*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