

Roll No.

Total No. of Questions: 07

Total No. of Pages: 02

**BCA (2011 & Onwards) (Sem. – 4)
DATABASE MANAGEMENT SYSTEM**

M Code: 10069

Subject Code: BSBC-404

Paper ID: [B0243]

Time: 3 Hrs.

Max. Marks: 60

INSTRUCTIONS TO CANDIDATES:

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains SIX questions carrying TEN marks each and students have to attempt any FOUR questions.

SECTION A

1. Briefly answer the following:

- a) Differentiate between physical and logical data independence.
- b) What are the responsibilities of a DBA?
- c) What are the main differences between Hierarchical and Network models?
- d) What are weak entity sets? How a weak entity set can be converted into strong entity set?
- e) Define Referential integrity constraint. Explain with an example.
- f) Define Normalization. Why do we need to normalize databases?
- g) What is Boyce-Codd normal form?
- h) What do you mean by database recovery?
- i) Define Natural Join with an example.
- j) Differentiate between Authorization and Authentication.

SECTION B

2. Elaborate the three-level architecture of database system.
3. What is Entity Relationship Model? Explain the major constructs of ER model with examples.
4. What do you understand by Relational model of database system? Elaborate the major characteristics of relational database management system.
5. Define various types of functional dependencies. Discuss multi-valued dependency with an example.
6. What are the problems arising out of concurrent data access? What are the various methods of handling concurrency?
7. What is a Distributed database system? Discuss the advantages and disadvantages of distributed database systems.