are able to acquire knowledge about functionalities of world wide web?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO2	To what extent the students are able to explore markup languages features and create interactive web pages using them?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO3	To what extent the students are able to structure Client side validation using scripting languages?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO4	To what extent the students are able to acquire knowledge about Open source JavaScript libraries?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO5	To what extent the students are able to implement front end web page and connect to the back end databases?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO6	To what extent the students are able to execute Client-side & Server-side scripting?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>

CO->PO MAPPING - RLMCA209 - Web Programming

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	1	1	1	3	3	2	1	1	1	2	1	2
CO2	1	2	1	3	1	1	1	1	3	1	3	1
CO3	1	1	2	2	1	3	1	1	1	2	1	1
CO4	1	1	2	3	1	1	2	3	2	2	1	1
CO5	2	2	2	1	2	1	1	2	1	2	1	2
CO6	1	1	2	3	3	1	1	2	2	1	1	2

CO->PSO MAPPING - RLMCA209 - Web Programming

CO/PSO	PSO1	PSO2	PSO3

CO1	1	3	2
CO2	2	1	2
CO3	1	1	3
CO4	1	1	2
CO5	2	1	3
CO6	1	1	2

COURSE->PO MAPPING - RLMCA209 - Web Programming

RLMCA209/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	2	2	2	3	3	3	2	3	3	2	3	2

COURSE->PSO MAPPING - RLMCA209 - Web Programming

RLMCA209/PSO	PSO1	PSO2	PSO3
	2	3	3

RLMCA231

Course Code	Course Name	L-T-P:C	Year of Introduction
RLMCA231	Database Lab	0-0-4:1	2016

No.	Course Outcome - RLMCA231 - Database Lab	Target
CO1	Populate and query a database using SQL DML/DML commands.	90.5%
CO2	Understand, appreciate and effectively explain the underlying concepts of database technologies	80.5%
CO3	Design and implement a database schema for a given problem-domain	80.5%
CO4	Use any popular RDBMS for data access and updating	70.5%
CO5	Apply different normalization techniques	65.5%
CO6	Create programmed solutions using the PL/SQL	70.5%

COURSE END SURVEY - RLMCA231 - Database Lab

Sl.No	Questions & Options
CO1	To what extent you could populate and query a database using SQL DML/DML commands
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO2	To what extent you could understand, appreciate and effectively explain the underlying concepts of database technologies
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>

CO3	To what extent you could design and implement a database schema for a given problem-domain
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO4	To what extent you could use any popular RDBMS for data access and updating
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO5	To what extent you could apply different normalization techniques
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO6	To what extent you could create programmed solutions using the PL/SQL
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>

CO->PO MAPPING - RLMCA231 - Database Lab

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1		1	3	2	3			1			1	
CO2	1	3		1	3		1		2	2		
CO3	2	2	2	2	1	1		1		1		1
CO4		2			3	1		1	3	2		1
CO5		2	3	3	2	1		1	2	1	1	
CO6	3	2	3	1	2					1		2

CO->PSO MAPPING - RLMCA231 - Database Lab

CO/PSO	PSO1	PSO2	PSO3
CO1	1	3	
CO2		3	1
CO3	1	1	
CO4		2	3
CO5	1	2	3
CO6	2	3	2

COURSE->PO MAPPING - RLMCA231 - Database Lab

RLMCA231/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	3	3	3	3	1	1	1	3	2	1	2

COURSE->PSO MAPPING - RLMCA231 - Database Lab

RLMCA231/PSO	PSO1	PSO2	PSO3
	2	3	3

RLMCA233

Course Code	Course Name	L-T-P:C	Year of Introduction
RLMCA233	Web Programming Lab	0-0-4:1	2016

No.	Course Outcome - RLMCA233 - Web Programming Lab	Target
CO1	Explore markup languages features and create interactive web pages using them.	66%
CO2	Learn and design Client side validation using scripting languages.	71%
CO3	Acquire knowledge about Open source JavaScript libraries.	66%
CO4	Design front end web page and connect to the back end databases.	66%
CO5	Do Client-side & Server-side scripting.	66%
CO6	Develop Web Applications.	66%

COURSE END SURVEY - RLMCA233 - Web Programming Lab

Sl.No	Questions & Options
CO1	To what extent the students are able to explore markup languages features and create interactive web pages using them?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO2	To what extent students are able to learn and design Client side validation using scripting languages?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO3	To what extent students are able to acquire knowledge about Open source JavaScript libraries?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO4	To what extent the students are able to design front end web page and connect to the back end databases?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO5	To what extent the students are able to do Client-side & Server-side scripting?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO6	To what extent students are able to develop Web Applications?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>

CO->PO MAPPING - RLMCA233 - Web Programming Lab

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	1	1		1	2	2	1	1	1		1	
CO2	1	1	1	1	1	1		1			1	
CO3	1	1		1		1					1	

CO4	1	1		1	1					1		
CO5	2	1	1		1		1					
CO6	2	2	1	1		1		1		1		

CO->PSO MAPPING - RLMCA233 - Web Programming Lab

CO/PSO	PSO1	PSO2	PSO3
CO1	1	1	1
CO2	1		1
CO3		1	1
CO4	2	1	
CO5	1	1	3
CO6	2	1	

COURSE->PO MAPPING - RLMCA233 - Web Programming Lab

RLMCA233/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	2	2	1	1	2	2	1	1	1	1	1	

COURSE->PSO MAPPING - RLMCA233 - Web Programming Lab

RLMCA233/PSO	PSO1	PSO2	PSO3
	2	1	3

RLMCA207

Course Code	Course Name	L-T-P:C	Year of Introduction
RLMCA207	Design and Analysis of Algorithm	3-1-0:4	2016

No.	Course Outcome - RLMCA207 - Design and Analysis of Algorithm	Target
CO1	Implement design principles and concepts to algorithm design.	62%
CO2	Attribute the efficiency of algorithms using time and space complexity theory.	62%
CO3	Outline worst-case running times of algorithms using asymptotic analysis.	62%
CO4	Infer different algorithmic design strategies.	62%
CO5	Develop efficient algorithms for simple computational tasks.	62%
CO6	Infer basic computational concepts and the complexity classes P, NP, and NP-Complete.	62%

COURSE END SURVEY - RLMCA207 - Design and Analysis of Algorithm

Sl.No	Questions & Options
CO1	To what extent you are able to implement design principles and concepts to algorithm design
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO2	To what extent you are able to calculate the efficiency of algorithms using time and space complexity theory
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO3	To what extent you are able to outline worst-case running times of algorithms using asymptotic analysis
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO4	To what extent you are able to inferr different algorithmic design strategies
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO5	To what extent you are able to develop efficient algorithms for simple computational tasks
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO6	To what extent you are able to inferr basic computational concepts and the complexity classes P, NP, and NP-Complete
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>

CO->PO MAPPING - RLMCA207 - Design and Analysis of Algorithm

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	2	3									1
CO2	2	3		2	2		1		1			
CO3		3	2	2	1							
CO4	3	2	3	2	1	1	1			2		
CO5	3	3	3	2	1	1	1	1		1	1	1
CO6	2	3	3	3	3	1	1	1		1	1	1

CO->PSO MAPPING - RLMCA207 - Design and Analysis of Algorithm

CO/PSO	PSO1	PSO2	PSO3
CO1	2	2	1
CO2	3	1	2
CO3	1	2	3
CO4	1	3	2
CO5	2	1	3
CO6	3	1	2

COURSE->PO MAPPING - RLMCA207 - Design and Analysis of Algorithm

RLMCA207/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	3	3	3	3	1	1	1	1	2	1	1

COURSE->PSO MAPPING - RLMCA207 - Design and Analysis of Algorithm

RLMCA207/PSO	PSO1	PSO2	PSO3
	3	3	3

SEMESTER-7**DMCA703**

Course Code	Course Name	L-T-P:C	Year of Introduction
DMCA703	Data Mining & Warehousing	4-1-0:4	2014

No.	Course Outcome - DMCA703 - Data Mining & Warehousing	Target
CO1	Analyze the basic Data Mining , concepts	60%
CO2	Apply a wide range of Classification,Prediction, Estimation and Clustering algorithms including k-means Clustering .	60%
CO3	Analyze the quantitative evaluation methods for the IR	60%
CO4	Evaluate various kinds of Text	60%
CO5	Understand the popular Search methods and Ranking principles	60%
CO6	Analyze the Data Collection and Data Modelling task	60%

COURSE END SURVEY - DMCA703 - Data Mining & Warehousing

Sl.No	Questions & Options
CO1	what extant do yo understand Analyze the basic Data Mining , concepts Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO2	what extant do yo understand Apply a wide range of Classification,Prediction, Estimation and Clustering algorithms including k-means Clustering . Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO3	what extant do yo understand Analyze the quantitative evaluation methods for the IR Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO4	what extant do yo understand Evaluate various kinds of Text Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO5	what extant do yo understand Understand the popular Search methods and Ranking principles

	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO6	what extant do yo understand Analyze the Data Collection and Data Modelling task
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>

CO->PO MAPPING - DMCA703 - Data Mining & Warehousing

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2									3		
CO2								3				
CO3												
CO4					2							2
CO5							2		3			
CO6		3										

CO->PSO MAPPING - DMCA703 - Data Mining & Warehousing

CO/PSO	PSO1	PSO2	PSO3
CO1	2		
CO2			2
CO3		3	
CO4			2
CO5			
CO6		3	

COURSE->PO MAPPING - DMCA703 - Data Mining & Warehousing

DMCA703/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	2	3			2		2	3	3	3		2

COURSE->PSO MAPPING - DMCA703 - Data Mining & Warehousing

DMCA703/PSO	PSO1	PSO2	PSO3
	2	3	2

DMCA705

Course Code	Course Name	L-T-P:C	Year of Introduction
DMCA705	PYTHON Programming	4-0-0:4	2014

No.	Course Outcome - DMCA705 - PYTHON Programming	Target
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CO1	Demonstrate the use of Python lists and dictionaries	60%
CO2	Master an understanding of Python especially the object-oriented concepts,	60%
CO3	Master an understanding of the built-in objects of Python	60.5%
CO4	Be exposed to advanced applications such as TCP/IP network programming, Client/Server Programming, Web applications, discrete-event simulations, Scientific Python etc.	60%
CO5	Master an understanding of Database, GUI Programming in Python	61%

COURSE END SURVEY - DMCA705 - PYTHON Programming

Sl.No	Questions & Options
CO1	To what extent you are able to demonstrate the use of Python lists and dictionaries
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO2	To what extent you are able to master an understanding of Python especially the object-oriented concepts
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO3	To what extent you are able to master an understanding of the built-in objects of Python
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO4	To what extent you are able to be exposed to advanced applications such as TCP/IP network programming, Client/Server Programming, Web applications, discrete-event simulations, Scientific Python etc.
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO5	To what extent you are able to master an understanding of Database, GUI Programming in Python
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>

CO->PO MAPPING - DMCA705 - PYTHON Programming

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1			1									
CO2								1		1		
CO3	2											
CO4		2	2		2							
CO5					2	3				2		

CO->PSO MAPPING - DMCA705 - PYTHON Programming

CO/PSO	PSO1	PSO2	PSO3
CO1	1		
CO2	2	3	
CO3		2	2

CO4		1	
CO5	2		

COURSE->PO MAPPING - DMCA705 - PYTHON Programming

DMCA705/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	2	2	2		2	3		1		2		

COURSE->PSO MAPPING - DMCA705 - PYTHON Programming

DMCA705/PSO	PSO1	PSO2	PSO3
	2	3	2

DMCA702

Course Code	Course Name	L-T-P:C	Year of Introduction
DMCA702	Principles of Management & Marketing	4-0-0:4	2014

No.	Course Outcome - DMCA702 - Principles of Management & Marketing	Target
CO1	Demonstrate managerial skills and analyze management theories and practices	60%
CO2	Understand the managerial functions in an organisation	60%
CO3	Understand Human Resource Management	60%
CO4	Develop better team building ability and work towards common goals	60%
CO5	Apply marketing strategies	60%

COURSE END SURVEY - DMCA702 - Principles of Management & Marketing

Sl.No	Questions & Options
CO1	To what extent students are able to demonstrate managerial skills and understand decision making process
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO2	To what extent students are able to understand the managerial functions in an organisation
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO3	To what extent students are able to understand Human Resource Management
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO4	To what extent students are able to develop better team building ability and work towards common goals
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO5	To what extent students are able to apply marketing strategies

Answer Choice- *Excellent/Very Good/Good/Satisfactory/Poor*

CO->PO MAPPING - DMCA702 - Principles of Management & Marketing

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1									2	1		
CO2									3	1	2	
CO3									2	1	1	
CO4									3	2	2	
CO5									3	2	1	

CO->PSO MAPPING - DMCA702 - Principles of Management & Marketing

CO/PSO	PSO1	PSO2	PSO3
CO1			3
CO2			3
CO3			2
CO4			3
CO5			3

COURSE->PO MAPPING - DMCA702 - Principles of Management & Marketing

DMCA702/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
									3	2	2	

COURSE->PSO MAPPING - DMCA702 - Principles of Management & Marketing

DMCA702/PSO	PSO1	PSO2	PSO3
			3

DMCA704

Course Code	Course Name	L-T-P:C	Year of Introduction
DMCA704	Web Technologies	4-1-0:4	2014

No.	Course Outcome - DMCA704 - Web Technologies	Target
CO1	Review the current topics in web and internet technologies	60%
CO2	Analyse a web page using HTML, XML and CSS	60%
CO3	Build dynamic web page using javascript, Vb script and Ajax	60%
CO4	Build dynamic web page using ASP.NET and JSP	60%

CO5	Build interactive web application using Ruby on Rails	60%
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COURSE END SURVEY - DMCA704 - Web Technologies

Sl.No	Questions & Options
CO1	To what extent you are able to Review the current topics in web and internet technologies
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO2	To what extent you are able to analyse a web page using HTML, XML and CSS
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO3	To what extent you are able to build dynamic web page using javascript, Vb script and Ajax
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO4	To what extent you are able to build dynamic web page using ASP.NET and JSP
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO5	To what extent you are able to build interactive web application using Ruby on Rails
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>

CO->PO MAPPING - DMCA704 - Web Technologies

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	1		1			1		1	1	1		1
CO2	1	1	2	1	3			1	1	2	2	3
CO3	1	1	2	1	3			1	1	2	2	3
CO4	2	2	3	1	3			1	1	3	2	3
CO5	2	1	2	1	2			1	1	3	2	3

CO->PSO MAPPING - DMCA704 - Web Technologies

CO/PSO	PSO1	PSO2	PSO3
CO1	1		
CO2	1	1	2
CO3	2	1	2
CO4	2	2	3
CO5	2	3	3

COURSE->PO MAPPING - DMCA704 - Web Technologies

DMCA704/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	2	2	3	1	3	1		1	1	3	2	3

COURSE->PSO MAPPING - DMCA704 - Web Technologies

DMCA704/PSO	PSO1	PSO2	PSO3
	2	3	3

DMCA706

Course Code	Course Name	L-T-P:C	Year of Introduction
DMCA706	Software Lab XI- PYTHON Lab	0-0-4:2	2014

No.	Course Outcome - DMCA706 - Software Lab XI- PYTHON Lab	Target
CO1	Demonstrate the use of Python lists and dictionaries	60%
CO2	Master an understanding of Python especially the object-oriented concepts	62%
CO3	Master an understanding of the built-in objects of Python	60%
CO4	Be exposed to advanced applications such as TCP/IP network programming, Client/Server Programming, Web applications, discrete-event simulations, Scientific Python etc.	61%
CO5	Master an understanding of Database, GUI Programming in Python	61%

COURSE END SURVEY - DMCA706 - Software Lab XI- PYTHON Lab

Sl.No	Questions & Options
CO1	To what extent you are able to demonstrate the use of Python lists and dictionaries
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO2	To what extent you are able to master an understanding of Python especially the object-oriented concepts
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO3	To what extent you are able to master an understanding of the built-in objects of Python
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO4	To what extent you are able to use advanced applications such as TCP/IP network programming, Client/Server Programming, Web applications, discrete-event simulations, Scientific Python etc.
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO5	To what extent you are able to master an understanding of Database, GUI Programming in Python
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>

CO->PO MAPPING - DMCA706 - Software Lab XI- PYTHON Lab

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1			1									
CO2								1		1		

CO3	2											
CO4		2	2		2							
CO5					2	3				2		

CO->PSO MAPPING - DMCA706 - Software Lab XI- PYTHON Lab

CO/PSO	PSO1	PSO2	PSO3
CO1	1		
CO2	2	3	
CO3		2	2
CO4		1	
CO5	2		

COURSE->PO MAPPING - DMCA706 - Software Lab XI- PYTHON Lab

DMCA706/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	2	2	2		2	3		1		2		

COURSE->PSO MAPPING - DMCA706 - Software Lab XI- PYTHON Lab

DMCA706/PSO	PSO1	PSO2	PSO3
	2	3	2

DMCA707

Course Code	Course Name	L-T-P:C	Year of Introduction
DMCA707	Software Lab XII -Web Technologies Lab	0-0-4:2	2014

No.	Course Outcome - DMCA707 - Software Lab XII -Web Technologies Lab	Target
CO1	Implement web pages using HTML, XML and CSS.	60%
CO2	Construct web pages using javascript.	60%
CO3	Design web applications using AJAX.	60%
CO4	Implement web applications using PHP.	60%
CO5	Build interactive web application using Ruby on Rails.	60%

COURSE END SURVEY - DMCA707 - Software Lab XII -Web Technologies Lab

Sl.No	Questions & Options
CO1	To what extent you are able to implement web pages using HTML, XHTML and CSS?

	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO2	To what extent you are able to construct web pages using javascript?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO3	To what extent you are able to design web applications using the concept of XML and AJAX?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO4	To what extent you are able to implement web applications using PHP?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO5	To what extent you are able to build interactive web application using Ruby on Rails?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>

CO->PO MAPPING - DMCA707 - Software Lab XII -Web Technologies Lab

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	1	1	2	1	3			1	1	2	2	3
CO2	1	1	2	1	3			1	1	2	2	3
CO3	1	1	2	1	3			1	1	2	2	3
CO4	2	2	3	1	3			1	1	3	2	3
CO5	2	1	2	1	2			1	1	3	2	3

CO->PSO MAPPING - DMCA707 - Software Lab XII -Web Technologies Lab

CO/PSO	PSO1	PSO2	PSO3
CO1	1	1	2
CO2	2	1	2
CO3	2	1	2
CO4	2	2	3
CO5	2	3	3

COURSE->PO MAPPING - DMCA707 - Software Lab XII -Web Technologies Lab

DMCA707/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	2	2	3	1	3			1	1	3	2	3

COURSE->PSO MAPPING - DMCA707 - Software Lab XII -Web Technologies Lab

DMCA707/PSO	PSO1	PSO2	PSO3
	2	3	3

DMCA701

Course Code	Course Name	L-T-P:C	Year of Introduction
DMCA701	Mathematical Foundation Of Computer Security	4-0-0:4	2014

No.	Course Outcome - DMCA701 - Mathematical Foundation Of Computer Security	Target
CO1	Apply concepts such as Mathematical induction, recursion and the division algorithm in computer applications such as analysis of algorithms	60%
CO2	Use the Euclidean algorithm to find the gcd and lcm of two equations and in the solution of Diophantine equations	60%
CO3	Solve systems of linear congruences and use simple cryptographic techniques	60%
CO4	Understand and evaluate the order and index of a positive integer to a specified modulus	60%
CO5	Understand and evaluate quadratic congruences	60%

COURSE END SURVEY - DMCA701 - Mathematical Foundation Of Computer Security

Sl.No	Questions & Options
CO1	To what extent are you able to apply concepts such as Mathematical induction, recursion and the division algorithm in computer applications such as analysis of algorithms
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO2	To what extent are you able to apply the Euclidean algorithm to find the gcd and lcm of two equations and in the solution of Diophantine equations
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO3	To what extent are you able to solve systems of linear congruences and use simple cryptographic techniques
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO4	To what extent are you able to understand and evaluate the order and index of a positive integer to a specified modulus
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO5	To what extent are you able to understand and evaluate quadratic congruences
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>

CO->PO MAPPING - DMCA701 - Mathematical Foundation Of Computer Security

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	3	2						1			1
CO2	3	3	2						1			1
CO3	3	3	2						1			1
CO4	3	3	2						1			1
CO5	3	3	2						1			1

CO->PSO MAPPING - DMCA701 - Mathematical Foundation Of Computer Security

CO/PSO	PSO1	PSO2	PSO3
CO1	2	2	
CO2	3	2	
CO3	3	2	
CO4	3	2	
CO5	3	2	

COURSE->PO MAPPING - DMCA701 - Mathematical Foundation Of Computer Security

DMCA701/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	3	2						1			1

COURSE->PSO MAPPING - DMCA701 - Mathematical Foundation Of Computer Security

DMCA701/PSO	PSO1	PSO2	PSO3
	3	2	

SEMESTER-8**RLMCA202**

Course Code	Course Name	L-T-P:C	Year of Introduction
RLMCA202	Application Development and Maintenance	3-1-0:4	2016

No.	Course Outcome - RLMCA202 - Application Development and Maintenance	Target
CO1	Analyze the principles of software delivery and Configuration Management System	62%
CO2	Experiment with GIT and gain knowledge in continuous integration environment	62%
CO3	Analyze the stages of deployment pipeline that leads to the deployment of an application	62%
CO4	Describe the working of automated testing tools for functional and non functional requirements	62%
CO5	Analyze best coding practices and apply the same in their academic projects	62%
CO6	Infer the pragmatic approach for developing an industry ready application	62%

COURSE END SURVEY - RLMCA202 - Application Development and Maintenance

Sl.No	Questions & Options
CO1	To what extent you are able to Analyze the principles of software delivery and Configuration Management System
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>

CO2	To what extent you are able to experiment with GIT and gain knowledge in continuous integration environment
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO3	To what extent you are able to analyze the stages of deployment
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO4	To what extent you are able to describe the working of automated testing tools
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO5	To what extent you are able to analyze best coding practices and apply the same in their academic projects
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO6	To what extent you are able to Infer the pragmatic approach for developing an industry ready application
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>

CO->PO MAPPING - RLMCA202 - Application Development and Maintenance

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	2					1		2			
CO2	1		2		2				3	3	2	
CO3	2				3						2	
CO4	2			1	3							
CO5	2					1			3		2	2
CO6								2			2	3

CO->PSO MAPPING - RLMCA202 - Application Development and Maintenance

CO/PSO	PSO1	PSO2	PSO3
CO1	2		3
CO2		3	
CO3	1	2	
CO4		2	3
CO5	3		2
CO6	2	3	1

COURSE->PO MAPPING - RLMCA202 - Application Development and Maintenance

RLMCA202/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	2	2	2	1	3	1	1	2	3	3	2	3

COURSE->PSO MAPPING - RLMCA202 - Application Development and Maintenance

RLMCA202/PSO	PSO1	PSO2	PSO3
	3	3	3

RLMCA204

Course Code	Course Name	L-T-P:C	Year of Introduction
RLMCA204	Big Data Technologies	3-1-0:4	2016

No.	Course Outcome - RLMCA204 - Big Data Technologies	Target
CO1	Analyze Big Data	70%
CO2	Demonstrate Hadoop applications for Big Data.	70%
CO3	Examine Analytic results using HDFS	70%
CO4	Apply the concepts of MapReduce framework	70%
CO5	Compare Big Data Storage Technologies	70%
CO6	Select an appropriate analysis technique for Data analysis project	70%

COURSE END SURVEY - RLMCA204 - Big Data Technologies

Sl.No	Questions & Options
CO1	To what extent you are able to analyze Big Data
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO2	To what extent you are able to demonstrate Hadoop applications for Big Data.
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO3	To what extent you are able to examine Analytic results using HDFS
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO4	To what extent you are able to apply the concepts of MapReduce framework
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO5	To what extent you are able to compare Big Data Storage Technologies
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO6	To what extent you are able to select an appropriate analysis technique for Data analysis project
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>

CO->PO MAPPING - RLMCA204 - Big Data Technologies

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12

CO1	3	3	3		1							
CO2		2										
CO3		3										
CO4				3								
CO5					2			1				
CO6		3										

CO->PSO MAPPING - RLMCA204 - Big Data Technologies

CO/PSO	PSO1	PSO2	PSO3
CO1			
CO2			
CO3			
CO4			
CO5			
CO6			

COURSE->PO MAPPING - RLMCA204 - Big Data Technologies

RLMCA204/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	3	3	3	2			1				

COURSE->PSO MAPPING - RLMCA204 - Big Data Technologies

RLMCA204/PSO	PSO1	PSO2	PSO3

RLMCA206

Course Code	Course Name	L-T-P:C	Year of Introduction
RLMCA206	Mobile Computing	3-1-0:4	2016

No.	Course Outcome - RLMCA206 - Mobile Computing	Target
CO1	Analyze the concept of mobile communication and computing technology	62%
CO2	Describe the concept and working of various mobile network	62.5%
CO3	Compare different mobile OS	63.5%
CO4	Explain the key technology principles, protocols and methods for delivering and maintaining mobile applications	62.5%

CO5	Identify Android Development Environment and development tools	62%
CO6	Identify android components and storage techniques for deployment of mobile applications	62%

COURSE END SURVEY - RLMCA206 - Mobile Computing

Sl.No	Questions & Options
CO1	To what extent you are able to analyse the concept of mobile communication and technology
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO2	To what extent you are able to describe the concept of various mobile computing
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO3	To what extent you are able to compare various mobile OS
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO4	To what extent you are able to explain the key technology , protocols and methods of maintaining mobile applications
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO5	To what extent you are able to understand different android IDE and development tools
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO6	To what extent you are able to identify android components and storage techniques
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>

CO->PO MAPPING - RLMCA206 - Mobile Computing

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2				2							
CO2		2			1							
CO3	2			2	2							
CO4		1		1	2						2	
CO5			3		2	2					2	
CO6					3		2	2	2			

CO->PSO MAPPING - RLMCA206 - Mobile Computing

CO/PSO	PSO1	PSO2	PSO3
CO1			
CO2			
CO3			
CO4			

CO5			
CO6			

COURSE->PO MAPPING - RLMCA206 - Mobile Computing

RLMCA206/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	2	2	3	2	3	2	2	2	2		2	

COURSE->PSO MAPPING - RLMCA206 - Mobile Computing

RLMCA206/PSO	PSO1	PSO2	PSO3

RLMCA208

Course Code	Course Name	L-T-P:C	Year of Introduction
RLMCA208	Introduction to Machine Learning	3-1-0:4	2016

No.	Course Outcome - RLMCA208 - Introduction to Machine Learning	Target
CO1	Analyze the basic concepts of Machine Learning and exploring the input data in detail.	60.5%
CO2	Identify machine learning problems and apply suitable algorithms.	60.5%
CO3	Interpreting how to apply a variety of learning algorithms to data.	60.5%
CO4	Examine the strengths and weakness of many popular machine learning approaches.	60.5%
CO5	Inferring the basic theory and models used in machine learning.	60.5%
CO6	Summarizing how to perform evaluation of learning algorithms and improve model selection.	60.5%

COURSE END SURVEY - RLMCA208 - Introduction to Machine Learning

Sl.No	Questions & Options
CO1	To what extent you are able to analyze the basic concepts of Machine Learning and exploring the input data in detail
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO2	To what extent you are able to identify machine learning problems and apply suitable algorithms.
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO3	To what extent you are able to interpreting how to apply a variety of learning algorithms to data.
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO4	To what extent you are able to examine the strengths and weakness of many popular machine learning approaches.
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>

CO5	To what extent you are able to inferring the basic theory and models used in machine learning.
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO6	To what extent you are able to summarizing how to perform evaluation of learning algorithms and improve model selection.
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>

CO->PO MAPPING - RLMCA208 - Introduction to Machine Learning

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3				1			1				
CO2	2	2	2									
CO3	2			2		2						
CO4	2								2			
CO5	2						2			1		
CO6	2										2	1

CO->PSO MAPPING - RLMCA208 - Introduction to Machine Learning

CO/PSO	PSO1	PSO2	PSO3
CO1	1		
CO2			
CO3		2	
CO4			
CO5			2
CO6			

COURSE->PO MAPPING - RLMCA208 - Introduction to Machine Learning

RLMCA208/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	2	2	2	1	2	2	1	2	1	2	1

COURSE->PSO MAPPING - RLMCA208 - Introduction to Machine Learning

RLMCA208/PSO	PSO1	PSO2	PSO3
	1	2	2

RLMCA266

Course Code	Course Name	L-T-P:C	Year of Introduction
RLMCA266	Advanced Database Systems	3-1-0:4	2016

No.	Course Outcome - RLMCA266 - Advanced Database Systems	Target
CO1	Explain the role that database play in organizing the storage and Access	62%
CO2	Illustrate the basic database structures and access techniques:indexing methods using B+tree	61%
CO3	Compare the file Organisation,query optimization management and database administration techniques	62%
CO4	Demonstrate the basics of Object Oriented Database and XML	62%
CO5	Interpret the basics of advanced topics such as database performance tuning,distributed Databases	61%
CO6	Compare the file Organisation,query optimization management and database administration techniques	61%

COURSE END SURVEY - RLMCA266 - Advanced Database Systems

Sl.No	Questions & Options
CO1	To what extent students are able to explain the role that database play in organizing the storage and Access
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO2	Are you able to illustrate the basic database structures and access techniques: indexing methods using B+tree
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO3	How will you compare the file Organisation, query optimization management and database administration techniques
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO4	To what extent that you are able to demonstrate the basics of Object Oriented Database and XML
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO5	To what extent you are able to interpret the basics of advanced topics such as database performance tuning, distributed databases
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO6	To what extent you are able to understand about non relational database systems and structures and new generation database systems like MongoDB
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>

CO->PO MAPPING - RLMCA266 - Advanced Database Systems

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	1	3	2	3	2		2	2	2	1	1	2
CO2	1	2	2	1	2	2	3		2	1		2
CO3	2	2	2		3	2	2	2	3	1	1	1
CO4	2	1	2	1	2	1	1	2	2	2		2

CO5	2	1	2	2	1	1	2		1	2	2	1
CO6	3	1		2	2	1	2	1	1	1	2	

CO->PSO MAPPING - RLMCA266 - Advanced Database Systems

CO/PSO	PSO1	PSO2	PSO3
CO1	2	2	2
CO2	2	2	2
CO3	2	2	2
CO4	2	2	2
CO5	1	2	1
CO6	1	1	2

COURSE->PO MAPPING - RLMCA266 - Advanced Database Systems

RLMCA266/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	3	2	3	3	2	3	2	3	2	2	2

COURSE->PSO MAPPING - RLMCA266 - Advanced Database Systems

RLMCA266/PSO	PSO1	PSO2	PSO3
	2	2	2

RLMCA232

Course Code	Course Name	L-T-P:C	Year of Introduction
RLMCA232	System Design Lab	0-0-4:1	2016

No.	Course Outcome - RLMCA232 - System Design Lab	Target
CO1	Experiment basic Linux commands	62%
CO2	Analyze the fundamentals of shell scripting/programming	62%
CO3	Formulate Shell Programs for system administration	62%
CO4	Explain Use of GIT and gain knowledge in using version control	62%
CO5	Practice and Develop programs for client- server communications using various network protocols(TCP/UDP).	62%

COURSE END SURVEY - RLMCA232 - System Design Lab

Sl.No	Questions & Options
CO1	To what extent you are able to use Linux Commands

	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO2	To what extent you are able to analyze the fundamentals of shell scripting/programming
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO3	To what extent you are able to formulate Shell Programs for system administration
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO4	To what extent you are able to use GIT and version control
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO5	To what extent you are able to develop programs for client- server communications using various network protocols(TCP/UDP)
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>

CO->PO MAPPING - RLMCA232 - System Design Lab

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	1		2			1			1		1
CO2	2		1		1			3				2
CO3	3	1	1		2				2			2
CO4		1	1			1		2				
CO5	2				3			2			2	

CO->PSO MAPPING - RLMCA232 - System Design Lab

CO/PSO	PSO1	PSO2	PSO3
CO1	2		1
CO2		2	2
CO3	3	1	
CO4	3		2
CO5		3	1

COURSE->PO MAPPING - RLMCA232 - System Design Lab

RLMCA232/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	1	1	2	3	1	1	3	2	1	2	2

COURSE->PSO MAPPING - RLMCA232 - System Design Lab

RLMCA232/PSO	PSO1	PSO2	PSO3
	3	3	2

RLMCA234

Course Code	Course Name	L-T-P:C	Year of Introduction
RLMCA234	Mobile Application Development Lab	0-0-4:1	2016

No.	Course Outcome - RLMCA234 - Mobile Application Development Lab	Target
CO1	Setup Android Platform and Android Studio IDE	62.5%
CO2	Mange UI Design Widget and Layouts , UI Events, Event Liseners	62.5%
CO3	Experiment Android Components , Activities, Intents, and Services	61.5%
CO4	Debug Android Applications using different tools	61.5%
CO5	Develop application with SQLite DB	61.5%
CO6	Design and build functional Android applications	61.5%

COURSE END SURVEY - RLMCA234 - Mobile Application Development Lab

Sl.No	Questions & Options
CO1	To what extent you are able to handle Android platform and IDE
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO2	To what extent you are able to manage from Widget and layouts ?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO3	To what extent you learned about android components activity , service and intents
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO4	To what extent you are able to debug an application
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO5	To what extent you are able to do an SQLite DB Application
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO6	To what extent you are able to design and built Android applications
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>

CO->PO MAPPING - RLMCA234 - Mobile Application Development Lab

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2				2							
CO2		2			1							
CO3	2	1			2							

CO4			1	2								
CO5		3		2						2		
CO6								2	1	2		

CO->PSO MAPPING - RLMCA234 - Mobile Application Development Lab

CO/PSO	PSO1	PSO2	PSO3
CO1	2		
CO2		2	
CO3		2	
CO4	2		
CO5	2		
CO6	2		

COURSE->PO MAPPING - RLMCA234 - Mobile Application Development Lab

RLMCA234/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	2	2	3	1	2				2	1	2	

COURSE->PSO MAPPING - RLMCA234 - Mobile Application Development Lab

RLMCA234/PSO	PSO1	PSO2	PSO3
	2	2	

SEMESTER-8**DMCA801**

Course Code	Course Name	L-T-P:C	Year of Introduction
DMCA801	Cryptography and Network Security	4-0-0:4	2014

No.	Course Outcome - DMCA801 - Cryptography and Network Security	Target
CO1	Learn basic fundamentals of cryptography	65.5%
CO2	Understand the Modern Symmetric Encryption algorithms	60.5%
CO3	Analyze and use methods for public key cryptography	60.5%
CO4	Achieve integrity through the usage HASH and MAC	60.5%
CO5	Apply different application level security protocols	60.5%

COURSE END SURVEY - DMCA801 - Cryptography and Network Security

Sl.No	Questions & Options
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CO1	To what extent you can learn basic fundamentals of cryptography
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO2	To what extent you are able to understand the Modern Symmetric Encryption algorithms
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO3	To what extent you are able to analyze and use methods for public key cryptography
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO4	To what extent you are able to achieve integrity through the usage HASH and MAC
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO5	To what extent you are able to apply different application level security protocols
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>

CO->PO MAPPING - DMCA801 - Cryptography and Network Security

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	1	2									
CO2	1	1	2									
CO3	1	2										
CO4	1	2										
CO5	1	2										

CO->PSO MAPPING - DMCA801 - Cryptography and Network Security

CO/PSO	PSO1	PSO2	PSO3
CO1	2		
CO2	2		
CO3		2	
CO4	2		
CO5			2

COURSE->PO MAPPING - DMCA801 - Cryptography and Network Security

DMCA801/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	2	2	2									

COURSE->PSO MAPPING - DMCA801 - Cryptography and Network Security

DMCA801/PSO	PSO1	PSO2	PSO3
	2	2	2

DMCA802

Course Code	Course Name	L-T-P:C	Year of Introduction
DMCA802	ARTIFICIAL INTELLIGENCE	4-0-0:4	2014

No.	Course Outcome - DMCA802 - ARTIFICIAL INTELLIGENCE	Target
CO1	Identify appropriate AI methods to solve a given problem	60.1%
CO2	Apply different knowledge representation schemes to organize and manage the knowledge in an intelligent system	61.1%
CO3	Analyze basic AI search algorithms	60.1%
CO4	Apply knowledge representation, reasoning, and machine learning techniques to real-world problems	61.2%
CO5	Prepare to conduct research in NLP or related fields	60.2%
CO6	Demonstrate how to represent a problem using a production system	60.1%

COURSE END SURVEY - DMCA802 - ARTIFICIAL INTELLIGENCE

Sl.No	Questions & Options
CO1	To what extent you can identify an appropriate AI methods to solve a given problem
	Answer Choice- <i>Always/Very often/Sometimes/Rarely/Never</i>
CO2	To what extent you can represent the required knowledge for designing an intelligent system
	Answer Choice- <i>Extremely helpful/Moderately helpful/ Helpful/A little helpful/Not at all helpful</i>
CO3	To what extent you can categorize AI search algorithms
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO4	To what extent you can use learning techniques
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO5	To what extent you gain an insight into the research applications of NLP
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO6	To what extent you are able to illustrate the representation of a real world problem using a production system
	Answer Choice- <i>Always/Very often/Sometimes/Rarely/Never</i>

CO->PO MAPPING - DMCA802 - ARTIFICIAL INTELLIGENCE

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1			1									
CO2	1		1									

CO3	1		1									
CO4	1	2	1									
CO5				1								
CO6	1		1									

CO->PSO MAPPING - DMCA802 - ARTIFICIAL INTELLIGENCE

CO/PSO	PSO1	PSO2	PSO3
CO1			
CO2			
CO3			
CO4			
CO5			
CO6			

COURSE->PO MAPPING - DMCA802 - ARTIFICIAL INTELLIGENCE

DMCA802/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	1	2	1	1								

COURSE->PSO MAPPING - DMCA802 - ARTIFICIAL INTELLIGENCE

DMCA802/PSO	PSO1	PSO2	PSO3

DMCA803

Course Code	Course Name	L-T-P:C	Year of Introduction
DMCA803	Data Analysis & Algorithms	4-1-0:4	2014

No.	Course Outcome - DMCA803 - Data Analysis & Algorithms	Target
CO1	Apply design principles and concepts to algorithm design	61%
CO2	Analyze the efficiency of algorithms using time and space complexity theory	60%
CO3	Analyze worst-case running times of algorithms using asymptotic analysis	60%
CO4	Illustrate different algorithmic design strategies	60%
CO5	Identify appropriate data structure and algorithm for a given contextual problem	60%

COURSE END SURVEY - DMCA803 - Data Analysis & Algorithms

Sl.No	Questions & Options

CO1	To what extent you are able to Apply design principles and concepts to algorithm design
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO2	To what extent you are able to Analyze the efficiency of algorithms using time and space complexity theory
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO3	To what extent you are able to Analyze worst-case running times of algorithms using asymptotic analysis
	Answer Choice- <i>Always/Very often/Sometimes/Rarely/Never</i>
CO4	To what extent you are able to Illustrate different algorithmic design strategies
	Answer Choice- <i>Always/Very often/Sometimes/Rarely/Never</i>
CO5	To what extent you are able to Identify appropriate data structure and algorithm for a given contextual problem
	Answer Choice- <i>Always/Very often/Sometimes/Rarely/Never</i>

CO->PO MAPPING - DMCA803 - Data Analysis & Algorithms

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	1	3										
CO2												
CO3												
CO4		2		1					3			
CO5					1							2

CO->PSO MAPPING - DMCA803 - Data Analysis & Algorithms

CO/PSO	PSO1	PSO2	PSO3
CO1			
CO2			
CO3			
CO4			
CO5			

COURSE->PO MAPPING - DMCA803 - Data Analysis & Algorithms

DMCA803/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	1	3		1	1				3			2

COURSE->PSO MAPPING - DMCA803 - Data Analysis & Algorithms

DMCA803/PSO	PSO1	PSO2	PSO3

DMCA804

Course Code	Course Name	L-T-P:C	Year of Introduction
DMCA804	Elective- II	4-1-0:4	2014

No.	Course Outcome - DMCA804 - Elective- II	Target
CO1	Discuss how Android applications work, their life cycle, manifest, Intents, and using external resources	60%
CO2	Construct useful Android applications with compelling user interfaces by using, extending, and creating your own layouts and Views and using Menus	60%
CO3	Practice Androids APIs for data storage, retrieval, user preferences, files	60%
CO4	Use Androids APIs for databases, and content providers.	60%
CO5	Examine the power of background services, threads, and notifications	60%

COURSE END SURVEY - DMCA804 - Elective- II

Sl.No	Questions & Options
CO1	To what extent you are able to explain Activity life cycle in Android
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO2	To what extent you are able to use android Menus
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO3	To what extent you are able to practice android API
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO4	To what extent you are able to work with android database
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO5	To what extent you are able to explain threads in android application
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>

CO->PO MAPPING - DMCA804 - Elective- II

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3			1	1	2	1	2		2	2	2
CO2		2			3		2		1		2	2
CO3			3		2			1	2			1
CO4	1			2		2						
CO5			1			2	1	1				

CO->PSO MAPPING - DMCA804 - Elective- II

CO/PSO	PSO1	PSO2	PSO3
CO1	2		1
CO2	2	2	2
CO3	2		
CO4		2	
CO5		2	

COURSE->PO MAPPING - DMCA804 - Elective- II

DMCA804/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	2	3	2	3	2	2	2	2	2	2	2

COURSE->PSO MAPPING - DMCA804 - Elective- II

DMCA804/PSO	PSO1	PSO2	PSO3
	2	2	2

DMCA805

Course Code	Course Name	L-T-P:C	Year of Introduction
DMCA805	Computer Graphics and Open GL	4-0-0:4	2014

No.	Course Outcome - DMCA805 - Computer Graphics and Open GL	Target
CO1	Identify the computer graphics display technologies.	61.1%
CO2	Recognize the 2D transformation concepts and viewing transformation.	60.1%
CO3	Employ the 3D geometric and modelling transformations and viewing.	60.1%
CO4	Describe the techniques to represent curves and surfaces.	60.1%
CO5	Compare surface detection methods and shading methods.	60.1%
CO6	Differentiate raster graphics algorithms.	61.1%

COURSE END SURVEY - DMCA805 - Computer Graphics and Open GL

Sl.No	Questions & Options
CO1	To what extent you are able to identify the computer graphics display technologies.
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO2	To what extent you are able to recognize the 2D transformation concepts and viewing transformation.
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>

CO3	To what extent you are able to employ the 3D geometric and modelling transformations and viewing.
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO4	To what extent you are able to describe the techniques to represent curves and surfaces.
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO5	To what extent you are able to compare surface detection methods and shading methods.
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO6	To what extent you are able to differentiate differentiate raster graphics algorithms.
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>

CO->PO MAPPING - DMCA805 - Computer Graphics and Open GL

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1					1							
CO2					1							
CO3	1											
CO4					1							
CO5					1							
CO6	1											

CO->PSO MAPPING - DMCA805 - Computer Graphics and Open GL

CO/PSO	PSO1	PSO2	PSO3
CO1	1	3	
CO2	1		
CO3	1		
CO4	1		
CO5	1		
CO6	1		

COURSE->PO MAPPING - DMCA805 - Computer Graphics and Open GL

DMCA805/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	1				1							

COURSE->PSO MAPPING - DMCA805 - Computer Graphics and Open GL

DMCA805/PSO	PSO1	PSO2	PSO3
	1	3	

DMCA806

Course Code	Course Name	L-T-P:C	Year of Introduction
DMCA806	Seminar- II	0-0-4:2	2014

No.	Course Outcome - DMCA806 - Seminar- II	Target
CO1	Express competence in identifying relevant information, defining and explaining topics under discussion.	60%
CO2	Employ appropriate registers and vocabulary, and will demonstrate command of voice modulation, voice projection, and pacing.	60%
CO3	Demonstrate the ability to ask disciplinarily appropriate questions of the material and recognize when lines of inquiry fall outside of disciplinary boundaries.	60%
CO4	Use visual, audio and audio-visual material to support their presentation, and will be able to speak cogently with or without notes	60%
CO5	Create proper listening skills and the development of confidence in their own thinking.	60%
CO6	Apply principles of ethics and respect in interaction with others.	60%

COURSE END SURVEY - DMCA806 - Seminar- II

Sl.No	Questions & Options
CO1	To what extent you are able to Express competence in identifying relevant information, defining and explaining topics under discussion. Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO2	To what extent you are able to employ appropriate registers and vocabulary, and will demonstrate command of voice modulation, voice projection, and pacing. Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO3	To what extent you are able to demonstrate the ability to ask disciplinarily appropriate questions of the material and recognize when lines of inquiry fall outside of disciplinary boundaries. Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO4	To what extent you are able to use visual, audio and audio-visual material to support their presentation, and will be able to speak cogently with or without notes Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO5	To what extent you are able to create proper listening skills and the development of confidence in their own thinking Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO6	To what extent you are able to apply principles of ethics and respect in interaction with others. Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>

CO->PO MAPPING - DMCA806 - Seminar- II

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1												
CO2	2									2		
CO3	2	3				1						
CO4			2		1							
CO5												
CO6								3	2			

CO->PSO MAPPING - DMCA806 - Seminar- II

CO/PSO	PSO1	PSO2	PSO3
CO1			
CO2			
CO3			
CO4			
CO5			
CO6			

COURSE->PO MAPPING - DMCA806 - Seminar- II

DMCA806/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	2	3	2		1	1		3	2	2		

COURSE->PSO MAPPING - DMCA806 - Seminar- II

DMCA806/PSO	PSO1	PSO2	PSO3

DMCA807

Course Code	Course Name	L-T-P:C	Year of Introduction
DMCA807	Software Lab-XII(Graphics Lab)	0-0-4:2	2014

No.	Course Outcome - DMCA807 - Software Lab-XII(Graphics Lab)	Target
CO1	Explain the core concepts of computer graphics.	60%
CO2	Apply basic graphics application programs including animation.	60%
CO3	Design programs to display graphic images to given specifications.	60%
CO4	Constructing interactive computer graphics programs using OpenGL.	60%

CO5	Create computer models of 2D and 3D objects using OpenGL.	60%
CO6	Apply the different types of geometric transformations in 2D and 3D objects.	60%

COURSE END SURVEY - DMCA807 - Software Lab-XII(Graphics Lab)

Sl.No	Questions & Options
CO1	To what extent you are able to explain the core concepts of computer graphics.
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO2	To what extent you are able to apply basic graphics application programs including animation.
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO3	To what extent you are able to design programs to display graphic images to given specifications.
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO4	To what extent you are able to demonstrate interactive computer graphics programs using OPenGL.
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO5	To what extent you are able to use computer graphics models of 2D and 3D objects using OpenGL.
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO6	To what extent you are able to Apply the different types of geometric transformations in 2D and 3D objects.
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>

CO->PO MAPPING - DMCA807 - Software Lab-XII(Graphics Lab)

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1					1							
CO2					1							
CO3					1							
CO4					1							
CO5					1							
CO6												

CO->PSO MAPPING - DMCA807 - Software Lab-XII(Graphics Lab)

CO/PSO	PSO1	PSO2	PSO3
CO1			
CO2			
CO3			
CO4			

CO5			
CO6			

COURSE->PO MAPPING - DMCA807 - Software Lab-XII(Graphics Lab)

DMCA807/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
					1							

COURSE->PSO MAPPING - DMCA807 - Software Lab-XII(Graphics Lab)

DMCA807/PSO	PSO1	PSO2	PSO3

SEMESTER-9**RLMCA301**

Course Code	Course Name	L-T-P:C	Year of Introduction
RLMCA301	Web Data Mining	3-1-0:4	2016

No.	Course Outcome - RLMCA301 - Web Data Mining	Target
CO1	Analyze the basic Data Mining , Web Mining concepts and apply at least one of the algorithms used for Association Rule Mining	60.1%
CO2	Apply a wide range of Classification,Prediction, Estimation and Clustering algorithms including k-means Clustering .	60.1%
CO3	Analyze the quantitative evaluation methods for the IR systems and data mining techniques.	60.1%
CO4	Evaluate various kinds of Text and Web Page Pre-Processing.	60.1%
CO5	Understand the popular Web Search methods and Ranking principles	60.1%
CO6	Analyze the Data Collection and Data Modelling tasks for Web Usage Mining	60.1%

COURSE END SURVEY - RLMCA301 - Web Data Mining

Sl.No	Questions & Options
CO1	To what extent you are able to analyze the basic Data Mining , Web Mining concepts and apply the algorithms used for Association Rule Mining Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO2	To what extent you are able to apply Classification,Prediction, Estimation and Clustering algorithms including k-means Clustering Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO3	To what extent you are able to analyze the quantitative evaluation methods for the IR systems and data mining techniques

	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO4	To what extent you are able to evaluate various kinds of Text and Web Page Pre-Processing.
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO5	To what extent you are able to understand the popular Web Search methods and Ranking principles
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO6	To what extent you are able to analyze the Data Collection and Data Modelling tasks for Web Usage Mining
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>

CO->PO MAPPING - RLMCA301 - Web Data Mining

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	2	1	3	2	2		1				2
CO2	3	3	3	3	1	2	2		1	2	1	2
CO3	2	2	2	2	2	2						2
CO4	2			3	2							2
CO5	2	2	2	2	2							2
CO6	2	2	2	2	2	2						2

CO->PSO MAPPING - RLMCA301 - Web Data Mining

CO/PSO	PSO1	PSO2	PSO3
CO1	3	3	2
CO2	3	2	2
CO3	2	2	2
CO4	2	2	2
CO5	2	2	2
CO6	2	2	1

COURSE->PO MAPPING - RLMCA301 - Web Data Mining

RLMCA301/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	3	3	3	2	2	2	1	1	2	1	2

COURSE->PSO MAPPING - RLMCA301 - Web Data Mining

RLMCA301/PSO	PSO1	PSO2	PSO3
	3	3	2

RLMCA303

Course Code	Course Name	L-T-P:C	Year of Introduction
RLMCA303	E-Commerce	3-0-0:3	2016

No.	Course Outcome - RLMCA303 - E-Commerce	Target
CO1	Realise the problems involved in designing and building ecommerce systems	60.25%
CO2	Design E-Commerce systems that fully meet the requirements of the intended users	60.25%
CO3	Analyse and evaluate the Internet trading relationships including Business to Consumer, Business-to-Business, Intra-organizational.	60.25%
CO4	Work with electronic payment systems	60.25%
CO5	Make ethical decisions related to e-commerce considering laws, privacy, and security	60.25%
CO6	Demonstrate retailing in E-commerce by analyzing branding and pricing strategies, using and determining the effectiveness of market research	60.25%

COURSE END SURVEY - RLMCA303 - E-Commerce

Sl.No	Questions & Options
CO1	To what extent you can realise the problems involved in designing and building ecommerce systems?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO2	To what extent you can design E-Commerce systems that fully meet the requirements of the intended users?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO3	To what extent you can analyse and evaluate the Internet trading relationships including Business to Consumer, Business-to-Business, Intra-organizational?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO4	To what extent you can work with electronic payment systems?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO5	To what extent you can make ethical decisions related to e-commerce considering laws, privacy, and security?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO6	To what extent you can demonstrate retailing in E-commerce by analyzing branding and pricing strategies, using and determining the effectiveness of market research?
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>

CO->PO MAPPING - RLMCA303 - E-Commerce

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2		2	2	2	1		1	1			1
CO2	1	1	2	2	1	1			1	2	1	

CO3	3	2	1	2		1	1		1	2	3	1
CO4	2	1		2		1	1	1				
CO5				1	1	3	1	2		1	1	1
CO6	1	1	2	2	1	1	3			2	1	

CO->PSO MAPPING - RLMCA303 - E-Commerce

CO/PSO	PSO1	PSO2	PSO3
CO1	3		1
CO2	2	1	1
CO3	2	1	1
CO4		1	
CO5			
CO6		1	

COURSE->PO MAPPING - RLMCA303 - E-Commerce

RLMCA303/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	2	2	2	2	3	3	2	1	2	3	1

COURSE->PSO MAPPING - RLMCA303 - E-Commerce

RLMCA303/PSO	PSO1	PSO2	PSO3
	3	1	1

RLMCA305

Course Code	Course Name	L-T-P:C	Year of Introduction
RLMCA305	Cryptography and Cyber Security	3-1-0:4	2016

No.	Course Outcome - RLMCA305 - Cryptography and Cyber Security	Target
CO1	Analyze fundamentals of secret and public cryptography	61%
CO2	Define mathematical basics of Cryptography and Cyber Security	61%
CO3	Analyze the symmetric encryption techniques	61%
CO4	Illustrate various Public key cryptographic techniques	61%
CO5	Evaluate the authentication applications and hash algorithms	61%
CO6	Distinguish various protocols for network security to protect against the threats in the networks.	61%

COURSE END SURVEY - RLMCA305 - Cryptography and Cyber Security

Sl.No	Questions & Options
CO1	To What Extent you are able to analyze the fundamentals of secret and public cryptography
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO2	To what extent you are able to define the mathematical basics of Cryptography and Cyber Security
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO3	To what extent you are able to analyze the symmetric encryption techniques.
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO4	To what extent you are able to Illustrate various Public key cryptographic techniques
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO5	To what extent you are able to evaluate the authentication applications and hash algorithms.
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO6	To what extent you are able to distinguish various protocols for network security to protect against the threats in the networks
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>

CO->PO MAPPING - RLMCA305 - Cryptography and Cyber Security

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	1		2				1			2	
CO2	2	2										
CO3					1							
CO4						1						
CO5			2			2				2		
CO6							1			1		

CO->PSO MAPPING - RLMCA305 - Cryptography and Cyber Security

CO/PSO	PSO1	PSO2	PSO3
CO1		1	
CO2			
CO3	3		
CO4			
CO5			1
CO6	2		

COURSE->PO MAPPING - RLMCA305 - Cryptography and Cyber Security

RLMCA305/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	2	2	2	2	1	2	1	1		2	2	

COURSE->PSO MAPPING - RLMCA305 - Cryptography and Cyber Security

RLMCA305/PSO	PSO1	PSO2	PSO3
	3	1	1

RLMCA369

Course Code	Course Name	L-T-P:C	Year of Introduction
RLMCA369	PYTHON Programming	3-1-0:4	2016

No.	Course Outcome - RLMCA369 - PYTHON Programming	Target
CO1	To understand the basic concepts of python programming	60.1%
CO2	Master an understanding of Python especially functions, modules and packages	61.1%
CO3	Be exposed to object oriented concepts in python	61.1%
CO4	To understand the role of regular expressions in python programming	61.1%
CO5	Master an understanding of Database, GUI Programming in Python	61.1%
CO6	be exposed to python frame works and tools	61.1%

COURSE END SURVEY - RLMCA369 - PYTHON Programming

Sl.No	Questions & Options
CO1	To what extent you are able to demonstrate the use of Python lists and dictionaries
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO2	To what extent you are able to master an understanding of Python especially the object-oriented concepts,
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO3	To what extent you are able to master an understanding of the built-in objects of Python
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO4	To what extent you are able to be exposed to advanced applications such as TCP/IP network programming, Client/Server Programming, Web applications, discrete-event simulations, Scientific Python etc.
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO5	To what extent you are able to master an understanding of Database, GUI Programming in Python
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
	To what extent you are able to write Python programs to illustrate concise and efficient algorithms

CO6	
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>

CO->PO MAPPING - RLMCA369 - PYTHON Programming

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2			3	3					2		
CO2	2			2	3							
CO3	2			1	3							
CO4				2						2		
CO5			3	2								
CO6					3					2		

CO->PSO MAPPING - RLMCA369 - PYTHON Programming

CO/PSO	PSO1	PSO2	PSO3
CO1			
CO2			
CO3			
CO4			
CO5			
CO6			

COURSE->PO MAPPING - RLMCA369 - PYTHON Programming

RLMCA369/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	2		3	3	3					2		

COURSE->PSO MAPPING - RLMCA369 - PYTHON Programming

RLMCA369/PSO	PSO1	PSO2	PSO3

RLMCA381

Course Code	Course Name	L-T-P:C	Year of Introduction
RLMCA381	Cloud Computing	3-1-0:4	2016

No.	Course Outcome - RLMCA381 - Cloud Computing	Target
CO1	To understand Cloud Computing concepts, classifications, value propotions and the basic cloud architecture.	63%

CO2	To have knowledge abstraction and virtualization techniques.	63%
CO3	Exploring major Cloud service platforms currently ruling the industry.	63%
CO4	To have knowledge on Cloud infrastructure, various standards used and cloud security features.	64%
CO5	Exploring various Cloud services and applications currently used in industry.	64%
CO6	Understanding how mobile devices are utilizing Cloud services.	64%

COURSE END SURVEY - RLMCA381 - Cloud Computing

Sl.No	Questions & Options
CO1	what do you understand To understand Cloud Computing concepts, classifications, value propotions and the basic cloud architecture.
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO2	what do you understand To have knowledge abstraction and virtualization techniques.
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO3	what do you understand Exploring major Cloud service platforms currently ruling the industry
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO4	what do you understand To have knowledge on Cloud infrastructure, various standards used and cloud security features.
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO5	what extent do you understand Exploring various Cloud services and applications currently used in industry.
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO6	what extent do you understand Understanding how mobile devices are utilizing Cloud services.
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>

CO->PO MAPPING - RLMCA381 - Cloud Computing

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	1	2			2			1			3
CO2	3	3	3	3	3	2	2	2	2	3	2	2
CO3	3	3	1	2	2	2		2	2	1	1	1
CO4	3	2	3	2	1	3	2	2	2	2	1	1
CO5	1	2	1	1	1	1	1				1	2
CO6	1	3	3	2	1	2	2	1				1

CO->PSO MAPPING - RLMCA381 - Cloud Computing

CO/PSO	PSO1	PSO2	PSO3
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CO1	2	1	1
CO2	3	3	3
CO3	2	1	1
CO4	2	1	2
CO5	2	1	2
CO6	1	1	3

COURSE->PO MAPPING - RLMCA381 - Cloud Computing

RLMCA381/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	3	3	3	3	3	2	2	2	3	2	3

COURSE->PSO MAPPING - RLMCA381 - Cloud Computing

RLMCA381/PSO	PSO1	PSO2	PSO3
	3	3	3

RLMCA341

Course Code	Course Name	L-T-P:C	Year of Introduction
RLMCA341	Seminar	0-0-2:2	2016

No.	Course Outcome - RLMCA341 - Seminar	Target
CO1	Analyze technically relevant current topics on computer science/information technology/research	60.1%
CO2	Utilize technical resources	60.1%
CO3	Create technical documents and give oral presentations related to the work completed	60.1%
CO4	Acquire the confidence in presenting the topic	60.1%
CO5	Create audience-centered presentations	60.1%
CO6	Create well-rehearsed and polished presentations meeting time, content, and interactive requirements	60.1%

COURSE END SURVEY - RLMCA341 - Seminar

Sl.No	Questions & Options
CO1	To what extent you are able to analyze technically relevant current topics on computer science/information technology/research
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO2	To what extent you are able to utilize technical resources

	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO3	To what extent you are able to create technical documents and give oral presentations related to the work completed
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO4	To what extent you are able to acquire the confidence in presenting the topic
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO5	To what extent you are able to create audience-centered presentations
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO6	To what extent you are able to create well-rehearsed and polished presentations meeting time, content, and interactive requirements
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>

CO->PO MAPPING - RLMCA341 - Seminar

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1												
CO2												
CO3												
CO4												
CO5												
CO6												

CO->PSO MAPPING - RLMCA341 - Seminar

CO/PSO	PSO1	PSO2	PSO3
CO1			
CO2			
CO3			
CO4			
CO5			
CO6			

COURSE->PO MAPPING - RLMCA341 - Seminar

RLMCA341/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12

COURSE->PSO MAPPING - RLMCA341 - Seminar

RLMCA341/PSO	PSO1	PSO2	PSO3

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RLMCA351

Course Code	Course Name	L-T-P:C	Year of Introduction
RLMCA351	Mini Project	0-0-4:2	2016

No.	Course Outcome - RLMCA351 - Mini Project	Target
CO1	Apply the software engineering principles on a real software project	60.1%
CO2	Develop a software product using the Agile methodology.	60.1%
CO3	Apply build tools and IDE Environment	60.1%
CO4	Work with different version control system such as git	60.1%
CO5	Apply technology tools to analyze,design,develop and test the application	60.1%
CO6	Design a system, model, component or a process to meet desired/industrial needs	60.1%

COURSE END SURVEY - RLMCA351 - Mini Project

Sl.No	Questions & Options
CO1	To what extent you are able to apply the software engineering principles on a real software project
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO2	To what extent you are able to Develop a software product using the Agile methodology.
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO3	To what extent you are able to Apply build tools and IDE Environment
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO4	To what extent you are able to Work with different version control system such as git
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO5	To what extent you are able to apply technology tools to analyse,design,develop and test the application
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO6	To what extent you are able to Design a system, model, component or a process to meet desired/industrial needs
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>

CO->PO MAPPING - RLMCA351 - Mini Project

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	2	2	1	3			1		1	2	2

CO2	1	2	2	1	3	1	2	1	1		3	1
CO3	3	2	3	1	3	1	1	1			1	
CO4	3	2	2	1	2		1	1	2		2	1
CO5	2	3	2	1	3	1			1	1	1	1
CO6	2	1	2	3	2	1	2	1	1		2	2

CO->PSO MAPPING - RLMCA351 - Mini Project

CO/PSO	PSO1	PSO2	PSO3
CO1	3	2	2
CO2	2	1	3
CO3	3	2	2
CO4	2	1	1
CO5	3	2	1
CO6	2	2	2

COURSE->PO MAPPING - RLMCA351 - Mini Project

RLMCA351/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	3	3	3	3	1	2	1	2	1	3	2

COURSE->PSO MAPPING - RLMCA351 - Mini Project

RLMCA351/PSO	PSO1	PSO2	PSO3
	3	2	3

SEMESTER-9**DMCA901**

Course Code	Course Name	L-T-P:C	Year of Introduction
DMCA901	Research Methodology	4-0-0:4	2014

No.	Course Outcome - DMCA901 - Research Methodology	Target
CO1	Understand some basic concepts of research and its methodologies	60%
CO2	Select and define appropriate statistical measures and parameters	60%
CO3	Know the guidelines for writing research paper and impact factor	60%
CO4	Apply technical writing tool and IPR	60%

COURSE END SURVEY - DMCA901 - Research Methodology

Sl.No	Questions & Options
CO1	To what extent you are able to identify the basic concepts of research and its methodologies
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO2	To what extent you are able to select and define appropriate statistical and parameters
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO3	To what extent you are able to identify the guidelines foer writing research paper and impact factor
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO4	To what extent you are able to apply technical writing tool and IPR
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>

CO->PO MAPPING - DMCA901 - Research Methodology

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	3	2	3	1	2						2
CO2	2	3	2		2	2						2
CO3	2	2	3									
CO4	2											1

CO->PSO MAPPING - DMCA901 - Research Methodology

CO/PSO	PSO1	PSO2	PSO3
CO1	2	2	2
CO2	3	2	2
CO3	2	2	3
CO4	1	1	1

COURSE->PO MAPPING - DMCA901 - Research Methodology

DMCA901/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	3	3	3	2	2						2

COURSE->PSO MAPPING - DMCA901 - Research Methodology

DMCA901/PSO	PSO1	PSO2	PSO3
	3	2	3

DMCA902

Course Code	Course Name	L-T-P:C	Year of Introduction
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DMCA902	Compiler Design	4-1-0:4	2014
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No.	Course Outcome - DMCA902 - Compiler Design	Target
CO1	Introduce students to the different phases of Compiler Design.	60%
CO2	Understand in detail about Lexical Analysis and Syntax analysis.	60%
CO3	Understand the concepts of different Parsing techniques and Construction of syntax trees .	60%
CO4	Understand the concepts of Compilers.	60%
CO5	Understand about the concepts of Intermediate code generation, Code optimization and Code generations.	60%
CO6	Compare top down with bottom up parsers, and develop appropriate parser to produce parse tree representation of the input.	60%

COURSE END SURVEY - DMCA902 - Compiler Design

Sl.No	Questions & Options
CO1	To what extent you are able to understand different phases of compiler design. Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO2	To what extent your are able to Understand in detail about Lexical Analysis and Syntax analysis ? Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO3	To what extent you are able to Understand the concepts of different Parsing techniques and Construction of syntax trees ? Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO4	To what extent you are able to Understand the concepts of Compilers? Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO5	To what extent you are able to Understand about the concepts of Intermediate code generation, Code optimization and Code generations? Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO6	To what extent you are able to Compare top down with bottom up parsers, and develop appropriate parser to produce parse tree representation of the input ? Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>

CO->PO MAPPING - DMCA902 - Compiler Design

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	1			1	1	1						
CO2	1											
CO3	1	1	1									

CO4	1		1									
CO5	1	1		1	1							
CO6	1	1	1	1								

CO->PSO MAPPING - DMCA902 - Compiler Design

CO/PSO	PSO1			PSO2			PSO3		
CO1									
CO2									
CO3									
CO4									
CO5									
CO6									

COURSE->PO MAPPING - DMCA902 - Compiler Design

DMCA902/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	1	1	1	1	1	1						

COURSE->PSO MAPPING - DMCA902 - Compiler Design

DMCA902/PSO	PSO1			PSO2			PSO3		

DMCA903

Course Code	Course Name	L-T-P:C	Year of Introduction
DMCA903	Distributed Computing	4-1-0:0	2014

No.	Course Outcome - DMCA903 - Distributed Computing	Target
CO1	Recognize distributed systems architecture	60.5%
CO2	Distinguish between communication models in distributed systems	60.5%
CO3	Discuss on distributed file systems	60.5%
CO4	Examine different cloud models	60.5%
CO5	Describe types of virtualisation	60.5%
CO6	Examine cloud security issues	60.5%

COURSE END SURVEY - DMCA903 - Distributed Computing

Sl.No	Questions & Options

CO1	To what extent you were able to recognize distributed systems architecture
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO2	To what extent you are able to distinguish between communication models in distributed systems?
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO3	To what extent you are able to understand on distributed file systems
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO4	To what extent you are able to examine different cloud models
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO5	To what extent you are able to describe types of virtualisation
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO6	To what extent you are able to examine cloud security issues
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>

CO->PO MAPPING - DMCA903 - Distributed Computing

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1		2		1			2					
CO2	1	2		1					2			1
CO3	1	1	1	2		1				1		
CO4	1	1			2			2			2	
CO5	1	1		2	2					1		
CO6	1	1			1					1		

CO->PSO MAPPING - DMCA903 - Distributed Computing

CO/PSO	PSO1	PSO2	PSO3
CO1	1	2	
CO2	2	2	
CO3	1	2	
CO4	1	2	
CO5	1	2	
CO6	1	2	

COURSE->PO MAPPING - DMCA903 - Distributed Computing

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12

DMCA903/PO	1	2	1	2	2	1	2	2	2	1	2	1
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COURSE->PSO MAPPING - DMCA903 - Distributed Computing

DMCA903/PSO	PSO1	PSO2	PSO3
	2	2	

DMCA906

Course Code	Course Name	L-T-P:C	Year of Introduction
DMCA906	Software Lab-XIV (Compiler Design Lab)	0-0-4:2	2014

No.	Course Outcome - DMCA906 - Software Lab-XIV (Compiler Design Lab)	Target
CO1	Demonstrate and understand the process of lexical analysis, syntax analysis and other compiler design aspects.	60%
CO2	Implement program for solving parser problems.	60%
CO3	Implement various phases of compiler.	60%
CO4	Learn how to write programs of different phases of compiler.	60%
CO5	Implement different code optimization techniques in the design of compiler.	60%
CO6	Understand the working of LEX and YACC tools of Compiler writing.	60%

COURSE END SURVEY - DMCA906 - Software Lab-XIV (Compiler Design Lab)

Sl.No	Questions & Options
CO1	To what extent you are able to understand the process of lexical analysis, syntax analysis and other compiler design aspects ?
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO2	To what extent you are able to Implement program for solving parser problems ?
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO3	To what extent you are able to Implement various phases of compiler ?
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO4	To what extent you are able to Learn ' how to write ' programs of different phases of compiler ?
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO5	To what extent you are able to Implement different code optimization techniques in the design of compiler ?
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO6	To what extent you are able to Understand the working of LEX and YACC tools of Compiler writing ?

Answer Choice- *Excellent/Very Good/Good/Fair/Poor*

CO->PO MAPPING - DMCA906 - Software Lab-XIV (Compiler Design Lab)

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	1											
CO2												1
CO3												2
CO4	1	1		1								1
CO5	1	1	1	1	1							1
CO6	1				1							1

CO->PSO MAPPING - DMCA906 - Software Lab-XIV (Compiler Design Lab)

CO/PSO	PSO1	PSO2	PSO3
CO1			
CO2			
CO3			
CO4			
CO5			
CO6			

COURSE->PO MAPPING - DMCA906 - Software Lab-XIV (Compiler Design Lab)

DMCA906/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	1	1	1	1	1							2

COURSE->PSO MAPPING - DMCA906 - Software Lab-XIV (Compiler Design Lab)

DMCA906/PSO	PSO1	PSO2	PSO3

DMCA905(C)

Course Code	Course Name	L-T-P:C	Year of Introduction
DMCA905(C)	Internet Technology and Applications	4-0-0:4	2014

No.	Course Outcome - DMCA905(C) - Internet Technology and Applications	Target
CO1	Demonstrate key networking protocols and their hierarchical relationship in the context of a conceptual model such as the OSI and TCP/IP framework.	60%
CO2	Analyse various routing and host configuration protocols in computer networks	60%

CO3	Analyse the various protocols in transport layer	60%
CO4	To demonstrate the ability to use the DNS and World Wide Web.	60%
CO5	Analyse various multimedia applications in Computer networks	60%

COURSE END SURVEY - DMCA905(C) - Internet Technology and Applications

Sl.No	Questions & Options
CO1	To what extent you are able to handle various OSI and TCP/IP protocol
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO2	To what extent you are able to analyse various routing mechanism
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO3	To what extent you are able to analyse the various protocols in transport layer
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO4	To what extent you are able to demonstrate the DNS and WWW
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>
CO5	To what extent you are able to analyse various multimedia applications in Computer networks
	Answer Choice- <i>Excellent/Very Good/Good/Satisfactory/Poor</i>

CO->PO MAPPING - DMCA905(C) - Internet Technology and Applications

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	1				2	2			1		2
CO2	1	1				2				1		2
CO3	2	1	1			2				1		1
CO4	1	1		1		3		2	1	3	1	1
CO5	3	1	1		2	2	1		3	1	1	2

CO->PSO MAPPING - DMCA905(C) - Internet Technology and Applications

CO/PSO	PSO1	PSO2	PSO3
CO1	3	1	1
CO2	3	1	1
CO3	2	1	1
CO4	3	1	3
CO5	2		3

COURSE->PO MAPPING - DMCA905(C) - Internet Technology and Applications

DMCA905(C)/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	1	1	1	2	3	2	2	3	3	1	2

COURSE->PSO MAPPING - DMCA905(C) - Internet Technology and Applications

DMCA905(C)/PSO	PSO1	PSO2	PSO3
	3	1	3

DMCA907

Course Code	Course Name	L-T-P:C	Year of Introduction
DMCA907	Software Lab-XV (Cloud Computing Lab)	0-0-4:2	2014

No.	Course Outcome - DMCA907 - Software Lab-XV (Cloud Computing Lab)	Target
CO1	Understanding Cloud	60%
CO2	Google Cloud	60%
CO3	Google Cloud App Engin Se vices	60%
CO4	Understanding Hadoop	60%
CO5	Programming with Hadoop	60%
CO6	Working of Goggle Drive	60%

COURSE END SURVEY - DMCA907 - Software Lab-XV (Cloud Computing Lab)

Sl.No	Questions & Options
CO1	what extant do yo understand Understanding Cloud
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO2	what extant do yo understand Google Cloud
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO3	what extant do yo understand Google Cloud App Engin Se vices
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO4	what extant do yo understand Understanding Hadoop
	Answer Choice- <i>Excellent/Very Good/Good Satisfactory/Needs improvement</i>
CO5	what extant do yo understand Programming with Hadoop
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO6	what extant do yo understand Working of Goggle Drive

Answer Choice- *Excellent/Very Good/Good/Fair/Poor*

CO->PO MAPPING - DMCA907 - Software Lab-XV (Cloud Computing Lab)

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	1								2			
CO2					2							
CO3										2		
CO4							2					
CO5			2									
CO6												3

CO->PSO MAPPING - DMCA907 - Software Lab-XV (Cloud Computing Lab)

CO/PSO	PSO1	PSO2	PSO3
CO1	2		
CO2		3	
CO3	1		
CO4		3	
CO5			3
CO6	2		

COURSE->PO MAPPING - DMCA907 - Software Lab-XV (Cloud Computing Lab)

DMCA907/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	1		2		2		2		2	2		3

COURSE->PSO MAPPING - DMCA907 - Software Lab-XV (Cloud Computing Lab)

DMCA907/PSO	PSO1	PSO2	PSO3
	2	3	3

DMCA904

Course Code	Course Name	L-T-P:C	Year of Introduction
DMCA904	Modeling & Simulation	4-0-0:4	2014

No.	Course Outcome - DMCA904 - Modeling & Simulation	Target
CO1	Analyze various simulation and modeling techniques and components	75%
CO2	Compare & contrast various simulation models	65%

CO3	Examine various real time simulation models and compare it	65%
CO4	Construct various models and prepare models with tools	67%
CO5	Assess various simulation languages and its complexity	60%
CO6	Interpret the model and apply the results to resolve critical issues in a real world environment.	60%

COURSE END SURVEY - DMCA904 - Modeling & Simulation

Sl.No	Questions & Options
CO1	To what extent you can analyze various simulation and modeling techniques and components
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO2	To what extent you can compare & contrast various simulation models
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO3	To what extent you can examine various real time simulation models and compare it
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO4	To what extent you can construct various models and prepare models with tools
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO5	To what extent you can assess various simulation languages and its complexity
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>
CO6	To what extent you can interpret the model and apply the results to resolve critical issues in a real world environment.
	Answer Choice- <i>Excellent/Very Good/Good/Fair/Poor</i>

CO->PO MAPPING - DMCA904 - Modeling & Simulation

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3											
CO2		2							1			
CO3		2								2		
CO4			3									
CO5				3	1	1	1				1	1
CO6		2		1	3			2				

CO->PSO MAPPING - DMCA904 - Modeling & Simulation

CO/PSO	PSO1	PSO2	PSO3
CO1	1		
CO2	2		1

CO3	1		3
CO4			2
CO5			1
CO6	2		

COURSE->PO MAPPING - DMCA904 - Modeling & Simulation

DMCA904/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	3	2	3	3	3	1	1	2	1	2	1	1

COURSE->PSO MAPPING - DMCA904 - Modeling & Simulation

DMCA904/PSO	PSO1	PSO2	PSO3
	2		3

PhD-PHD MCA

CONTINUOUS IMPROVEMENT IMPLEMENTED

Measures identified & Implemented Via AddOn, Bridge, MOOC, Conference, Workshop, Internship & Project

No	Course	Type
1	Open Source Platforms Lab Remedial	Remedial Course
2	Open Source Platforms Lab Remedial	Remedial Course
3	Remedial Class INMCA305-Cryptography and Cyber Security	Remedial Course
4	Remedial Course- INMCA312- Advanced Object Oriented Programming	Remedial Course
5	AWS Cloud Foundation	Add-on Course
6	Remedial Class - INMCA207-Design and Analysis of Algorithm	Remedial Course
7	Remedial Class-INMCA305-Cryptography and Cyber Security	Remedial Course
8	Entrepreneurship & Innovation -2021-22	Minor Course
9	New Trends in Development & Hosting 2021-2022	Minor Course
10	Remedial Course ADS	Remedial Course
11	MCA: Minor Course-Cyber Security (CS) 2022	Minor Course
12	Cloud Computing 2022	Minor Course
13	Minor Course BigData November 2021	Minor Course
14	Minor Course-Infrastructure Management Services-November 2021	Minor Course
15	Bridge Course C Programming 2021- Level 2	Bridge Course
16	Bridge Course C Programming 2021- Level 1	Bridge Course
17	Entrepreneurship And Innovation (2021)	Minor Course
18	Minor Course BigData 2021	Minor Course
19	Minor Course-Infrastructure Management Services- 2021	Minor Course
20	Cloud Computing 2021	Minor Course
21	Cyber Security (CS) 2021	Minor Course
22	Art of C Programming	Add-on Course
23	JAVA SPRING-INTERNSHIP INMCA 2016-21	Internship
24	CYBER SECURITY	Minor Course
25	Infrastructure Management Services	Minor Course
26	Cloud Computing	Minor Course
27	RHCSA 2018-2019	International Certification

28	INMCA 202 Introduction to Visual Programming	Remedial Course
29	INMCA 202 Introduction to Visual Programming	Remedial Course
30	Visual Basic .NET Remedial Class	Remedial Course
31	CYBER SECURITY	Minor Course
32	RHCSA	International Certification
33	RHCE	International Certification
34	Infrastructure Management Services	Minor Course
35	Big Data Analytics	Minor Course
36	Entrepreneurship And Innovation	Minor Course
37	BIG DATA	Remedial Course

Open Source Platforms Lab Remedial

Type:	Remedial Course
Details	Open Source Platforms Lab
Mode of Instruction:	Blended learning, Brainstorming, Computer Aided Presentation, Computer labs/laptop instruction, Direct Instruction, Discovery Learning, Discussion, Drill and Practice, Lecture, Online Resources, Question and Answer, Self learning , Web-enhanced learning
Staff(s) Associated	Binumon Joseph
Course(s) Associated	INMCA334 - Open Source Platforms Lab

Open Source Platforms Lab Remedial

Type:	Remedial Course
Details	Open Source Platforms Lab Remedial
Mode of Instruction:	Direct Instruction, Discussion, Lecture, Question and Answer, Tutorial, Web-enhanced learning
Staff(s) Associated	Binumon Joseph
Course(s) Associated	INMCA334 - Open Source Platforms Lab

Remedial Class INMCA305-Cryptography and Cyber Security

Type:	Remedial Course
Details	Cryptography and Cyber Security

Mode of Instruction:	Case Study, Discussion, Lecture
Staff(s) Associated	Sona Maria Sebastian
Course(s) Associated	RLMCA305 - Cryptography and Cyber Security

Remedial Course- INMCA312- Advanced Object Oriented Programming

Type:	Remedial Course
Details	Remedial Course- INMCA312- Advanced Object Oriented Programming Date: 17/05/22 Time: 8.45 AM to 12.00 PM Date: 18/05/22 Time: 9.45 AM - 12.00 PM, 2.00 Pm - 4.00 PM
Mode of Instruction:	Computer Aided Presentation, Demonstration, Direct Instruction, Discussion, Lecture, Online Resources, Question and Answer
Staff(s) Associated	Anit James
Course(s) Associated	INMCA312 - Advanced Object Oriented Programming INMCA332 - Advanced Object Oriented Programming Lab

AWS Cloud Foundation

Type:	Add-on Course
Details	AWS Cloud Foundation
Mode of Instruction:	Online Resources
Staff(s) Associated	Fr. Dr. Rubin Thottupurathu Jose Merin Chacko
Course(s) Associated	RLMCA381 - Cloud Computing 20MCA265 - Cloud Computing

Remedial Class - INMCA207-Design and Analysis of Algorithm

Type:	Remedial Course
Details	Design and Analysis of Algorithm -Remedial Class
Mode of Instruction:	Case Study, Discussion, Lecture
Staff(s) Associated	Sona Maria Sebastian
Course(s) Associated	RLMCA202 - Application Development and Maintenance

Remedial Class-INMCA305-Cryptography and Cyber Security

Type:	Remedial Course
Details	Cryptography and Cyber Security -Remedial Course
Mode of Instruction:	Discussion, Lecture, Question and Answer, Self learning

Staff(s) Associated	Sona Maria Sebastian
Course(s) Associated	RLMCA305 - Cryptography and Cyber Security

Entrepreneurship & Innovation -2021-22

Type:	Minor Course
Details	Entrepreneurship & Innovation Minor course for 2021-22
Mode of Instruction:	Direct Instruction, Discovery Learning, Discussion, Drill and Practice, Group Activities, Mental Modeling, Online Live Class, Video lectures
Staff(s) Associated	Jobin T. J Paulin Paul Sr. Elsin Chakkalackal S.H
Course(s) Associated	20INMCANC1 - Entrepreneurship & Innovations in Technology

New Trends in Development & Hosting 2021-2022

Type:	Minor Course
Details	Web Hosting, Android Development & Hosting, React JS, Vue JS
Mode of Instruction:	Computer Aided Presentation, Computer labs/laptop instruction, Demonstration, Direct Instruction, Discussion, Drill and Practice, Flipped class, Lecture, Online Resources, Project Development, Tutorial, Video lectures
Staff(s) Associated	Ajith G S Shelly Shiju George
Course(s) Associated	20INMCA405 - Advanced Web programming 20INMCA433 - Advanced Web programming Lab RLMCA234 - Mobile Application Development Lab RLMCA206 - Mobile Computing 20INMCA232 - Scripting Lab

Remedial Course ADS

Type:	Remedial Course
Details	Remedial course for weak students of S1 MCA Regular
Mode of Instruction:	Direct Instruction, Drill and Practice, Flipped class, Lecture, Online Resources, Video lectures, Web-enhanced learning
Staff(s) Associated	Lisha Varghese Merin Chacko
Course(s) Associated	20MCA105 - Advanced Data Structures

MCA: Minor Course-Cyber Security (CS) 2022

Type:	Minor Course
Details	The Course Cyber Security was designed to help learners to develop a deeper understanding of modern information and system protection technology and methods.
Mode of Instruction:	Blended learning, Brainstorming, Computer Aided Presentation, Computer labs/laptop instruction, Demonstration, Direct Instruction, Discovery Learning, Discussion, Drill and Practice, Lecture, Online Resources, Self learning , Video lectures, Web-enhanced learning
Staff(s) Associated	Binumon Joseph Dr. Juby Mathew Dr. Manju K Mathai Jetty Benjamin Meera Rose Mathew Navyamol K T Rini Kurian
Course(s) Associated	MCA405 - Computer Networks MCA501 - Computer Security RLMCA305 - Cryptography and Cyber Security MCA302 - Operating Systems

Cloud Computing 2022

Type:	Minor Course
Details	Minor Course-Cloud Computing 2022
Mode of Instruction:	Computer Aided Presentation, Computer labs/laptop instruction, Direct Instruction
Staff(s) Associated	Anit James Grace Joseph Jinson Devis Rony Tom Sruthimol Kurian Ankitha Philip
Course(s) Associated	RLMCA381 - Cloud Computing 20MCA265 - Cloud Computing

Minor Course BigData November 2021

Type:	Minor Course
Details	Minor Course BigData November 2021
Mode of Instruction:	Computer Aided Presentation, Computer labs/laptop instruction, Direct Instruction, Group Activities, Lecture, Video lectures, Web-enhanced learning
Staff(s) Associated	Anoop G Gloriya Mathew Lisha Varghese
Course(s) Associated	RLMCA204 - Big Data Technologies 20MCA201 - Data Science & Machine Learning RLMCA208 - Introduction to Machine Learning

Minor Course-Infrastructure Management Services-November 2021

Type:	Minor Course
Details	Minor Course-Infrastructure Management Services, Minor Courses
Mode of Instruction:	Brainstorming, Case Study, Demonstration, Discovery Learning, Drill and Practice
Staff(s) Associated	Merin Chacko Nimmy Francis Sebin Sebastian Sona Maria Sebastian
Course(s) Associated	DMCA407 - Software Lab-X(Linux & Shell Pgm Lab) 20INMCA404 - Advanced Computer Networks

Bridge Course C Programming 2021- Level 2

Type:	Bridge Course
Details	Bridge Course for S1 MCA Students
Mode of Instruction:	Drill and Practice, Group Activities, Lecture, Question and Answer
Staff(s) Associated	Ajith G S Ankitha Philip Dr. Manju K Mathai Lisha Varghese Merin Chacko Navyamol K T Sruthimol Kurian
Course(s) Associated	20MCA105 - Advanced Data Structures 20MCA135 - Data Structures Lab

Bridge Course C Programming 2021- Level 1

Type:	Bridge Course
Details	Bridge Course for MCA Regular Batch
Mode of Instruction:	Drill and Practice, Group Activities, Lecture, Question and Answer
Staff(s) Associated	Ajith G S Ankitha Philip Dr. Manju K Mathai Lisha Varghese Merin Chacko Navyamol K T Sruthimol Kurian
Course(s) Associated	20MCA105 - Advanced Data Structures

Entrepreneurship And Innovation (2021)

Type:	Minor Course
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Details	An entrepreneur is someone who can take any idea, whether it be a product and/or service, and have the skillset, will, and courage to take extreme risk to do whatever it takes to turn that concept into reality and not only bring it to market
Mode of Instruction:	Lecture, Online Live Class, Online Resources
Staff(s) Associated	Ajith G S Jobin T. J Shelly Shiju George Sr. Elsin Chakkalackal S.H
Course(s) Associated	20INMCA407 - Advanced Software Engineering RLMCA202 - Application Development and Maintenance

Minor Course BigData 2021

Type:	Minor Course
Details	Minor Course
Mode of Instruction:	Fully Online Instruction, Online Live Class
Staff(s) Associated	Anoop G Gloriya Mathew Lisha Varghese
Course(s) Associated	RLMCA204 - Big Data Technologies RLMCA301 - Web Data Mining

Minor Course-Infrastructure Management Services- 2021

Type:	Minor Course
Details	Infrastructure Management Services (IMS)
Mode of Instruction:	Case Study, Demonstration, Discussion, Online Live Class, Project Development
Staff(s) Associated	Merin Chacko Sona Maria Sebastian Nimmy Francis Sebin Sebastian
Course(s) Associated	DMCA407 - Software Lab-X(Linux & Shell Pgm Lab) 20INMCA133 - Introduction - PC hardware Lab 20INMCA107 - INTRODUCTION TO COMPUTERS & PC HARDWARE

Cloud Computing 2021

Type:	Minor Course
Details	Hands-on session on various cloud architecture like Software as a Service (SaaS), Platform as a Service (PaaS), Infrastructure as a Service (IaaS). Google, Microsoft and Amazon Cloud experience will provide an opportunity to gain an understanding of these cutting edge technologies.

Mode of Instruction:	Blended learning, Brainstorming, Computer Aided Presentation, Demonstration, Direct Instruction, Discovery Learning, Discussion, Flipped class, Fully Online Instruction, Group Activities, Lecture, Online Live Class, Online Resources, Project Development, Web-enhanced learning
Staff(s) Associated	Anit James Grace Joseph Jinson Devis Rony Tom Sruthimol Kurian Ankitha Philip
Course(s) Associated	20MCA265 - Cloud Computing RLMCA381 - Cloud Computing 20INMCA468 - Virtualisation and Containers 20MCA168 - Virtualisation and Containers

Cyber Security (CS) 2021

Type:	Minor Course
Details	The Course Cyber Security was designed to help learners to develop a deeper understanding of modern information and system protection technology and methods.
Mode of Instruction:	Computer labs/laptop instruction, Demonstration, Direct Instruction, Discovery Learning, Discussion, Fully Online Instruction, Group Activities, Lecture, Online Live Class, Online Resources, Project Development, Question and Answer, Self learning , Video lectures, Web-enhanced learning
Staff(s) Associated	Dr. Juby Mathew Jetty Benjamin Meera Rose Mathew Navyamol K T Rini Kurian
Course(s) Associated	RLMCA305 - Cryptography and Cyber Security

Art of C Programming

Type:	Add-on Course
Details	Art of C Programming By Dr. Lajish V.L Department of Computer Science, University of Calicut. The course “Art of C Programming” , deals with the fundamental concepts and terminology of computer programming. We provide you with an easy step-by-step guidance to systematically learn programming in C. This course starts with a proper introduction to the programming methodology and algorithm design. This will enable students to develop the skill to logically solve the assignments using C languages.
Mode of Instruction:	Blended learning, Case Study, Computer labs/laptop instruction, Flipped class, MOOC Online, Self learning
Staff(s) Associated	Anit James Ginamol Joseph Teenu V Therese
Course(s) Associated	INMCA108 - Problem Solving and Structured Programming INMCA132 - Problem Solving and Structured Programming Lab

JAVA SPRING-INTERNSHIP INMCA 2016-21

Type:	Internship
Details	JAVA SPRING-INTERNSHIP INMCA 2016-21
Mode of Instruction:	Blended learning, Brainstorming, Computer labs/laptop instruction, Demonstration, Discovery Learning, Drill and Practice, Flipped class, Mental Modeling, Project Development, Project Presentation, Web-enhanced learning
Staff(s) Associated	Binumon Joseph Sona Maria Sebastian
Course(s) Associated	INMCA312 - Advanced Object Oriented Programming

CYBER SECURITY

Type:	Minor Course
Details	Minor course on Cyber security
Mode of Instruction:	Case Study, Computer Aided Presentation, Computer labs/laptop instruction, Direct Instruction, Examination, Flipped class, Group Activities
Staff(s) Associated	Dr. Juby Mathew Jetty Benjamin Navyamol K T
Course(s) Associated	RLMCA305 - Cryptography and Cyber Security

Infrastructure Management Services

Type:	Minor Course
Details	Minor Course-Infrastructure Management Services
Mode of Instruction:	Direct Instruction, Drill and Practice, Flipped class, Lecture, Question and Answer, Self learning , Web-enhanced learning
Staff(s) Associated	Merin Chacko Nimmy Francis Sebin Sebastian Sona Maria Sebastian
Course(s) Associated	INMCA307 - IT Infrastructure Management RLMCA232 - System Design Lab

Cloud Computing

Type:	Minor Course
Details	Minor Course on Cloud Computing. Course Name : Cloud Computing Course Duration : 5 Months Total Credits : 10 Sessions per week : 1 Session. Number of Batches : 2 Schedule : Monday and Thursdays, 04:15PM to 04:55 PM
Mode of Instruction:	Computer labs/laptop instruction, Discussion, Lecture, Question and Answer, Tutorial

Staff(s) Associated	Anit James Grace Joseph Jinson Devis Rony Tom Sruthimol Kurian
Course(s) Associated	RLMCA381 - Cloud Computing

RHCSA 2018-2019

Type:	International Certification
Details	International Certification Course RHCSA 2018-19 Evening Batch
Mode of Instruction:	Computer labs/laptop instruction, Examination, Lecture
Staff(s) Associated	Meera Rose Mathew Sona Maria Sebastian Teenu V Therese
Course(s) Associated	RLMCA232 - System Design Lab

INMCA 202 Introduction to Visual Programming

Type:	Remedial Course
Details	Remedial Course-INMCA 202 Introduction to Visual Programming
Mode of Instruction:	Examination, Project Presentation, Self learning
Staff(s) Associated	Sona Maria Sebastian
Course(s) Associated	INMCA202 - Introduction to Visual Programming

INMCA 202 Introduction to Visual Programming

Type:	Remedial Course
Details	INMCA 202 Introduction to Visual Programming -Remedial Class
Mode of Instruction:	Examination, Project Presentation
Staff(s) Associated	Sona Maria Sebastian
Course(s) Associated	INMCA202 - Introduction to Visual Programming

Visual Basic .NET Remedial Class

Type:	Remedial Course
Details	Remedial Class due to attendance shortage
Mode of Instruction:	Drill and Practice, Self learning
Staff(s) Associated	Sona Maria Sebastian

Course(s) Associated	INMCA202 - Introduction to Visual Programming
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CYBER SECURITY

Type:	Minor Course
Details	Cyber security
Mode of Instruction:	
Staff(s) Associated	Dr. Juby Mathew Jetty Benjamin Maria Thomas Navyamol K T
Course(s) Associated	MCA501 - Computer Security RLMCA305 - Cryptography and Cyber Security

RHCSA

Type:	International Certification
Details	International Certification
Mode of Instruction:	Case Study, Computer labs/laptop instruction, Lecture
Staff(s) Associated	Sona Maria Sebastian Teenu V Therese
Course(s) Associated	RLMCA232 - System Design Lab

RHCE

Type:	International Certification
Details	International Certification
Mode of Instruction:	Computer labs/laptop instruction, Lecture
Staff(s) Associated	Sona Maria Sebastian Teenu V Therese Meera Rose Mathew
Course(s) Associated	RLMCA232 - System Design Lab

Infrastructure Management Services

Type:	Minor Course
Details	Infrastructure Management Services (IMS)
Mode of Instruction:	Case Study, Computer labs/laptop instruction, Discussion, Lecture

Staff(s) Associated	Sona Maria Sebastian Merin Chacko Sebin Sebastian Thomas Abraham Nimmy Francis
Course(s) Associated	INMCA107 - Introduction to Computers and PC hardware RLMCA203 - Software Engineering RLMCA232 - System Design Lab

Big Data Analytics

Type:	Minor Course
Details	Understanding distributed, parallel, cloud computing and SQL concepts along with concepts of map-reduce and functional programming. Hadoop Distributed File System, analytics concepts, algorithms and statistical tests will earn you a minor in Big Data Analytics
Mode of Instruction:	
Staff(s) Associated	Anoop G Gloriya Mathew Lisha Varghese Teenu V Therese Dilu Mariya Joseph
Course(s) Associated	04CS6102 - Advanced Database Management RLMCA204 - Big Data Technologies MCA504 - Data mining RLMCA205 - Database Management Systems INMCA107 - Introduction to Computers and PC hardware

Entrepreneurship And Innovation

Type:	Minor Course
Details	An entrepreneur is someone who can take any idea, whether it be a product and/or service, and have the skillset, will, and courage to take extreme risk to do whatever it takes to turn that concept into reality and not only bring it to market
Mode of Instruction:	Case Study
Staff(s) Associated	Ajith G S Jobin T. J Sr. Elsin Chakkalackal S.H Shelly Shiju George
Course(s) Associated	RLMCA202 - Application Development and Maintenance RLMCA203 - Software Engineering

BIG DATA

Type:	Remedial Course
Details	For students having attendance shortage

Mode of Instruction:	Self learning , Seminar, Web-enhanced learning
Staff(s) Associated	Sr. Elsin Chakkalackal S.H
Course(s) Associated	RLMCA204 - Big Data Technologies