

Roll No.

OLE-97671

**BCA 3rd Semester (New)
Examination – April, 2021**

INTRODUCTION TO DATABASE SYSTEM

Paper : BCA-203

Time : Three Hours]

[Maximum Marks : 80

Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.

Note : Attempt *five* questions in all. Question Number 1 is *compulsory* and attempt *four* more questions by selecting *one* question from each Unit. All questions carry equal marks.

1. (a) Define data and information.
- (b) What are the responsibilities of DBA ?
- (c) What is client/server architecture ?
- (d) What is Instance and Meta data ?

- (e) What are integrity constraints ?
- (f) What is weak entity ?
- (g) What is concurrency ?
- (h) What is atomicity of transaction ?

UNIT – I

- 2. (a) Explain the various components of DBMS with the help of suitable diagram.
- (b) What is database schema and database state ?
Explain with the help of examples.
- 3. (a) Explain the advantages of DBMS over a file system.
- (b) Explain different types of DBMS user's with their jobs and responsibilities.

UNIT – II

- 4. What do you mean by data independence ? State its importance in database technology. Also explain various types of data independence with the help of example.

5. (a) Explain the three-level architecture of DBMS with the help of diagram.
- (b) What is object-based data model ? What are its advantages and disadvantages ?

UNIT – III

6. What do you mean by data model ? Explain similarities and differences among Network, Hierarchical and Relational models.
7. (a) Define Super key, Candidate key, Primary key and Foreign key with the help of example.
- (b) What is ER model ? Explain the notational conventions used in ER model and draw an ER diagram for library management system.

UNIT – IV

8. (a) Explain functional dependency, fully functional dependency and multi-valued dependency.
- (b) What is normalization ? How is it useful in good database design ? Explain 1st and 2nd normal forms.

9. (a) What is SQL ? Explain various data types supported by SQL with the help of example.

(b) Explain the following SQL commands :

(i) Create Table

(ii) Alter Table

(iii) Update

(iv) Select
