M.C.A. IV Semester Supplementary Examinations Nov/Dec 2019
Distributed Databases

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

1. a) What is Distributed Database?   2M

    b) Explain in detail about Distributed Database Management Systems?   10M

OR

2. a) Explain about the types of Data Fragmentation.   6M

    b) Explain database access Primitives.   6M

UNIT–II

3. a) Explain the Integrity constraints in distributed databases.   6M

    b) Explain the distribution transparency for Updating the applications.   6M

OR

4. a) Explain how database fragmentation is designed.   6M

    b) Explain in detail about allocation of fragments.   6M

UNIT–III

5. Explain in detail about how to manage distributed transactions   12M

OR

6. Write short notes on
    a) Join queries   6M
    b) General queries   6M

UNIT–IV

7. Explain Non-Blocking Commitment Protocols   12M

OR

8. Explain about catalog management in DDB?   12M

UNIT–V

9. a) Explain about checkpoints and cold restart?   6M

    b) Explain the properties of transaction and goals of transaction management? 6M

OR

10. Discuss in detail about authorization and protection.   12M

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R-17

Code: 7P2B44

M.C.A. IV Semester Supplementary Examinations Nov/Dec 2019
Data Mining
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

1. a) Define Data Mining. Elaborate on origin of Data Mining.   6M

    b) Identify various types of data types. List out the measures used on identifying the Similarity and Dissimilarity of data.   6M

OR

2. Apply various Data Preprocessing techniques to process the data and convert the data into more suitable format for Data Mining.   12M

UNIT–II

3. Define classification? How classification is performed using decision tree induction? Explain with an example.   12M

OR

4. Illustrate how classification is done using Rule-based classification method.   12M

UNIT–III

5. Enumerate the steps needed in finding frequent item sets without candidate generation (FP-growth) with an example.   12M

OR

6. Apply an Apriori algorithm in finding frequent item sets using super-market data set as an example.   12M

UNIT–IV

7. Explain the concept of Clustering with K-Means technique to cluster the data and discuss its merits and demerits.   12M

OR

8. Describe DBSCAN algorithm to cluster the data.   12M

UNIT–V

9. What are anomalies/outliers. State and explain the importance of anomaly detection with suitable example.   12M

OR

10. Discuss about Clustering based technique in detection of anomalies   12M

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Code: 5P2B44

M.C.A. IV Semester Supplementary Examinations Nov/Dec 2019
Data Ware Housing and Data Mining
Max. Marks: 60   Time: 3 Hours
Answer *all five* units by choosing one question from each unit (5 x 12 = 60Marks)
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UNIT–I

1.   Define data mining. Describe the steps involved in KDD process.   12M

OR

2.   a) Briefly describe star, snowflake and fact constellation schemas with examples   6M

   b) Explain the multi-tier architecture suitable for evolving a data warehouse with suitable diagram.   6M

UNIT–II

3.   Briefly explain about Data Preprocessing Techniques with an example.   12M

OR

4.   a) Describe the major issues in data mining.   6M

   b) Discuss Data Cleaning Process in data mining.   6M

UNIT–III

5.   Discuss in detail mining of multi-level association rules with an example.   12M

OR

6.   Explain Apriori algorithm for generation of frequent item sets.   12M

UNIT–IV

7.   What is Classification and Prediction? Discuss different issues related to Classification and Prediction.   12M

OR

8.   Explain in detail about how does Bayesian belief network learn?   12M

UNIT–V

9.   Explain about mining the World Wide Web   12M

OR

10.   Discuss about the Multidimensional Analysis and Descriptive Mining of Complex Data Objects in detail.   12M

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Code: 7P2B41

M.C.A. IV Semester Supplementary Examinations Nov/Dec 2019
Software Engineering

Max. Marks: 60   Time: 3 Hours
Answer *all five* units by choosing one question from each unit (5 x 12 = 60Marks)
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UNIT–I

1. a) Describe briefly the Capability maturity model integration (CMMI)?   8M
    b) Write a note on Software myths?   4M

OR

2. a) Describe briefly the Evolutionary process models with neat sketches?   6M
    b) Write brief note on Functional and Non-functional requirements?   6M

UNIT–II

3. a) Describe Waterfall Model with an example.   6M
    b) Explain the structure of Software Requirements Specification.   6M

OR

4. a) Write briefly about Requirements Elicitation and Analysis.   6M
    b) Write a short note on Behavioral models.   6M

UNIT–III

5. a) Explain in detail the objects and object classes   6M
    b) Explain in detail about user interface analysis and design.   6M

OR

6. a) Describe validation criteria.   6M
    b) Explain how integration testing method is applied for conventional software.   6M

UNIT–IV

7. a) Differentiate between Verification and Validation.   6M
    b) Write a brief note on Software Inspections.   6M

OR

8. a) Explain about Component Testing.   6M
    b) Describe briefly about Software Quality Assurance Elements, Tasks, Goals and Metrics.   6M

UNIT–V

9. a) Explain Project Cost Estimation Techniques.   6M
    b) Explain COCOMO model with suitable example.   6M

OR

10. a) Explain briefly Project Planning.   6M
    b) Write a brief note on Risk Management.   6M

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Code: 7P2B43

M.C.A. IV Semester Supplementary Examinations Nov/Dec 2019
Unix & Network Programming

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

1.	Explain structure of Unix file system	12M

OR

| 2. | Differentiate grep, egrep and fgrep filters | 12M |

UNIT–II

| 3. | Explain various system calls for file processing | 12M |

OR

| 4. | a) | Explain open, creat, lseek functions in Unix | 6M |
| | b) | Explain directory management system calls | 6M |

UNIT–III

| 5. | Explain in detail UNIX process environment | 12M |

OR

| 6. | a) | Explain setjmp and longjmp functions in Unix | 6M |
| | b) | Explain tcgetpgrp and tcsetpgrp functions in Unix | 6M |

UNIT–IV

| 7. | a) | Explain various types of signals | 6M |
| | b) | Explain sigsetjmp and siglongjmp functions | 6M |

OR

| 8. | Explain role of kernel for supporting various signals | 12M |

UNIT–V

| 9. | Explain system calls for posix and memory based semaphores | 12M |

OR

| 10. | Explain socket options for TCP and UDP | 12M |

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M.C.A. IV Semester Supplementary Examinations Nov/Dec 2019
Data Communication & Computer Networks

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

1. a) Draw the OSI network architecture and explain the functionalities of each layer in detail?   6M
   b) Differentiate LAN, MAN and WAN network topologies?   6M

OR

2. a) Discuss about various types of transmission media?   6M
   b) Explain Circuit Switched Networks with suitable examples?   6M

UNIT–II

3. a) Explain any two error detection mechanisms in detail?   6M
   b) Describe and discuss the data link layer design issues?   6M

OR

4. a) Discuss about mechanism used in CSMA/CD?   6M
   b) Explain how Slotted ALOHA improves the performance of Pure ALOHA?   6M

UNIT–III

5. a) With an example, explain the function of Link State Routing protocol?   6M
   b) Discuss about internetwork routing?   6M

OR

6. a) Explain the Shortest Path Algorithm with suitable illustrations?   6M
   b) Discuss the notation, representation and address space of IPv6?   6M

UNIT–IV

7. a) Differentiate between TCP and UDP?   6M
   b) Explain in detail about Domain Name System (DNS)?   6M

OR

8. Explain the various fields of the TCP header and the working of the TCP protocol?   12M

UNIT–V

9. a) Illustrate the process of Rivest, Shamir and Adleman (RSA) algorithm?   6M
   b) What are the attacks that are possible on RSA algorithm?   6M

OR

10. a) Explain Data Encryption standard (DES) in detail?   6M
    b) Mention the strengths and weakness of DES algorithm?   6M

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