

S. D. E.  
M.C.A. Sem – I (CBCS - 2018 Course) : SUMMER - 2019  
SUBJECT: DATABASE MANAGEMENT SYSTEMS

**Day:** Saturday  
**Date:** 04/05/2019

**Time:** 10.00 AM TO 1.00 PM  
**Max. Marks:** 70

**S-2019-5242**

**N.B:**

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

**SECTION-I**

- Q.1** What is DBMS? Discuss the capabilities that should be provided by DBMS. (10)
- Q.2** List and explain various data models used for database design. (10)
- Q.3** What is normalization? Discuss in detail about various normal forms. (10)
- Q.4** What is a schedule? Explain with example conflict serializable schedule. (10)
- Q.5** What is hashing? Explain the various hashing techniques in detail. (10)
- Q.6** Write short notes on **ANY TWO** of the following: (10)
- a) Mapping cardinalities
  - b) Generalization and Aggregation
  - c) States of Transaction

**SECTION-II**

- Q.7** Draw an Entity Relationship Diagram for College Management System. (15)
- Q.8** Why is database recovery needed? Explain Log based and shadow paging recovery techniques in detail. (15)
- Q.9** Write short notes on: (15)
- a) Distributed database Architecture
  - b) Data Warehouse Architecture

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