

S.D.E.
M.C.A. SEM -II : SUMMER - 2018
SUBJECT: DATA BASE MANAGEMENT THEORY

Day: **Friday**
Date: **01/06/2018**

S-2018-4610

Time: **02.00 P.M. TO 05.00 P.M.**
Max. Marks: 80

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 in **SEPARATE** answer book.

SECTION-I

- Q.1** Define database. Explain the different characteristics of database. (10)
- Q.2** Who are the different users of database? Discuss the main activities of each. (10)
- Q.3** What is data independence? Explain the different types of data independence. (10)
- Q.4** Explain the implicit locking technique for concurrency control. (10)
- Q.5** Explain the shadow paging mechanism for recovery of data. (10)
- Q.6** Discuss fragmentation transparency, replication transparency and location transparency in distributed database. (10)
- Q.7** Write short notes on any **TWO** of the following: (10)
- a) ACID properties of transactions
 - b) Joins
 - c) Database security

SECTION-II

- Q.8** Construct an ER diagram for following problem definition: (15)
A company operates four departments. Each department employs one or more employees and each employee works for one department. Each of the employees may or may not have one or more dependents and each dependent belongs to one employee.
- Q.9** What is normalization? Explain the process of normalization in detail with an example. (15)
- Q.10** Explain the following SQL commands with appropriate examples: (15)
- i) CREATE TABLE
 - ii) ALTER TABLE
 - iii) SELECT

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