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

Day : Tuesday

Date : 24-05-2022

S-22721-2022

Time : 10:00 AM-01:00 PM

Max. Marks : 60

N.B.

1) **Q.No. 4** from Section-I 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) Figures to the **RIGHT** indicate **FULL** marks.
5) Answers to both the sections should be written in **SAME** answer book.
6) Draw a labeled diagram **WHEREVER** necessary.

SECTION – I

Q.1 Define Database. List the major characteristics of database approach. Also mention some disadvantages of it. **(12)**

Q.2 Describe the three level schema architecture of Database Management Systems. Explain how it helps to achieve data independence. **(12)**

Q.3 Answer the following : **(12)**
  a) What is a deadlock? Explain the various approaches to handle the deadlock.
  b) Distinguish deferred update and immediate update log based recovery techniques.

Q.4 Write short notes on **ANY THREE** of the following : **(12)**
  a) Roles and responsibilities of DBA
  b) ACID properties of Transaction
  c) Database security
  d) Shadow paging
  e) Relational algebra

SECTION – II

Q.5 Draw Entry Relation Diagram for Library Management System and map it to relational database. **(12)**

Q.6 What is normalization? Why is it required during database design? Explain 1NF, 2NF, 3NF with suitable example. **(12)**

Q.7 What are distributed databases? Explain how does it differ from centralized databases. Explain an architecture of distributed database. **(12)**

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