

MASTER OF COMPUTER APPLICATIONS (CBCS - 2020 COURSE)
M.C.A. Sem-I : WINTER :- 2021
SUBJECT: APPLIED DATABASE MANAGEMENT SYSTEMS

Day : Monday
Date 7/2/2022

W-23048-2021

Time : 10:00 AM-01:00 PM
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 Database Management Systems (DBMS).
- b) Explain the concept of Generalization and Specialization with example.

Q.2 Answer the following : **(6 Marks x 2 = 12)**

- a) What is Relational Algebra? Explain PROJECT and SELECT operations with example.
- b) Explain dynamic Hashing with example.

Q.3 Answer the following : **(6 Marks x 2 = 12)**

- a) What is Timestamp? How does system generate Time Stamp?
- b) Explain distributed database architecture.

Q.4 Write short notes on **ANY THREE** of the following : **(4 Marks x 3 = 12)**

- a) Characteristic of Database.
- b) Strong and Weak Entity Set.
- c) Inner Join.
- d) Data Dictionary.
- e) Transaction States.
- f) Table space.
- g) NoSQL.

SECTION – II

Q.5 Answer the following : **(6 Marks x 2 = 12)**

- a) Explain database architecture.
- b) State E.F. Codd's rules.

PTO

- Q.6** Answer the following : **(12 Marks x 1 = 12)**
Examine the following document and normalize up to 3NF.

Service Call Report

Customer Code : _____ Customer Name : _____
Date of Call : _____ Address : _____
Time : _____

No.	Machine Name	Problem	Spares Used	Qty	Rate
				Total	
				Services Charges	
				Grand Total	

Customer Remark : _____
Engineer Code : _____
Engineer Name : _____
Date : _____ Customer Signature : _____

- Q.7** Answer the following : **(6 Marks x 2 = 12)**
a) Explain the Log-Based Recovery.
b) Explain any two functionalities of MongoDB.
