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<b>R-20</b>
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**Code: 20DF32T**

M.C.A. III Semester Supplementary Examinations June 2024

**Object Oriented Modeling and Design with UML**

Max. Marks: 60

Time: 3 Hours

Answer all five units by choosing one question from each unit ( 5 x 12 = 60 Marks )

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Marks CO BL

**UNIT-I**

- 1. Explain the basic building blocks of UML. 12M CO1 L3

**OR**

- 2. a) Discuss the principles of UML Modeling 6M CO1 L3  
b) What is UML? Explain the software development life cycle 6M CO1 L3

**UNIT-II**

- 3. Discuss the terms and concepts related to advanced classes along with common modelling techniques 12M CO2 L2

**OR**

- 4. a) What are relationships? Explain them with examples 6M CO2 L1  
b) Discuss packages and interfaces with examples 6M CO2 L3

**UNIT-III**

- 5. a) What are the elements of the activity diagram? Explain with a neat diagram 6M CO3 L2  
b) Draw and explain the sequence diagram with an example 6M CO3 L3

**OR**

- 6. a) Draw and explain the use case diagram for the library system 6M CO3 L3  
b) What are interaction diagrams? Explain Collaboration diagram 6M CO3 L2

**UNIT-IV**

- 7. What are the elements of a state machine? Explain the state chart diagram with an example 12M CO4 L3

**OR**

- 8. a) What are events and signals? Explain with example 6M CO4 L2  
b) Discuss processes and threads in UML 6M CO4 L3

**UNIT-V**

- 9. What is a component diagram? Discuss the component diagrams with examples 12M CO5 L3

**OR**

- 10. What is a deployment diagram? Explain the common modelling techniques related to the deployment diagram 12M CO5 L2

\*\*\*End\*\*\*

Hall Ticket Number :									
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<b>R-20</b>
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**Code: 20DF31T**

M.C.A. III Semester Supplementary Examinations July 2024

**Web Technologies**

Max. Marks: 60

Time: 3 Hours

Answer all five units by choosing one question from each unit ( 5 x 12 = 60 Marks )

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Marks CO BL

**UNIT-I**

- 1. a) Develop a Java program that includes constructors and showcases parameter passing. 6M CO1 L6
- b) List and briefly explain at least three string handling methods in Java. 6M CO1 L2

**OR**

- 2. a) Create a Java program that demonstrates method overriding. 6M CO1 L6
- b) Describe the purpose of garbage collection in Java. 6M CO1 L2

**UNIT-II**

- 3. a) Demonstrate the process of importing packages in Java. 8M CO2 L5
- b) Differentiate between classes and interfaces with an example program. 4M CO2 L2

**OR**

- 4. a) Evaluate the roles of try, catch, throw, throws, and finally in exception handling. 6M CO2 L5
- b) Develop a Java program that implements an interface. 6M CO2 L6

**UNIT-III**

- 5. a) Differentiate between the types of CSS. 6M CO3 L2
- b) Design a table using all HTML table tags (table,tr,tc,tbody,td). 6M CO3 L2

**OR**

- 6. a) Describe the control structures available in JavaScript. 6M CO3 L2
- b) Explain the role of Document Type Definition (DTD) in XML. 6M CO3 L2

**UNIT-IV**

- 7. a) Analyze the various stages in the lifecycle of a servlet and write a simple servlet that reads three parameters from the form data. 6M CO4 L4
- b) Illustrate the use of cookies in servlets with an example. 6M CO4 L4

**OR**

- 8. a) Describe the process of developing a JSP application and explain the directive elements of JSP. 6M CO4 L2
- b) Explain JSP tag extensions and libraries. 6M CO4 L2

**UNIT-V**

- 9. a) Create a JSP application to demonstrate page and include directive. 6M CO5 L6
- b) Explain the role of beans in JSP application development. How are beans instantiated and utilized within JSP pages? 6M CO5 L2

**OR**

- 10. a) Explain java database connectivity with an example. 6M CO5 L2
- b) Define Database? Explain the four types of JDBC Drivers. 6M CO5 L2

**\*\*\*End\*\*\***

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<b>R-20</b>
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**Code: 20DF33T**

M.C.A. III Semester Supplementary Examinations June 2024

**Dev. Ops**

Max. Marks: 60

Time: 3 Hours

Answer all five units by choosing one question from each unit ( 5 x 12 = 60 Marks )

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Marks CO BL

<b>UNIT-I</b>
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- 1. Consider that an E-commerce company wants to create portal for their customers. Illustrate the general cloud reference model used for developing the portal with the following design requirements.
  - a) E-commerce portal consists of compute, network and storage facilities.
  - b) On demand request for scale in/ scale out to achieve high availability.

12M CO1 L1

**OR**

- 2. Assume that you are working as a software developer in a software company. The company is planning to implement Grid computing model for their applications.
  - a) Illustrate which Grid computing model you will suggest for better performance. [10 marks]
  - b) List the actors associated with that model. [2 marks]

12M CO1 L1

<b>UNIT-II</b>
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- 3. Write short notes on:
  - a) IAM Service      b) EC2 Service
  - c) Route53          d)S3 Bucket

12M CO2 L3

**OR**

- 4. Consider that Atos Syntel company is going to create a data warehouse with Talend Open Studio tool for Data extraction and transformation. Describe the procedure to use the AWS Identity and Access Management service for the above scenario.

12M CO2 L3

<b>UNIT-III</b>
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- 5. Compare and contrast the challenges encountered by a software development team before and after implementing Git. Evaluate the efficacy of Git in managing code changes and collaboration.

12M CO3 L2

**OR**

6. Explain the purpose of branches in a version control system and describe how the commands git branch, git checkout, and git merge contribute to managing code development. 12M CO3 L2

**UNIT-IV**

7. a) Evaluate the potential challenges and considerations organizations may face when adopting Continuous Deployment within their DevOps practices. 6M CO4 L3
- b) Examine the cultural aspects of DevOps and how it influences collaboration within development and operations teams 6M CO4 L3

**OR**

8. a) List the 3 Jenkins plugins used for the software development. 6M CO4 L3
- b) List the impact of Jenkins plugins on improving efficiency and functionality in a CI/CD pipeline. 6M CO4 L3

**UNIT-V**

9. Explain the steps for installing Docker on a Linux-based operating system. Include necessary prerequisites, the installation process, and post-installation configuration steps. Explain any potential challenges or considerations that users may encounter during the installation. 12M CO5 L2

**OR**

10. a) Explain the default networking behavior of Docker containers. Describe the bridge network and its role in connecting containers. 6M CO5 L2
- b) Explain how Docker Swarm and other orchestration tools address these challenges and facilitate container communication in a distributed environment. 6M CO5 L2

\*\*\*End\*\*\*