Hall Ticket Number :										

R-17

Code: 7P2B44

M.C.A. IV Semester Supplementary Examinations October 2020

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) What is data mining? Explain the origins of data mining?
   b) Explain various types of data? What are the measures of similarity and dissimilarity of data?

OR

2. Explain data mining tasks with an example?

UNIT–II

3. a) Explain the general approach to solving a classification problem?
   b) Explain the rule-based classification? Briefly explain the Decision Tree induction?

OR

4. Write Bayes theorem. Explain classification by using the Bayes theorem.

UNIT–III

5. Analyze the steps in finding frequent itemsets using an Apriori algorithm.

OR

6. Apply an FP growth algorithm and generate frequent itemsets from FP-tree with a suitable example.

UNIT–IV

7. Explain the basic concepts of clustering with K-Means technique?

OR

8. Describe DBSCAN algorithm for clustering?

UNIT–V

9. Mention the reasons for anomalies/outliers. Explain the anomaly detection with an example.

OR

10. Discuss about Clustering based technique in detection of anomalies

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Hall Ticket Number :										

R-17

Code: 7P2B42

MCA IV Semester Supplementary Examinations October 2020

Data Communications & 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) Describe the OSI reference model with a neat diagram. 8M
   b) List and explain the transmission technology used in computer networks 4M

OR

2. a) Write short note on ATM reference model 6M
   b) Discuss the design issues that occur in computer networks 6M

UNIT–II

3. a) Give the transmission Frame for the data frame 10100001 using 10011 6M
   b) List and explain the different methods used for framing. 6M

OR

4. a) Explain CSMA protocols in detail. 8M
   b) Write short note on Back off algorithm. 4M

UNIT–III

5. a) Describe Distance-Vector routing algorithm 7M
   b) Explain design issues of Network layer 5M

OR

6. a) Write short note on IP addresses and subnets. 6M
   b) Describe OSPF in internet control protocol 6M

UNIT–IV

7. a) Describe the TCP service model. 6M
   b) With the help of a neat diagram explain the TCP connection management modelling. 6M

OR

8. a) Explain Remote Procedure Call in UDP. 6M
   b) What is Code Division Multiple Access (CDMA)? Explain its transmission 6M

UNIT–V

9. Explain in detail RSA algorithm with an example. 12M

OR

10. a) Explain Leaky Bucket Algorithm 6M
    b) Describe in brief Nagle's Algorithm 6M

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Hall Ticket Number :										

R-17

Code: 7P2B41

M.C.A. IV Semester Supplementary Examinations October 2020

Software Engineering

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) Write IEEE definition of software engineering. Describe the nature of software. 6M
   b) Describe Adaptive Software Development (ASD) agile model. 6M

OR

2. a) Summarize the general principles of software engineering practice 6M
   b) Illustrate Capability Maturity Model Integration (CMMI). 6M

UNIT–II

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

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

UNIT–III

5. a) Explain the Design Concepts in brief. 6M
   b) Describe how to Organize the System. 6M

OR

6. a) Explain the concept of Modular Decomposition Styles. 6M
   b) Write the Objects and Classes in Object-Oriented Design. 6M

UNIT–IV

7. a) Differentiate between verification and validation. 6M
   b) Describe the principles of system and component testing. 6M

OR

8. a) Describe strategies for generating system test cases. 6M
   b) Discuss software quality assurance elements, tasks, goals and metrics. 6M

UNIT–V

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

OR

10. a) Explain the concept of Software Productivity. 6M
    b) Describe briefly about COCOMO II Model. 6M

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Hall Ticket Number :										

R-17

Code: 7P2B43

M.C.A. IV Semester Supplementary Examinations October 2020

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. a) Explain the architecture of UNIX with neat diagram
   b) Summarize grep command with all options

OR

2. Explain how to handle ordinary files.

UNIT–II

3. a) Explain control structures in shell programming
   b) Explain how a shell variable can be initialized and write a shell script program to find the factorial of a given number

OR

4. a) Explain chmod and chown commands with examples
   b) Explain different types of files in LINUX

UNIT–III

5. a) Briefly describe about process, child process and orphan process
   b) Explain setjmp and longjmp, getrlimit, setrlimit functions

OR

6. a) Explain exec family with example
   b) Explain different types of wait functions

UNIT–IV

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

OR

8. a) Explain role of kernel for supporting various signals
   b) Explain various types of signals

UNIT–V

9. Explain system calls for POSIX and memory based semaphores

OR

10. Explain socket options for TCP and UDP

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