

MASTER OF COMPUTER APPLICATIONS DEGREE EXAMINATION- JULY - 2022
THIRD SEMESTER

PAPER MCA 301 : SOFTWARE ENGINEERING

(Under C.B.C.S. New Regulations w.e.f. 2020-2021)

(Common Paper to University and All Affiliated Colleges)

Time : 3 Hours

Max. Marks : 70

PART - A

(Compulsory)

Answer any **FIVE** of the following questions. Each question carries 4 marks. **(5×4=20)**

1.
 - a) Define Software, Software Engineering and Legacy Software.
 - b) Write a brief note on Fourth generation techniques.
 - c) Define System simulation and list out few system simulation tools.
 - d) Describe the elements of Analysis model.
 - e) What are the characteristics of good design.
 - f) What is Software architecture? Why is architecture important?
 - g) Define Validation and Verification.
 - h) List out the guidelines to a successful testing strategy.
 - i) Differentiate between black box and white box testing.
 - j) Describe the McCalls Software Quality factors.

PART - B

Answer **FIVE** questions, choosing **ONE** question from each Unit. Each question carries 10 marks. **(5×10=50)**

UNIT - I

2. Describe in detail about Prototyping process model.

(OR)

3. i) Describe the Principles of Agility.
- ii) What is meant by Deployment? Explain the key principle of Deployment.

UNIT - II

4. Write a detailed note on System Engineering Hierarchy.
- (OR)**
5. Explain the steps in the creation of behavioural model.

UNIT - III

6. Write a detailed note on Design concepts.
- (OR)**
7. Describe about User Interface Design.

UNIT - IV

8. Elaborate on Validation Testing and System Testing.
- (OR)**
9. Write a detailed note on Basic path testing.

UNIT - V

10. i) Describe the Management Spectrum with four P's.
 - ii) Explain the Estimation for Object-oriented projects along with other estimation techniques.
- (OR)**
11. What is meant by Project scheduling? Explain in detail.
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MASTER OF COMPUTER APPLICATIONS DEGREE EXAMINATION, JULY - 2022

THIRD SEMESTER

PAPER - MCA 302 : COMPUTER GRAPHICS

(Under C.B.C.S. New Regulations w.e.f. 2020-2021)

(Common Paper to University and All Affiliated Colleges)

Time : 3 Hours

Max. Marks : 70

PART - A

(Compulsory)

Answer any **FIVE** of the following questions. Each question carries 4 marks. (5×4=20)

1.
 - a) Describe the Application areas of Computer Graphics.
 - b) Differentiate between Image Processing and Computer Graphics.
 - c) Write a brief note on basic 2D transformations.
 - d) What is meant by Shear? Write transformation matrix of two common Shearing transformations.
 - e) Differentiate between Window and Viewport.
 - f) What is Clipping? What is the need of Clipping?
 - g) Briefly explain about Quadric Surfaces.
 - h) Write a short note on Light sources.
 - i) Define Viewing pipeline and View Volume.
 - j) Define Animation and what the steps for animation sequence are.

PART - B

Answer **FIVE** questions, choosing **ONE** question from each Unit. Each question carries **10** marks. **(5×10=50)**

UNIT-I

2. Write a detailed note on Video display devices.

(OR)

3. With explanation write the Bresenham's Line Drawing algorithm.

UNIT-II

4. Explain about Boundary fill and flood fill algorithms.

(OR)

5. Describe the transformation sequence for rotating an object about a specified pivot point and also write the Composite transformation matrix.

UNIT-III

6. Write a detailed note on Two dimensional viewing transformation pipeline.

(OR)

7. Explain Cohen-Sutherland Line Clipping in details with illustrations.

UNIT-IV

8. Elaborate on Hermite Bezier and B-Spline curves.

(OR)

9. Describe about Polygon rendering methods.

UNIT-V

10. Explain in detail about general three dimensional rotations.

(OR)

11. Write a detailed note on Key frame systems.

MASTER OF COMPUTER APPLICATIONS DEGREE EXAMINATION -JULY - 2022
THIRD SEMESTER

Paper - MCA 303 : WEB TECHNOLOGIES
(Under CBCS New Regulations w.e.f. 2020-2021)
(Common paper to University and all Affiliated Colleges)

Time : 3 Hours

Max. Marks : 70

PART - A

(Compulsory)

Answer any **FIVE** of the following questions. Each question carries **4** marks. **(5×4=20)**

1.
 - a) Create a HTML form with five basic features.
 - b) What are the various styles in CSS?
 - c) How events are handled in JavaScript? Explain.
 - d) Explain about JQuery objects.
 - e) What is Script Manager in AJAX?
 - f) What is synchronous request in AJAX?
 - g) Explain features of PHP?
 - h) Differentiate between 'Get' and 'Post' methods in PHP.
 - i) Explain about Security Issues in Servlet.
 - j) List the JSP implicit objects.

PART - B

Answer **FIVE** questions, choosing **ONE** question from each Unit. Each question carries **10** marks.

(5×10=50)

UNIT - I

2. a) Describe about the Browser Architecture with diagram.
b) Explain the classification of HTML tags with examples.

(OR)

3. a) Differentiate between Google and Google chrome.
b) With the neat block diagram explain the CSS Box Model.

UNIT - II

4. a) Write about the various Objects used in Java script.
b) Write a script that inputs several lines of text and a search character to determine the number of occurrences of the character in the text.

(OR)

5. Discuss about the control structures of Java Script with examples.

UNIT - III

6. What are the advantages and disadvantages of Ajax? What are all the technologies used by Ajax? Explain.

(OR)

7. a) Explain the step by step installation procedure of IIS webserver.
b) Discuss how to run PHP using IIS webserver.

UNIT - IV

8. a) List and Explain PHP development framework.
b) Explain about database connectivity with PHP with suitable examples.

(OR)

9. a) Write a PHP script to open, close, read and write into a file.
b) Explain about cookies in PHP with example.

UNIT - V

10. a) Explain lifecycle of a Servlet. Illustrate with an example program.
b) Explain JSP application design with suitable example?

(OR)

11. a) Build a Servlet program to illustrate parameter reading and parameter initializing.
b) Explain the mechanism to include resources dynamically and to forward request to other JSPs?
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MASTER OF COMPUTER APPLICATIONS DEGREE EXAMINATION - JULY - 2022

THIRD SEMESTER

PAPER MCA 304A : DATA WAREHOUSING AND DATA MINING

(Under C.B.C.S. New Regulations w.e.f. 2020-2021)

(Common Paper to University and all Affiliated Colleges)

Time : 3 Hours

Max. Marks : 70

PART - A

(Compulsory)

Answer any **FIVE** questions. Each question carries **4** marks.

(5×4=20)

1.
 - a) Summarize the features that distinguish OLAP from OLTP.
 - b) What is a data cube? List the characteristics of DW?
 - c) What are Predictive and Descriptive Data Mining Tasks?
 - d) Describe the data mining applications in detail.
 - e) Define the following with an example: Frequent Itemset, Closed Frequent Itemset, and Maximal Frequent Itemset.
 - f) What is Correlation Analysis? What are the steps in Association Rule Mining?
 - g) What are Bayesian Classifiers?
 - h) Compare and Contrast classification with Prediction.
 - i) Provide overview of major clustering methods.
 - j) Brief about Outlier Detection methods.

PART - B

Answer ALL questions. Choosing ONE question from each Unit. Each question carries 10 marks. (5×10=50)

UNIT-I

2. Construct and explain 3-tier Data Warehouse Architecture?

(OR)

3. What are *three* kinds of Data Warehouse Applications. Briefly describe each of the following Data Warehouse Implementation techniques:

ROLAP, MOLAP and HOLAP.

UNIT-II

4. What are the Major Challenges of mining huge amounts of data in comparison with mining small amount of data? Explain in detail the major issues in Data mining.

(OR)

5. Why to preprocess the data? What are the methods used in performing data integration and data transformation to preprocess the data?

UNIT-III

6. State Apriori property. Explain Apriori algorithm for discovering frequent itemsets for mining Boolean association rules.

(OR)

7. What is strength and weakness of FP in comparison with Apriori? Explain FP growth algorithm for discovering frequent itemsets without candidate generation.

UNIT-IV

8. Define classification? How classification is performed using decision tree induction? Explain with an example.

(OR)

9. "Support vector machines (SVMs), a method for the classification of both linear and nonlinear data" Justify.

UNIT-V

10. What is 'Cluster Analysis'? Explain PAM, a k-medoids algorithm for partitioning based on medoid or central objects.

(OR)

11. Which steps are important in the process of Constraint -Based Cluster Analysis? Compare and Contrast Agglomerative Hierarchical Clustering with Divisive Hierarchical Clustering.
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MASTER OF COMPUTER APPLICATIONS DEGREE EXAMINATION - JULY - 2022

PAPER MCA 305A : CRYPTOGRAPHY AND NETWORK SECURITY
THIRD SEMESTER

(Under CBCS New Regulations w.e.f. 2020-2021)
(Common paper to University and all Affiliated Colleges)

Time : 3 Hours

Max. Marks : 70

PART - A

(Compulsory)

Answer any FIVE of the following questions. Each question carries 4 marks. (5×4=20)

1. a) What is OSI security architecture? Explain.
- b) Differentiate between Passive attacks and Active attacks.
- c) Define diffusion and confusion.
- d) Why is it important to study the Feistel cipher?
- e) State Eulers Theorems and list out its applications.
- f) What are the attacks that are possible on RSA?
- g) Explain about Kerberos version 4.
- h) What is web security?
- i) What is Mobile security?
- j) Discuss about cloud security challenges.

PART - B

Answer FIVE questions, choosing ONE question from each Unit. Each question carries 10 marks. (5×10=50)

UNIT - I

2. Explain Data Encryption standard in detail.

(OR)

3. Discuss about substitution techniques in detail.

UNIT - II

4. Explain the generation sub key and S Box from the given 32-bit key by Blowfish.

(OR)

5. Discuss about differential and linear cryptanalysis.

UNIT - III

6. Describe the key management of public key encryption in detail.

(OR)

7. a) Explain the Chinese remainder theorem with an example?
b) What are the requirements of cryptographic hash functions?

UNIT - IV

8. Summarize the message generation process with suitable diagram.

(OR)

9. Illustrate the three common types of firewalls with diagrams.

UNIT - V

10. a) Discuss Mobile App Risks in detail.
b) Discuss about security at service layers.

(OR)

11. In detail discuss about Bit Coin security and working with example.
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MASTER OF COMPUTER APPLICATIONS DEGREE EXAMINATION-JULY - 2022

THIRD SEMESTER

PAPER - 316 : DIGITAL MARKETING (OPEN ELECTIVE)

(Under CBCS New Regulation w.e.f. 2016-2017)

(Common Paper to University and All Affiliated Colleges)

Time : 3 Hours

Max. Marks : 70

PART - A

Descriptive type questions. Each question carries 10 marks.

(5×10=50)

1. a) What are the drivers of Digital Marketing? How do you integrate E-Business to an existing Business Model?

(OR)

- b) Define Digital Marketing? State the need and significance of Digital Marketing in the Modern Economy?

2. a) Explain the concept of SEO? Discuss various forms of Search Engines?

(OR)

- b) Discuss the role of website design and website content in promoting Online Business?

3. a) What factors influence online pricing? Discuss few online Pricing Strategies?

(OR)

- b) Write about Time-based online pricing and Personalized Pricing?

4. a) Write about the role of Online intermediaries in Personalisation of Products and Services?

(OR)

- b) How do you design and develop an online Channel for B2C Marketing?

[P.T.O.]

5. a) Discuss few strategies to promote the products or services online?

(OR)

- b) Write a note on Online Advertising and Viral Marketing?

PART- B

(Case Analysis)

(20)

6. It's one of those typical mornings. You try to use your hair dryer and it shorts out. And then you find your coffee maker is on the fritz. And, of course, you threw out the boxes a long time ago and you don't know where the warranty information is. Then, wouldn't you know it, you try to do a load of laundry and the dryer is on the blink. So who do you call?

Sears wants you to call local Sears store. Sears repairs all brands of appliances, regardless of who made or who sold them. The challenge Sears handed to its agency, Young & Rubicam, was to build awareness of this newly branded Sears Home Central appliance repair service and get customers to call sears when their appliances break.

Sears research found that there is a need for such a service. When appliance breaks, customers go back to the retailer, call the manufacturer, or call an independent repair shop. Most of these options do not deliver real customer service: they don't answer the phone or call customers back, they don't work after hours, and they often aren't equipped to fix the problem right the first time.

Contrast that reality with what Sears offered: One call to one central repair source for any appliance brand high-quality repair service whenever you need it by someone you know and trust. The advertising message communicated how Sears could help customers avoid frustration and obtain professional appliance repair service.

The advertising leveraged the powerful trust of the Sears brand and provided a solution to very real problem, but it had to reach the right audience, at the right time, and in the right manner to build awareness. Because of these concerns, Young & Rubicam had to make tough decisions about which media to use to deliver Sears' message.

Question(s):

- a) If you were in the Sears Home Central account at young & Rubicam, what kind of advertising media would you suggest and why?
- b) How does the message affect the media choice?

**MASTER OF COMPUTER APPLICATIONS DEGREE EXAMINATION,
JANUARY/FEBRUARY - 2025**

THIRD SEMESTER

MCA 302: COMPUTER GRAPHICS

(Under C.B.C.S. New regulations w.e.f. 2020-2021)

(Common paper to University and all Affiliated Colleges)

Time : 3 Hours

Max. Marks : 70

PART - A

Answer any FIVE of the following questions. Each question carries 4 marks.(5×4=20)

1.
 - a) Write applications of computer graphics.
 - b) What is a pixel?
 - c) Define translation, and rotation in 2D transformation.
 - d) Define the scan-line polygon fill algorithm.
 - e) Define clipping and write different types of clipping.
 - f) State the difference between window and viewport.
 - g) Write about Quadratic surface.
 - h) Define polygon rendering methods.
 - i) Define the view volume in 3D viewing.
 - j) Write about computer animation languages.

PART - B

Answer Five questions, choosing One question from each unit. Each question carries 10 marks. (5×10=50)

UNIT - I

- 2/
 - a) Compare and contrast raster-scan and random scan systems.
 - b) Explain how output primitives form the basis of graphical representation..

(OR)

3. Describe the use of the ellipse generating algorithm in graphics. Explain the algorithm assuming necessary data.

UNIT - II

- 4✓ Discuss the boundary fill algorithm and its applications.

(OR)

5. Explain the importance of homogeneous coordinates in implementing transformations.

UNIT - III

- 6✓ Write in detail about the Sutherland-Hodgeman polygon clipping algorithm.

(OR)

7. a) Discuss the steps involved in window-to-viewport transformation.
b) Describe matrix representation in homogeneous coordinates for 2D transformations.

UNIT - IV

- 8✓ Explain Bezier curves and provide examples of their application in graphics.

(OR)

9. Describe the mathematical formulation of Hermite curves.

UNIT - V

- 10✓ Explain 3D translation, rotation, and scaling transformation with examples.

(OR)

11. a) Discuss general computer animation functions with examples.
b) Discuss general projection transforms and their types.

**MASTER OF COMPUTER APPLICATIONS DEGREE EXAMINATION,
JANUARY/FEBRUARY - 2025
THIRD SEMESTER**

PAPER : MCA 305A:CRYPTOGRAPHY AND NETWORK SECURITY

(Under C.B.C.S. New Regulation w.e.f. 2020-2021)

(Common paper to University and all Affiliated Colleges)

Time : 3 Hours

Max. Marks : 70

PART - A

Answer any FIVE of the following questions. Each question carries 4 marks.(5×4=20)

1. a) Write about stage nographpy.
b) ✓ What is a digital signature?
c) ✓ What is S/MIME?
d) ✓ Write short notes on prime numbers.
e) What is prime polynomial? Where is it used in security?
f) ✓ What is brute-force attack?
g) What is the difference between vulnerability and threat?
h) What is meant by consensus protocol?
i) ✓ Write about cloud security.
j) ✓ What is mobile security?

PART - B

Answer Five questions, choosing One question from each unit. Each question carries 10 marks.

(5×10=50)

UNIT - I

2. a) ✓ Discuss about Block Cipher modes of operation.
b) ✓ Briefly explain DES algorithm for encryption.

(OR)

3. ✓ a) Explain how cryptanalysis is done. What are the other possible attacks in DES algorithm.
b) Explain Caesar Cipher with an example.

UNIT - II

4. a) Discuss about transposition techniques.
b) Describe the structure of the IDEA and highlight its key features and the role of subkeys in the encryption process.

(OR)

5. a) State the characteristics of advanced symmetric Block Cipher.
b) Discuss about RC5 encryption algorithm. Explain how its tunable parameters (block size number of rounds, and key length) impact its performance and security.

UNIT - III

6. a) Discuss the principles of public-key cryptography and its advantages over symmetric-key cryptography.
b) Differentiate among SHA-1 and SHA-3.

(OR)

7. a) Explain Diffie-Hellman key Exchange algorithm with its merits and demerits.
b) Define cryptographic hash function and the application of hash functions.

UNIT - IV

8. a) What is Digital signature. Discuss its role on ensuring the integrity and authenticity of messages.
b) Discuss the role of protocols such as HTTPS, Secure Socket Layer (SSL), and Transport Layer Security (TLS) in addressing the challenges of web applications.

(OR)

9. a) What are the different types of firewalls, and how do they operate to block unauthorized access while allowing legitimate traffic?
b) Discuss about Pretty Good Privacy Services and its types of keys used.

UNIT - V

10. a) How do App-specific risks differ from service-level risks, and what countermeasures can be employed to address these risks?
b) Define Bitcoin. Explain working of Bitcoin from security perspective.

(OR)

11. a) Explain Ethereum and its challenges.
b) Discuss the principles of cryptography support security solutions for cloud computing and cryptocurrencies in terms of similarities, implementation and effectiveness.

M.B.A. DEGREE EXAMINATION, JANUARY/FEBRUARY - 2025

THIRD SEMESTER

PAPER - 316 - DIGITAL MARKETING (Open Elective)

(Revised Regulations w.e.f. 2021-2022)

(Common Paper to University and All Affiliated Colleges)

Time : 3 Hours

Max. Marks : 100

PART - A

(Descriptive/Numerical Type Questions)

Answer Any Five questions. Each question carries 14 marks.

(5×14=70)

- 1✓ What is meant by Digital Marketing, how it is different from traditional marketing?
- 2✓ What is the difference between Digital Marketing and Social Media Marketing?
- 3✓ What do you understand about Search Engine Optimization (SEO)? Explain some features?
4. Explain display advertising techniques. Discuss different types of display advertising techniques.
5. Write short notes on each of the following:
 - i) Bundle Pricing
 - ii) Turning Experience Goods into Search Goods
 - iii) Internet Enabled Retailing.
6. Write short notes on each of the following:
 - a) Augmented Product Concept
 - b) Online Pricing Strategies and Tactics
 - c) Customizing the Offering
7. What is Affiliate marketing? What are the recent trends influencing it?
8. What is a Display Campaigns, how it is different from Ad Campaigns? Explain the detailed process to create Campaigns.
- 9✓ What is Instagram Marketing. Write the strategy to promote business on Instagram.
- 10✓ What is social media, discuss the benefits of social media marketing in detail.

PART - B

(Case Analysis)

(30)

11. Suggest a suitable Digital Marketing strategy for the following: (Justify your answers)

- a) Foreign Private University willing to enter Indian Market.
- b) Traditional Andhra Home made Swagruha Foods including Brownsoup/Ulavacharu and Pickles.

**MASTER OF COMPUTER APPLICATIONS DEGREE EXAMINATION,
JANUARY/FEBRUARY - 2025
THIRD SEMESTER**

Paper : MCA 304 A: DATA WAREHOUSING AND DATA MINING
(Under C.B.C.S. New Regulation w.e.f. 2020-2021)
(Common paper to University and all Affiliated Colleges)

Time : 3 Hours

Max. Marks : 70

PART - A

Answer any FIVE of the following questions. Each question carries 4 marks. (5×4=20)

1. a) List any four applications of data mining.
- b) Differentiate OLAP, ROLAP and HOLAP.
- c) Why do we need data pre-processing?
- d) List the characteristics of a data warehouse.
- e) What is the need of confident measure in association rule mining?
- f) Define a frequent-itemset.
- g) What is classification?
- h) What is an outlier?
- i) Mention different types of classifier techniques.
- j) What is Bayes theorem?

PART - B

Answer Five questions, choosing One question from each unit. Each question carries 10 marks. (5×10=50)

UNIT - I

2. a) How is a data warehouse different from a database? How are they similar?
- b) Explain the different types of OLAP operations.

(OR)

3. a) What are different components of 3-Tier data warehouse Architecture? Explain with help of a diagram.
- b) Discuss the following a) Star schema, b) Snow Flake schema, c) Fact constellation schema

UNIT - II

4. a) Explain the significance of data mining as a step in the process of knowledge discovery
- b) Discuss about Data mining Task primitives with examples.

(OR)

5. a) Explain the various data pre-processing techniques.
- b) How data reduction helps in data preprocessing. Discuss about dimensionality reduction techniques.

UNIT - III

6. Find the Frequent item sets and Strong Association rules for the following Transactional Database table using Apriori Algorithm. Consider the thresholds as support 30% and confidence=40%

TID	Item ID
t1	11,12,13,13
t2	12,15,17,19
t3	11,13,16,17
t4	12,14,16,18
t5	11,12,13,14
t6	12,13,14,15
t7	13,14,15,16
t8	14,15,16,17
t9	15,16,17,18,19
t10	19,11,12,15
t11	18,12,19,17
t12	15,16,13,12

What are the applications of Association Analysis? How can we mine Multilevel Association rules efficiently using concept hierarchies? Explain it.

(OR)

7. a) What is FP-Growth algorithm? Explain.
b) What are the various constraints in constraint based association rule mining? Explain.

UNIT - IV

8. a) How do you evaluate the classifier accuracy? Explain.
b) Explain Bayesian classifier? Show how it is used for classification.

(OR)

9. a) What is tree pruning? Explain decision tree construction algorithm.
b) What is a rule based classifier? Explain.

UNIT - V

10. Explain the following

- a) Density based clustering methods
b) Grid based clustering methods.

(OR)

11. a) What are outliers? Discuss the methods adopted for outlier detection.
b) Explain about the k-means clustering algorithm. Give its limitations.

**MASTER OF COMPUTER APPLICATIONS DEGREE EXAMINATION,
JANUARY/FEBRUARY - 2025**

THIRD SEMESTER

PAPER : MCA 301: SOFTWARE ENGINEERING

(Under C.B.C.S. New Regulations w.e.f. 2020-2021)

*(Common paper to University and all Affiliated
Colleges)*

Time : 3 Hours

Max. Marks : 70

**PART - A
(Compulsory)**

Answer any FIVE of the following questions. Each question carries 4 marks.(5×4=20)

1. a) What are software myths, and why is it important to address them in software development?
- b) Mention the advantages of using agile software engineering practices.
- c) How does system engineering differ from software engineering?
- d) How are requirements specifications documented?.
- e) What are the main components of the design process in software engineering?
- f) What are architectural styles, and how do they influence software design?
- g) What is the primary difference between validation testing and system testing?
- h) How is testing at the class level conducted in object-oriented testing methods?
- i) Write about software metrics.
- j) Explain the role of risk management in software project scheduling.

PART - B

Answer Five questions, choosing One full question from each unit. Each question carries 10 marks. (5×10=50)

UNIT - I

2. a) Compare and contrast iterative and evolutionary process models with real world examples.
- b) Explain the role of communication in the software engineering process and how it impacts project success.

(OR)

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(1)

[P.T.O.]

3. a) Describe the challenges of software development and how software engineering practices address them.
- b) Discuss the significance of construction practices in software engineering and their impact on project timeliness.

UNIT - II

4. a) Explain the importance of requirement analysis in system engineering and the challenges involved.
- b) Explain the concept of behavioral modeling and its role in understanding system interactions.

(OR)

5. a) Explain the methods used in building and analysis model and their significance in system design.
- b) Describe the relationship between business process engineering and system modeling in the context of organizational improvement.

UNIT - III

6. a) Describe the considerations for design in web application development and the challenges in handling user interactions.
- b) Describe the process of mapping data flow into software architecture and its significance.

(OR)

7. a) Explain the principles of software architecture and discuss common architectural styles with examples.
- b) Discuss the fundamental design concepts such as abstraction, modularity, and patterns, and their role in software design.

UNIT - IV

8. a) Explain the process of basis path testing and its role in white-box testing. Illustrate with an example.
- b) Discuss the key strategies for system testing and validation testing in software projects.

(OR)

9. a) Discuss the challenges and approaches to testing object-oriented software systems at the class level.
- b) Explain how control structure testing is used to identify logical errors in code.

UNIT - V

10. a) Define product metrics and explain their role in evaluating the quality of analysis and design models.
- b) Discuss the W5HH principle in detail and its application in software project management.

(OR)

11. a) Analyze the importance of empirical models in software estimation with examples from real world projects.
- b) Explain how risk management is implemented in software projects and its impact on minimizing project failures.

**MASTER OF COMPUTER APPLICATIONS DEGREE EXAMINATION,
JANUARY/FEBRUARY - 2025**

THIRD SEMESTER

PAPER : MCA 303: WEB TECHNOLOGIES

(Under C.B.C.S. New Regulations w.e.f. 2020-2021)

(Common paper to University and all Affiliated Colleges)

Time : 3 Hours

Max. Marks : 70

PART - A

Answer any FIVE of the following questions. Each question carries 4 marks.(5×4=20)

1. a) Define CSS.
- b) Define image tag with an example.
- c) What is the purpose of DTD in XML?
- d) What is the scope of the variables in Java Script.
- e) How to add comments in javascript?
- f) What are the protocols used by AJAX?
- g) How to write HTML code in PHP?
- h) Define tag cloud.
- i) What is a generic Servlet?
- j) What is meant by session tracking?

PART - B

Answer Five questions, choosing One question from each unit. Each question carries 10 marks. (5×10=50)

UNIT - I

2. a) In how many ways can we insert CSS in an html document?
- b) Explain the hyperlink and imaging tags with attributes and examples.

(OR)

3. a) Discuss the procedure for creation of HTML document with frames.
- b) Analyze the impact of HTML5<audio>and <video>tags on the development of multimedia-rich websites.

UNIT - II

4. a) Write a java script to validate a form consisting of a hall ticket number as username and mobile number as pssword. Also navigate to another web page after validation.
b) Discuss about the techniques to handle mouse and keyboard events.

(OR)

5. a) Explain various types of operators used in Javascript.
b) What is JQuery? Explain JQuery Selectors?

UNIT - III

6. a) Explain the difference between synchronous and asynchronous requests in AJAX.
b) Explain the role of the web.xml file in Tomcat-hosted applications.

(OR)

7. a) What are the protocols supported by IIS for hosting and communication? Explain.
b) List any five popular AJAX libraries and briefly describe their features.

UNIT - IV

8. a) Explain form handling using \$_GET, \$_POST methods in PHP.
b) Write a program to create index based and associative arrays in PHP.

(OR)

9. a) List and explain mysql database functions in PHP.
b) List and explain the string functions in PHP.

UNIT - V

10. a) Write a JSP to demonstrate the usage of the page and include directives.
b) Discuss the methods defined by the servlet request interface.

(OR)

11. a) Write JDBC program to fetch student data from the student database using JDBC ODBC driver.
b) Explain about the JSP directive elements. Explain each of them in detail.

Student
To 1000
to upper
JSPcom
starts