

S.D.E.

B.C.A. (2004 COURSE SEM- III : SUMMER - 2018

SUBJECT : DATABASE DESIGN

Day : **Saturday**
Date : **02/06/2018**

S-2018-4352

Time : **02.00 PM TO 05.00 PM**
Max. Marks : 80

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.
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SECTION – I

- Q.1** Define DBMS. Explain its 3-tier architecture. [10]
- Q.2** Briefly explain Codd's rules of RDBMS. [10]
- Q.3** Define following terms with appropriate example : [10]
a) Primary key b) Functional dependency c) Derived attribute
- Q.4** Explain rules and notations to draw ER diagram. [10]
- Q.5** Explain log based recovery protocol. [10]
- Q.6** Describe different types of distributed database. [10]
- Q.7** Write short notes on **ANY TWO** of the following: [10]
a) Role of Database Administrator
b) Properties of Transaction
c) Hierarchical Data Model

SECTION – II

- Q.8** The management of "All Cure" Hospital has decided to computerize their operation. The following information is provided by the management ; [15]
There are residents, full-time and consulting doctors, with various specialization consulting doctors visit hospital at a fixed time every day or some days of the week which varies from doctor to doctor. The visiting charges too vary from doctor to doctor. Patients are admitted to hospital and their main cause of admission is recorded. For accident cases, additional information such as police buckle no., name of the police and accident description is recorded. A patient is admitted into a room which has a certain category and having fixed charges per day.
Present the above case through an ER diagram.
- Q.9** Explain object Oriented Database Model with its advantages and [15]
disadvantages.
- Q.10** Explain Concurrency control. Explain Binary Locking mechanism for [15]
Concurrency control.

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