

Roll No.

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Paper ID [A0217]

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BCA (402) (Sem - 4th)**DATABASE MANAGEMENT SYSTEM****Time : 03 Hours****Maximum Marks : 75****Instruction to Candidates:**

- 1) Section -A is **Compulsory**.
- 2) Attempt any **Nine** questions from Section - B.

Section - A**(15 × 2 = 30)****Q1)**

- a) What is a database management system?
- b) What is metadata?
- c) What do you mean by data inconsistency?
- d) What is physical data independence?
- e) What do you mean by degree of relationship?
- f) What is the difference between a weak and a strong entity set?
- g) What is a tuple variable?
- h) What is a foreign key?
- i) What is the significance of an ER diagram?
- j) Define the term data definition language.
- k) What are stored procedures?
- l) What do you mean by the term deadlock?
- m) What are log records?
- n) What do understand by a heterogeneous dsitributed database?
- o) What is data fragmentation?

Section - B**(9 × 5 = 45)**

- Q2)** List significance difference between a file-processing and a DBMS.
- Q3)** What are five main functions of a database administrator?
- Q4)** Explain the distinctions among the terms primary key, candidate key and superkey.
- Q5)** Construct an ER diagram for a hospital with a set of patients and a set of medical doctors. Associate with each patient a log of the various tests and examinations conducted.
- Q6)** Define the concept of aggregation. Give two examples of where this concept is useful.
- Q7)** Explain why 4NF is a normal form more desirable than BCNF.
- Q8)** List the ACID properties. Explain the usefulness of each.
- Q9)** What benefit does strict two-phase locking provide?
- Q10)** Discuss the relative advantages of centralized and distributed databases.
- Q11)** Explain the difference between data replication in a distributed system and the maintenance of a remote backup site.
- Q12)** Discuss the significance and usefulness of relational algebra.
- Q13)** Describe the basic structure of an SQL expression with the help of suitable examples.

