

S.D.E.
B.C.A. (2004 COURSE SEM- III : WINTER - 2017
SUBJECT : DATABASE DESIGN

Day : **Saturday**
Date : **23/12/2017**

Time : **10.00 AM TO 1.00 PM**
Max. Marks : 80

W-2017-4161

N.B.:

- 1) Attempt **ANY FIVE** questions from Section – I and **ANY TWO** questions from Section – II.
- 2) Answers to both the sections should be written in **SEPARATE** answer books.
- 3) Figures to the right indicate **FULL** marks.

SECTION – I

- Q.1** Discuss the advantages of Database Management System over file processing system. [10]
- Q.2** Compare and contrast Network Data Model and Relational Data Model. [10]
- Q.3** Explain 1NF, 2NF and 3NF using employee's database. [10]
- Q.4** Explain 2 – phase locking mechanism for concurrency control in detail. [10]
- Q.5** What is recovery system? Explain the different types of failures related to the database. [10]
- Q.6** Define Transaction. Explain its states and properties. [10]
- Q.7** Write notes on **ANY TWO** of the following: [10]
- a) Users of database
 - b) Object oriented database
 - c) Data independence

SECTION – II

- Q.8** What are distributed databases? Explain its techniques in detail. [15]
- Q.9** Admission procedure in a University is as follows: [15]
An advertisement is issued giving details such as essential qualifications for Computer Science courses, the last date for receipt of application and fee to be enclosed with the application. A clerk in the Registrar's office checks the received applications to see if marks sheet and fee are enclosed and sends valid applications to the concerned Academic department. The department checks the applications in detail and decides the applicants to be admitted, to be put in the waiting list or to be rejected. Appropriate letters are sent to the Registrar's office which intimates the applicant.
- Draw ER diagram for the above case study showing proper entities, relationship, aggregation, generalization and cardinality.
- Q.10** Write short notes on **ANY THREE** of the following: [15]
- a) Schedules
 - b) Shadow paging
 - c) Key attributes
 - d) Check points

* * * *