Time : Three Hours   **Maximum Marks :100**

Answer All Questions:-   **Part A (10 X 1 = 10 Marks)**

1. The overall design of the data base is called _____.

    (a) physical schema (b) logical schema (c) data base schema (d)conceptual schema

2. Attributes with a single value for a particular entity are called _____.

    (a) Single valued attributes (b) Stored attributes (c) Derived attributes (d) multivalued

    attributes

3. _____is a unit of program execution that accesses and possibly updated various data items.

    (a) Deletion (b) Insertion (c) Updation (d) Transaction

4. _____refers to the task of verifying the identity of a person

    (a) Index authorization (b) Authentication (c) Resource authorization (d) Alteration

    authorization

5. _____is the time from when a read or write request is issued to when data transfer begins.

    (a) seek time (b) average seek time (c) Access time (d) latency time

6. _____ is the amount of time that the system could run continuously without failure.

    (a) mean time to success (b) mean time to failure (c) rotational latency time (d) average

    latency time

7. The partial ordering implies that the set D may now be viewed as a directed acyclic graph, called a

    _____

    (a) File based graph (b) Record based graph (c) database graph (d)Image based graph

8. The blocks residing temporarily in main memory are referred to as_____.

    (a) Blocks (b) Physical blocks (c) buffer blocks (d) disk buffer

9. Systems that provide object-oriented extensions to relational systems are called _____.

    (a) object-oriented programming (b) object-relational systems (c) object identifiers (d)

    persistent programming languages

10. _____splits the relation by assuming each tuple of r to one or more fragments

    (a) Replication (b) vertical fragmentation (c) Horizontal fragmentation (d) Duplication

Answer All Questions:-　　　　**Part B (10 X 2 = 20 Marks)**

1. Define the terms 1) physical schema 2) logical schema.
2. What is the purpose of storage manager?
3. What is an integrity constraint? Mention the 2 forms of integrity constraints in ER model?
4. What is view in SQL? How is it defined?
5. What is known as heap file organization & sequential file organization?
6. List out the operations involved in query processing
7. What are the states of transaction?
8. Explain current page table and shadow page table.
9. What is meant by object-oriented data model and its major advantage?
10. How persistent programming languages differ from traditional programming languages?

Part C (5 X 14 = 70 Marks)

21. (a) Explain the architecture of DBMS with a neat block diagram

　　　　(OR)

21. (b) Explain ER model in detail

22. (a) Explain the integrity constraints supported by SQL

　　　　(OR)

22. (b) Explain triggers with example.

23. (a) Explain RAID levels in detail

　　　　(OR)

23. (b) Explain Query processing in detail.

24. (a) Explain ACID in detail.

　　　　(OR)

24. (b) Explain two phase locking in detail.

25. (a) Explain XML in detail

　　　　(OR)

25. (b) Explain in detail- Database System Architectures