MASTER OF COMPUTER APPLICATIONS (CBCS - 2020 COURSE)
M.C.A. Sem-I : WINTER- 2022
SUBJECT : APPLIED DATABASE MANAGEMENT SYSTEMS

Day : Tuesday   Time : 10:00 AM-01:00 PM

Date : 29-11-2022   **W-22721-2022**   Max. Marks : 60

N.B.

1) Q.No. 4 is **COMPULSORY**.
2) Attempt any two questions from Q.No. 1 to Q.No. 3 in Section – I
3) Attempt any two questions from Q.No. 5 to Q.No. 7 in Section – II
4) Answer to both the sections should be written in **SAME** answerbook.
5) Draw labeled diagrams wherever necessary.

SECTION – I

Q.1 Answer the following : **(6 Marks x 2 = 12)**
  a) Explain different types of database systems.
  b) What are data models? Describe any one data model.

Q.2 Answer the following : **(6 Marks x 2 = 12)**
  a) Explain lossy and lossless decomposition.
  b) Explain the concept of indexing in detail.

Q.3 Answer the following : **(6 Marks x 2 = 12)**
  a) What is the need of concurrency control? Explain.
  b) Explain roles and responsibilities of DBA.

Q.4 Write short notes on **ANY THREE** of the following : **(4 Marks x 3 = 12)**
  a) Database Schema.
  b) ER diagram notations.
  c) BCNF.
  d) RAID.
  e) Deadlock.
  f) MongoDB functionalities.
  g) Data masking.

SECTION – II

Q.5 Answer the following : **(6 Marks x 2 = 12)**
  a) Explain different database users.
  b) What are the different mapping cardinalities? Illustrate with example.

Q.6 Answer the following : **(6 Marks x 2 = 12)**
  a) Explain any two operations in Relational Algebra.
  b) What is primary key and foreign key? Give example.

Q.7 Answer the following : **(6 Marks x 2 = 12)**
  a) Explain different types of database failures.
  b) What is NOSQL? Discuss its architecture.

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