Model paper
BCA
1st year 2nd semester
DATABASE MANAGEMENT SYSTEM

Max marks:75

Time:3hrs

SECTION-A (5 X 5 = 25 Marks)
Answer any FIVE of the following

1.Draw and explain architecture of DBMS.Compare it with file system?
2.Explain the role of E-R model in database design?
3.What is logical database design.Exaplain in with diagram?
4.What are different types of joins.Explain with an example?
5.What is MYSQL and expalain the different types of MYSQL commands?
6.What do you understand by Relational model of database system? Elaborate the major characteristics
of relational database management system.
7.What are the various methods of concurrency control? Explain in detail the two-phase locking protocol.
8.What are data models? Compare the Network, Hierarchical and Relational data models.

SECTION-B (10 X 5 = 50 Marks)
Answer the following

9.a.Discuss the advantages and disadvantages of DBMS?
OR
B.Explain the three level architecture of database system?
10.a.What is the role of database administrator?
OR
b.Define various types of functional dependecies.Discuss Multi-valued dependency with an Example?
11.a.What is Normalization.Discuss BCNF with an exmple?
OR
b. Explain
1.DDL
2.TCL
3.DML
12.a.Discuss various locking techniques used in concurrency control?
OR
b.Explain the concept of concurrency Management with an Example?
13.a.What is Hashing.Explain differnt types of Hashing Techniques?
OR
b.What is B tree and B+ tree.Explain with an example?

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Model paper
BCA
1st year 2nd semester
Object Oriented Analysis and Design

Max marks:75 Time:3hrs

SECTION-A (5 X 5 = 25 Marks)
Answer any FIVE of the following

1.What are Objects.Define object oriented methodology?
2.Explain object analysis classification theory?
3.Describe UML diagram with the example?
4.Exaplin Activity diagram with an Example?
5.What is CRC cards.Exaplain with an example?
6.Explain the different Phases of Unified Process?
7.Exaplain with an example, how use case modelling used to describe the functional requirements?
8.What is timing and communication diagram with an examples?

SECTION-B (10 X 5 = 50 Marks)
Answer the following

9.a.Briefly explain object oriented systems development methodology?
OR
b.Explain object oriented design process.
10.a.Describe the strategies used to identify conceptual classes. Describe the steps to create a domain model used for representing conceptual classes.
OR
b.Explain
1.Polymorphism
2.Inheritence
3.Aggregation.
11.a.Describe the UML notation for class diagram with an Example?
OR
b.Discuss about Deployment and Component diagrams.Draw the diagrams for banking application.
12.a.What is the class.Explain to find the conceptual class hierarchies with suitable diagram.
OR
b.Explain Domain model refinement with suitable diagram?
13.a.Explain the logical architecture and UML package diagram?
OR
b.What is Inheritence.Explain types of Inheritence?

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Model paper
BCA
1st year 2nd semester
DATA STRUCTURES

Max marks:75

Time:3hrs

SECTION-A (5 X 5 = 25 Marks)
Answer any FIVE of the following

1.What is data structure? Discus different types of data structures?
2.What is an array.Explain multidimensional array with an exampler?
3.Differnce between Stack and Queue?
4.What is Recursion.Explain with an example?
5.List the various uses of tree data structure?
6.What is pre and post-order tree traversal? Write and explain their algorithms.
7.a.Explain PUSH and POP operation in stack.
8.Give a Comparison of Linked List and Array.

SECTION-B (10 X 5 = 50 Marks)
Answer the following

9.a.What is the Linear data structure and non-Linear data structure.Explain in deatil?
OR
b.What do you mean by complexity of an algorithm? Explain the meaning of worst case analysis and best case analysis with an example.
10.a.What is Binary search tree? Write the application areas that use a binary search tree.
OR
b.What is String.Exaplain String operations with an examples?
11.a.Define list .what are the types of linked list. What are the advantages and disadvantages of linked list and application of linked list.
OR
b.Define queue. How insertion and deletion operations are performed over a queue? Explain.
12.a.Define stack. How stack can be implemented using an array and linked list? Explain.
OR
b.Explain height balance tree and AVL tree with suitable example.
13.a.Explain Warshall algorithm with an example?
OR
b.Explain radix sort with an example?

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