Code No.: **40524**

MR14

MALLA REDDY ENGINEERING COLLEGE (AUTONOMOUS)

(Affiliated to JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD)
Gundlapochampally (H), Maisammaguda (V), Medchal (M), Medchal-Malkajgiri (Dist), Hyderabad

III B.TECH II SEMESTER SUPPLEMENTARY EXAMINATIONS, DECEMBER-2018

Subject: **OBJECT ORIENTED ANALYSIS AND DESIGN**

Branch: **CSE**

Time: 3 hours **Max. Marks: 75**

PART – A

I. Answer ALL questions of the following **5x1Mark=5 Marks**

1. What is UML?
2. What is the significance of an aggregation?
3. What is class diagram?
4. What is the use of signal?
5. What is the most common kind of relationship used among the nodes?

II. Answer ALL questions of the following **10x2Mark=20 Marks**

1. List the access specifiers in class diagram.
2. Write the phases of SDLC.
3. Differentiate between an actor and a use case.
4. Define aggregation & Composition.
5. Name the UML diagrams used for the following:
   a) Modeling behavior of an object
   b) Interaction between groups of objects
6. What are Meta Classes?
7. Differentiate between event and signal.
8. Explain usage of concurrent sub states.
9. What are the standard stereotypes that apply to Components?
10. Draw a Component Diagram for ATM Machine.

PART-B

Answer ALL questions of the following **5x10 Marks= 50Marks**

1. Explain the Modeling a System's architecture with diagram.

(OR)

2. Draw a Use Case diagram to model Requirements of the System.

3. Draw Use case diagram and Class diagram for Library Management System.

(OR)

4. Briefly explain any twelve stereotypes that may be applied to dependency relationships among classes?

5. What are Interaction diagrams? What are their Common Uses? Define semantic equivalence between two kinds of Interaction diagrams with an example?

(OR)

6. Define Object diagram? Discuss the contents, common uses and common properties of Object diagram.

7. a) Write short notes on the following i) Signals ii) Call events
   b) Explain the state chart diagrams with a neat sketch.

(OR)

8. Enumerate the steps to model the family of signals.

9. Illustrate the process of modeling the distribution of components.

(OR)

10. Enumerate the steps to forward and reverse engineering of a Component Diagram.

Code No.: **405A2**

MR14

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III B.TECH II SEMESTER SUPPLEMENTARY EXAMINATIONS, DECEMBER-2018

Subject: **Software Testing Methodologies**

Branch: **CSE**

Time: 3 hours **Max. Marks: 75**

PART – A

I. Answer ALL questions of the following **5x1Mark=5 Marks**

1. Define a Bug?
2. What is Transaction flow testing.
3. What is Beta testing?
4. Define dead state.
5. Define a Graph.

II. Answer ALL questions of the following **10x2Mark=20 Marks**

1. Describe defect classes in software.
2. Compare bug defect and failure.
3. Define data flow testing?
4. Explain transaction flow junction?
5. Distinguish between alpha and beta testing.
6. Discuss the purpose of domain testing?
7. What is state testing?
8. What is absorption rule? Give one example.
9. Compare good and bad state graphs.
10. Define test management.

PART-B

Answer ALL questions of the following **5x10 Marks= 50Marks**

1. a) What is the purpose of testing? Explain the model for software testing.

   b) W rite a short note on unit testing, component testing integration testing?

(OR)

2. a) Explain about the importance of bugs and their consequences.

   b) Explain a model for software testing.

3. What is meant by transaction flow testing? Discuss its significance?

(OR)

4. a) Explain path instrumentation in detail.
   b) Discuss the dataflow testing strategies.

5. a) Write short notes on randam testing .

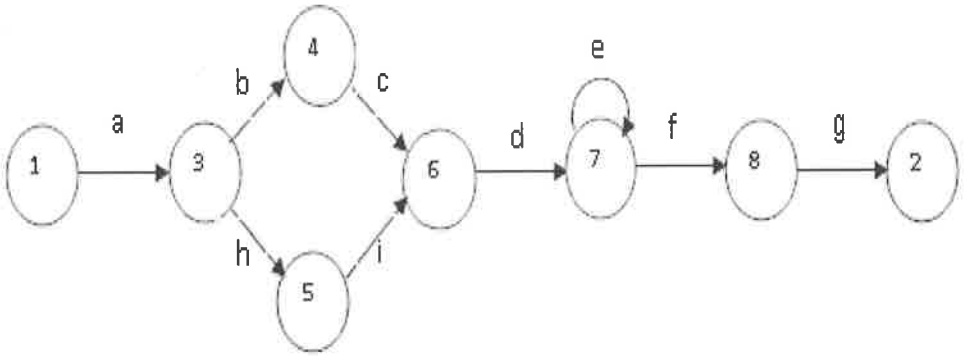
   b) Is alpha and beta testing is essential in software development process justify.

(OR)

6. a) Write about random and requirements testing

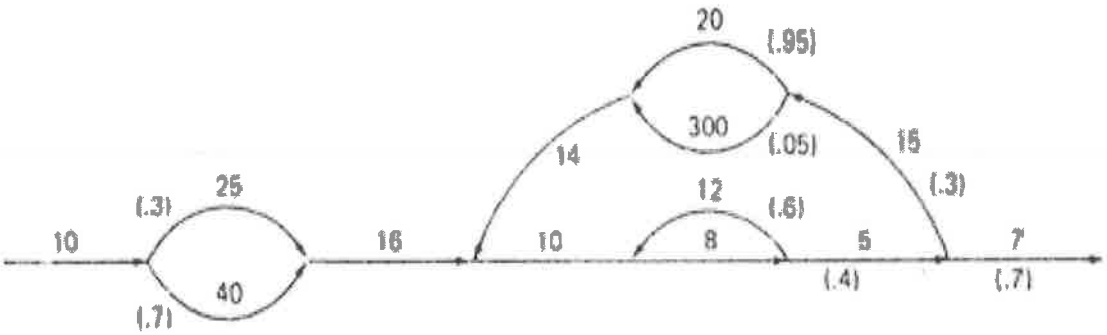
   b) Explain how we can do the documentation testing.

7. Apply node reduction procedure to the following graph.



(OR)

8. Apply the node reduction algorithm for the following control flow graph and calculate mean Processing time.



9. Discuss about the properties of good and bad state graphs. And explain testability tips.

(OR)

10. What are challenging and issues in testing services organization?

Code No.: 405A1

MR14

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III B.TECH II SEMESTER SUPPLEMENTARY EXAMINATIONS, DECEMBER-2018

Subject: **Computer Graphics And Animation Application**

Branch: **CSE**

Time: 3 hours **Max. Marks: 75**

PART – A

I. Answer ALL questions of the following **5x1Mark=5 Marks**

1. What are hard copy devices?
2. What is Transformation?
3. Explain the 3D rotation in matrix form about x-axis.
4. What is Bezier surface function?
5. Define computer graphics animation.

II. Answer ALL questions of the following **10x2Mark=20 Marks**

1. List out limitations of shadow-mask method.
2. Discuss about Inside-Outside tests.
3. Difference between clipping and viewing.
4. Analyze the Two dimensional matrix representations for scaling and translation.
5. How does 3D clipping differ from 2D clipping?
6. What are non uniform B-Splines?
7. Write short note on parallel projection.
8. What is the approximation spline?
9. Difference between in-between frames &key frames.
10. What is raster animation?

PART-B

Answer ALL questions of the following **5x10 Marks= 50Marks**

1. Explain in detail about Bresenham's line Algorithm.

(OR)

2. Explain the construction and working of CRT with the help of neat diagram.
3. Describe the following 2-D
   a) Translation b) Scaling b) Rotation

(OR)

4. A polygon object is represented using the following set of vertices (1,1) (10,5) (5,10) (4,8),(6,7) and Find the resultant points after translating with $t_x = 4$, $t_y = 4$
5. Explain about Hermit and Cardinal Interpolation.

(OR)

6. Explain in detail about 3-D viewing pipeline with neat diagram.
7. Explain in detail about Area Subdivision method.

(OR)

8. Explain about octree methods for surface detection in detail.
9. Describe about "Key frame systems" in animation.

(OR)

10. Explain the importance of animation in movies.

Code No.: **40523** | **MR14**

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III B.TECH II SEMESTER SUPPLEMENTARY EXAMINATIONS, DECEMBER-2018

Subject: **CRYPTOGRAPHY AND NETWORK SECURITY**

Branch: **CSE**

Time: 3 hours **Max. Marks: 75**

PART – A

I. Answer ALL questions of the following **5x1Mark=5 Marks**

1. What are the different modes of operation in block cipher?
2. List out the Public key Algorithms.
3. What are the different Authentication Algorithms?
4. What is meant by SET?
5. What is a virus?

II. Answer ALL questions of the following **10x2Mark=20 Marks**

1. Explain placement of encryption function.
2. Briefly explain traffic confidentiality.
3. Briefly explain public key cryptography.
4. Explain about key distribution center.
5. What are the authentication requirements?
6. What are the properties digital signatures should have?
7. Differentiate PGP and S/MIME.
8. What are the services provided by PGP services?
9. What are the two common techniques used to protect a password file?
10. What are the operations of SNMP (simple network management protocol)?

PART-B

Answer ALL questions of the following **5x10 Marks= 50Marks**

1. a) Write short notes on Security services.
   b) Explain about internet standards in detail.

(OR)

2. Write industrial about 3DES.
3. Explain about ARP spoofing.

(OR)

4. Explain in detail Diffie Hellman key exchange algorithm with its advantages and disadvantages.
5. Explain SHA 512 algorithm.

(OR)

6. Discuss about message authentication codes.
7. Explain IP Security Authentication Header.

(OR)

8. Explain the architecture of IP Security.
9. Write in detail about the following types of firewalls.
   a) Application level gate way
   b) Circuit level gate way

(OR)

10. What are the characteristics of fire walls explain about packet filtering router?

Code No.: **40526** | **MR14**

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III B.TECH II SEMESTER SUPPLEMENTARY EXAMINATIONS, DECEMBER-2018

Subject: **Data Warehousing and Data Mining**

Branch: **CSE**

Time: 3 hours **Max. Marks: 75**

PART – A

I. Answer ALL questions of the following **5x1Mark=5 Marks**

1. What is KDD process?
2. What is data warehouse architecture?
3. What is Market basket analysis?
4. State the Baye's theorem.
5. Define clustering.

II. Answer ALL questions of the following **10x2Mark=20 Marks**

1. What are the steps for performing data cleaning as a process?
2. What are the advantages of a data warehouse?
3. Define normalization. Why we can use normalization?
4. What is OLAP technology?
5. What are the different kinds of Association Rules?
6. Define constraint- based Association mining.
7. Define naive Bayesian classification.
8. List out the techniques used for improving classification accuracy.
9. Differentiate between classification and clustering.
10. Explain about the requirements for clustering.

PART-B

Answer ALL questions of the following **5x10 Marks= 50Marks**

1. a) Explain the different strategies used for data transformation.

   b) Briefly discuss about the different data discretization methods.

(OR)

2. a) With a neat diagram explain the architecture of typical data mining system.

   b) Briefly discuss the functionalities of data mining.

3. a) Differentiate operational database systems and data warehousing.

   b) Explain with an example the different schemas for multidimensional databases.

(OR)

4. What is base cuboid, Apex cuboid? Explain about data cubes.

5. a) Define the terms frequent item sets, closed item sets and association rules.
   b) Explain how to mine the multi dimensional association rules relational database and data ware house.

(OR)

6. Explain about the Apriori algorithm with an example and state the different techniques to improve the efficiency of Apriori algorithm.

7. a) Explain how tree pruning useful in decision tree induction. What is a drawback of using a separate of tuples to evaluate pruning?
   b) Compare the advantages and disadvantages of eager classification (e.g., decision tree, Bayesian, neural network) versus lazy classification (e.g., k-nearest neighbour, case-based reasoning).

(OR)

8. a) Explain briefly about Classification by Decision Tree Induction with an example.
   b) Write the Back propagation algorithm and explain it.

9. a) How do you handle spatial and non-spatial data, while carrying out any mining tasks?
   b) Propose different neighborhood relationships that can be used for density-based clustering of spatial data.

(OR)

10. a) Explain about the K-Means algorithm.
    b) What are different categories of clustering methods in data mining?

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III B.TECH II SEMESTER SUPPLEMENTARY EXAMINATIONS, DECEMBER-2018

Subject: **PRINCIPLES OF PROGRAMMING LANGUAGE**

Branch: **CSE**

Time: 3 hours **Max. Marks: 75**

PART – A

I. Answer ALL questions of the following **5x1Mark=5 Marks**

1. Define programming language.
2. Define syntax and semantics.
3. Define guarded command.
4. What is the parameter passing method?
5. List any two fundamentals of functional programming languages.

II. Answer ALL questions of the following **10x2Mark=20 Marks**

1. Describe language categories.
2. Define pure-interpreter.
3. Write BNF notation for 'if-else' condition.
4. Give an unambiguous grammar for 'if-then-else'.
5. What are the design issues for unions?
6. Differentiate 'while' and 'do-while' control statements.
7. What is semaphore?
8. What is the purpose of C++ constructor and destructor?
9. Give an example code of 'HASKELL' language.
10. Write any two differences between functional programming and imperative programming languages.

PART-B

Answer ALL questions of the following **5x10 Marks= 50Marks**

1. Explain about procedural programming & logic programming paradigm.

(OR)

2. Mention different implementation methods of programming language.
3. Explain about operational semantics.

(OR)

4. What are the rules of EBNF? Compare BNF with EBNF.
5. Write short notes on record types and array types.

(OR)

6. Write a short note on Associative arrays with suitable examples.
7. Explain how subprograms are overloaded. Give examples.

(OR)

8. Explain various ways of creation of threads in java with examples.
9. Explain exception Handling Categories.

(OR)

10. What are the characteristics of Haskell that make it different from ML?

Code No.: **40525** | **MR14**

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III B.TECH II SEMESTER SUPPLEMENTARY EXAMINATIONS, DECEMBER-2018

Subject: **MOBILE COMPUTING**

Branch: **CSE**

Time: 3 hours **Max. Marks: 75**

PART – A

I. Answer ALL questions of the following **5x1Mark=5 Marks**

1. What is meant by Mobile Computing?
2. Expand SDMA.
3. What is HA?
4. Define TCP.
5. What is meant by caching?

II. Answer ALL questions of the following **10x2Mark=20 Marks**

1. Define Handover.
2. Abbreviate PSTN.
3. What do you mean by hidden terminals?
4. Mention various types of calls in GSM.
5. List type of encapsulations.
6. What are the disadvantages of Cellular IP?
7. What is Indirect TCP?
8. Explain about wireless TCP.
9. List out the indexing techniques.
10. What are the reasons behind Asymmetry?

PART-B

Answer ALL questions of the following **5x10 Marks= 50Marks**

1. Explain the functions of various sub-systems in GSM system architecture.

(OR)

2. Explain in detailed about general packet radio service (GPRS).
3. Explain in detail about Time Division Multiple Access (TDMA).

(OR)

4. Explain about FDMA and CDMA.
5. Explain the goals & Terminology mobile IP Network layer?

(OR)

6. Explain how data communication is done using Mobile IP protocol
7. Compare and contrast I-TCP, Snooping TCP, M-TCP, Transaction oriented TCP?

(OR)

8. Can the problems using TCP be solved by replacing TCP with UDP? Where could this be useful and why is it quite often dangerous for network stability?
9. a) Brief about data delivery mechanisms.
   b) Brief about Selective retransmission.

(OR)

10. a) Explain some alternatives to the use of indexing.
    b) What is meant by hoarding? What are the advantages and disadvantages of hoarding?

Code No.: **30604** MR13/

MALLA REDDY ENGINEERING COLLEGE (AUTONOMOUS)

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III B.TECH II SEMESTER SUPPLEMENTARY EXAMINATIONS, DECEMBER-2018

Subject: **Java and Web Technologies**

Branch: CSE

Time: 3 hours **Max. Marks: 75**

PART – A

I. Answer ALL questions of the following **5x1Mark=5 Marks**

1. Name the features of OOP.
2. Define an interface.
3. What are the ways to create threads.
4. What does the JDBC ResultSet interface?
5. Identify the key difference between Java Servlet and JSP?

II. Answer ALL questions of the following **10x2Mark=20 Marks**

1. Define method overloading.
2. Discuss the uses of super keyword.
3. Compare classes and interfaces.
4. Give the constructors and methods of BufferedInputStream.
5. Draw the thread life cycle diagram.
6. Demonstrate HTML image tag and properties with a snippet.
7. What are the steps to connect to the database in java?
8. Discuss doGet() and doPost().
9. How is JSP used in the MVC model?
10. What are the ways to perform exception handling in JSP?

PART-B

Answer ALL questions of the following **5x10 Marks= 50Marks**

1. a. Write short notes on the buzzwords of Java.
   b. Write a program to demonstrate constructor overloading.

(OR)

2. Demonstrate the uses of final keyword with its suitable programs.
3. Write a Java program to demonstrate creating and accessing a user defined package.

(OR)

4. Write a Java program to illustrate the keywords of Exception Handling.
5. Define inter thread communication and a write a program to demonstrate inter thread communication.

(OR)

6. a. Design a HTML page to illustrate List and Table tags.
   b. Write a Java Script code to illustrate Mouse Events.
7. Write a program to demonstrate the use of Callable and Prepared Statements.

(OR)

8. Write a servlet code which retrieves the data from database.
9. a. Develop a program to implement area of circle by using JSP.
   b. Explain implicit objects in JSP.

(OR)

10. Develop a program to create a table and insert the records in database by using JDBC.