BACHELOR OF COMPUTER APPLICATIONS (CBCS - 2018 COURSE)
B.C.A. Sem-II :SUMMER- 2022
SUBJECT : DBMS-I

Day : Wednesday
Date : 8/6/2022

S-18760-2022

Time : 10:00 AM-01:00 PM
Max. Marks : 60

N.B.

1) Q.4 from Section – I is **COMPULSORY.**
2) Answer **ANY TWO** questions from Q.1, 2, 3 in Section – I
3) Answer **ANY TWO** questions from Q.5, 6, 7 in Section – II
4) All questions carry **EQUAL** marks.
5) Draw neat and labelled diagrams **WHEREVER** necessary.
6) Answers to both the sections should be written in **SAME** answer book.

SECTION – I

Q.1 Define Database. Explain an architecture of database with a neat labelled diagram. **(12)**

Q.2 Define Data Model. Explain the different types of data models with relevant examples. **(12)**

Q.3 What is normalization? Explain normalization techniques using functional dependencies with relevant examples. **(12)**

Q.4 Write short notes on the following **ANY THREE:** **(12)**

a) Functions of Database Administrator
b) DBMS interfaces
c) Strong Entity Vs Weak Entity
d) ACID properties of transaction
e) Shadow paging

SECTION – II

Q.5 Draw an Entity Relationship Diagram for the following scenario. The book club has members. The club sells books to its members. The members places orders for books, which the book club fulfills. Each order contains one or more than one books. The books are written by author(s). The publisher publishes the book. An author can write more than one book and a book can have more than one author. A book is published by a publisher, but a publisher publishes many books. A member can place more than one order. The member also can choose not to place an order. The book club sells many books. **(12)**

Q.6 Answer the following: **(12)**

a) Discuss Wait-die and Wound-wait protocols for deadlock prevention.
b) Explain strict two phase locking and conservative two-phase locking protocol.

Q.7 Explain the various types of file organization. **(12)**

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