

Hall Ticket Number :

**R-20**

**Code: 20DF33T**

M.C.A. III Semester Regular & Supplementary Examinations April 2023

**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>			
1. a) What is AWS? Describe its features in detail?	6M	CO1	L1
b) Explain about AWS Free-tier limitations.	6M	CO1	L2
<b>OR</b>			
2. a) Explain in detail about Paas? Describe its advantages	6M	CO1	L2
b) Explain in detail about Hybrid Cloud Computing?	6M	CO1	L2
<b>UNIT-II</b>			
3. a) Discuss in detail about the components of IAM?	6M	CO2	L2
b) Discuss in detail about Amazon S3 Bucket?	6M	CO2	L2
<b>OR</b>			
4. a) Explain about Amazon EC2 Terminology	6M	CO2	L2
b) Explain in detail about Amazon Relational Database Service	6M	CO2	L2
<b>UNIT-III</b>			
5. a) Discuss in detail about the Differences between Centralized Version Control System and Distributed Version Control System	6M	CO3	L2
b) What is Git? Explain the features of Git	6M	CO3	L1
<b>OR</b>			
6. a) Sketch a neat diagram to discuss on Git Architecture	6M	CO3	L2
b) Explain in detail about atleast FIVE Git commands.	6M	CO3	L2
<b>UNIT-IV</b>			
7. a) Explain in detail about Jenkins Backup Plugins	6M	CO4	L2
b) Elaborate on Free Style Project or Jenkins Jobs	6M	CO4	L2
<b>OR</b>			
8. a) Explain in brief about Jenkins administration?	6M	CO4	L2
b) List out the objectives of Jenkins Management page	6M	CO4	L1
<b>UNIT-V</b>			
9. a) Discuss in detail about Containerization	6M	CO5	L2
b) Discuss on the major features of Docker	6M	CO5	L2
<b>OR</b>			
10. a) What are the advantages' of Docker?	6M	CO5	L1
b) Discuss in detail about Docker Architecture	6M	CO5	L2

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Hall Ticket Number :

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**R-20**

**Code: 20DF31T**

M.C.A. III Semester Regular & Supplementary Examinations April 2023

### 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	Blooms Level
<b>UNIT-I</b>			
1. a) Recall Inheritance? Illustrate the types of inheritances?	6M	CO1	L2
b) Write a java program to implement multilevel inheritance concept?	6M	CO1	L3
<b>OR</b>			
2. a) Write a java program to check the given string is palindrome or not?	6M	CO1	L4
b) What is polymorphism? Explain method overloading and overriding with an example?	6M	CO1	L2
<b>UNIT-II</b>			
3. a) Recall what is package? Explain how to create user defined package in java with example?	6M	CO2	L2
b) Write a java program to create own exception for Negative Value Exception if the user enter negative value?	6M	CO2	L6
<b>OR</b>			
4. a) Write a java program to create two threads and execute simultaneously?	6M	CO2	L6
b) Explain about try, catch, statements with examples?	6M	CO2	L2
<b>UNIT-III</b>			
5. a) What is the need of scripting languages in web Technologies?	6M	CO3	L1
b) Build a JavaScript program to convert temperature from Celsius to Fahrenheit and vice versa?	6M	CO3	L6
<b>OR</b>			
6. a) List the advantages of XML Schemas over DTD's?	6M	CO3	L1
b) Explain about Internal DTD's with an example?	6M	CO3	L2
<b>UNIT-IV</b>			
7. a) Distinguish between CGI and Servlets?	6M	CO4	L4
b) Develop a Servlet that handles an HTTP POST request?	6M	CO4	L6
<b>OR</b>			
8. a) Explain the components of jsp?	6M	CO4	L2
b) Explain about the anatomy of jsp?	6M	CO4	L2
<b>UNIT-V</b>			
9. a) Explain about the JDBC Drivers?	6M	CO5	L2
b) Explain Various steps involved in accessing database from JSP page?	6M	CO5	L2
<b>OR</b>			
10. a) How to develop JSP Application? Explain the Directive Elements of JSP?	6M	CO5	L1
b) Explain about implicit JSP objects.	6M	CO5	L2

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

M.C.A. III Semester Regular & Supplementary Examinations April 2023

**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. a) | List and explain any 4 salient points on importance of modeling | 6M | 1 | 1 |
| b)    | Summarize any 4 principles of modeling                          | 6M | 1 | 2 |

**OR**

- |    |   |     |   |   |
|----|---|-----|---|---|
| 2. | Describe in detail on conceptual model of UML | 12M | 1 | 3 |
|----|---|-----|---|---|

**UNIT-II**

- |    |  |     |   |   |
|----|--|-----|---|---|
| 3. | Define class? Explain the various notations used in the class diagram? | 12M | 2 | 2 |
|----|--|-----|---|---|

**OR**

- |    |  |     |   |   |
|----|--|-----|---|---|
| 4. | Explain about the terms and concepts related to advanced classes along with common modeling techniques | 12M | 2 | 2 |
|----|--|-----|---|---|

**UNIT-III**

- |    |   |     |   |     |
|----|---|-----|---|-----|
| 5. | Define use case? Draw a use case diagram for a Library Management system and explain? | 12M | 3 | 1,4 |
|----|---|-----|---|-----|

**OR**

- |    |   |     |   |   |
|----|---|-----|---|---|
| 6. | Explain in detail about the activity diagram with an example? | 12M | 3 | 2 |
|----|---|-----|---|---|

**UNIT-IV**

- |    |  |     |   |   |
|----|--|-----|---|---|
| 7. | Write a short notes on<br>i) Time and space<br>ii) processes and threads | 12M | 4 | 3 |
|----|--|-----|---|---|

**OR**

- |    |   |     |   |     |
|----|---|-----|---|-----|
| 8. | Define State Chart diagram? Draw a State Chart diagram for an online shopping system and explain? | 12M | 4 | 1,4 |
|----|---|-----|---|-----|

**UNIT-V**

- |    |  |     |   |   |
|----|--|-----|---|---|
| 9. | Write a short notes on<br>i) Component<br>ii) Deployment | 12M | 5 | 3 |
|----|--|-----|---|---|

**OR**

- |     |  |     |   |     |
|-----|--|-----|---|-----|
| 10. | Define Deployment diagram? Draw a Component diagram for an Environmental Control system and explain? | 12M | 5 | 1,4 |
|-----|--|-----|---|-----|

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**R-20**

**Code: 20DF34T**

M.C.A. III Semester Regular & Supplementary Examinations April 2023

## Big Data Analytics

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>			
1. a) Describe the importance of big data.	6M	CO1	L2
b) List and explain the applications of big data.	6M	CO1	L2
<b>OR</b>			
2. a) Illustrate Big Data sources.	6M	CO1	L4
b) Briefly discuss about four V's of Big Data. Give two examples of Big Data	6M	CO1	L2
<b>UNIT-II</b>			
3. a) List and explain some popular open-source technologies used for Big Data Analytics.	6M	CO2	L2
b) Grade how can predictive analytics be leveraged to improve business decision-making, and also determine some common challenges and limitations associated with implementing and using predictive models in practice?	6M	CO2	L5
<b>OR</b>			
4. a) Interpret the impact of cloud computing in the field of Big Data.	6M	CO2	L2
b) Tabulate the potential benefits and drawbacks of using crowdsourcing as a means of collecting and analyzing data for business or research purposes, and what factors should organizations consider when deciding whether or not to implement a crowdsourcing strategy for analytics?	6M	CO2	L2
<b>UNIT-III</b>			
5. a) Describe the factors contributed to the rise of data scientists as a key role in modern organizations.	6M	CO3	L2
b) Outline Holistic view of analytics and how can it be applied to help organizations achieve their strategic goals and objectives?	6M	CO3	L4
<b>OR</b>			
6. Summarize some best practices for implementing big data analytics in an organization, and how can these practices be used to ensure that data-driven insights are accurate, relevant, and actionable?	12M	CO3	L2
<b>UNIT-IV</b>			
7. a) Explain real time architecture for conversations.	6M	CO4	L2
b) Interpret the stages involved in analytics maturity model?	6M	CO4	L2
<b>OR</b>			
8. a) Define Data Orchestration & explain its Essential for Analysis.	12M	CO4	L2
<b>UNIT-V</b>			
9. a) Describe the building blocks of Hadoop Map Reduce.	6M	CO5	L2
b) Explain Hadoop Map Reduce with an example.	6M	CO5	L2
<b>OR</b>			
10. a) Describe the components of HDFS	6M	CO5	L2
b) Illustrate anatomy of Map Reduce job. run	6M	CO5	L4

\*\*\*\*END\*\*\*\*

Hall Ticket Number :

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**R-20**

**Code: 20DF3FT**

M.C.A. III Semester Regular & Supplementary Examinations April 2023

## Data Science

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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### UNIT-I

- |   | Marks | CO | BL |
|---|-------|----|----|
| 1. a) Describe the steps involved in the data science process, such as data collection, data cleaning, and data analysis. | 6M    | 1  | L3 |
| b) Evaluate the impact of bias and variance on model performance  | 6M    | 1  | L4 |

**OR**

- |   |    |   |    |
|---|----|---|----|
| 2. a) Describe different metrics for measuring the quality of fit, such as mean squared error and R-squared | 6M | 1 | L3 |
| b) Apply different metrics for measuring the quality of fit to a given dataset and interpret the results.   | 6M | 1 | L3 |

### UNIT-II

- |  |     |   |    |
|--|-----|---|----|
| 3. Design and implement a data collection strategy using APIs to gather data from a specific source. | 12M | 2 | L4 |
|--|-----|---|----|

**OR**

- |   |     |   |    |
|---|-----|---|----|
| 4. Design and implement a data integration strategy for a project that uses data from multiple sources. | 12M | 2 | L4 |
|---|-----|---|----|

### UNIT-III

- |  |     |   |    |
|--|-----|---|----|
| 5. Describe theoretically the Naive Bayes theorem to model a classification problem? | 12M | 3 | L3 |
|--|-----|---|----|

**OR**

- |  |    |   |    |
|--|----|---|----|
| 6. a) Discuss the nearest neighbor model in detail.                                    | 6M | 2 | L2 |
| b) Explain the concept of quadratic discriminant analysis and how it differs from LDA. | 6M | 3 | L2 |

### UNIT-IV

- |   |     |   |    |
|---|-----|---|----|
| 7. Explain the principles of data encoding, such as retinal variables and mapping variables to encodings. | 12M | 4 | L2 |
|---|-----|---|----|

**OR**

- |  |     |   |    |
|--|-----|---|----|
| 8. Apply the split-apply-combine paradigm to any dataset and use it to perform data wrangling operations such as aggregation and imputation. | 12M | 4 | L3 |
|--|-----|---|----|

### UNIT-V

- |   |    |   |    |
|---|----|---|----|
| 9. a) Explain key features and advantages of Bokeh as a visualization tool.   | 6M | 5 | L2 |
| b) Analyze the recent trends in data collection techniques, such as IoT devices, social media, and sensor networks. | 6M | 5 | L3 |

**OR**

- |   |    |   |    |
|---|----|---|----|
| 10. a) Describe the emerging data analysis techniques, such as deep learning, natural language processing, and computer vision. | 6M | 5 | L3 |
| b) Explain the principles of application development method and its application in data science projects.                       | 6M | 5 | L2 |

\*\*\*\*END\*\*\*\*