

**CDOE**  
**BACHELOR OF COMPUTER APPLICATIONS**  
**B.C.A. Sem-III : WINTER :- 2021**  
**SUBJECT: DATABASE DESIGN**

**Day : Thursday**  
**Date 17-02-2022**

**W-5328-2021**

**Time : 10:00 AM-01:00 PM**  
**Max. Marks: 80**

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**N.B.:**

- 1) Attempt any **FIVE** Questions from section – I and Any **TWO** Questions from Section – II
  - 2) Figures to the right indicate **FULL** Marks.
  - 3) Answers to both the sections should be written **SEPARATE** answer books.
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**SECTION-I**

- Q.1** Explain three schema architecture of DBMS in detail. (10)
- Q.2** Explain the different types of database interface in detail. (10)
- Q.3** What is data model? Explain the relational data model in detail. (10)
- Q.4** Explain shadow paging method of database recovery in detail. (10)
- Q.5** Explain the locking method for concurrency control. (10)
- Q.6** What is lossless join and dependency preserving decomposition? Explain with example. (10)
- Q.7** Write short notes any **TWO** of the following : (10)
- a) ACID properties
  - b) Cardinality Ratios
  - c) Life cycle of DBMS

**SECTION-II**

- Q.8** Draw an ER Diagram for University Management System. (15)
- Q.9** What is Normalization? Explain its advantages and disadvantages. Explain 1NF, 2NF, and 3NF with suitable example. (15)
- Q.10** What is Distributed Database? Explain its techniques in detail. (15)

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