

BANKURA UNIVERSITY
B.Sc(Hons) FOURTH SEMESTER EXAMINATIONS, 2021

Subject: Computer Science

Course ID: 41513

Course Title: Database Management Systems

Full Marks: 25

Time: 1 Hr 15 Min

The figures in the margin indicate full marks

Answer all the questions.

UNIT I

1. Answer *any five* of the following questions: (5×1 = 5)

- a) Name a relational database management system used in practice.
- b) What do you mean by database management system and database?
- c) Write the full forms of SQL and ERD.
- d) What is key?
- e) What do you mean by data redundancy?
- f) What is database anomaly?
- g) What is index?
- h) Write full form of ACID in database transactions.

UNIT II

2. Answer *any two* of the following questions: (2×5 = 10)

- a) What is relation schema? Discuss 3-schema architecture in brief. 1+4=5
- b) What is cardinality ratio? Define different types of cardinality ratio with suitable example. 2+3
- c) Write a short note on relational data model.
- d) What do you mean by normalization? Write different conditions for 3NF with a suitable example. 1+4=5

UNIT III

3. Answer *any one* of the following questions: (1×10 = 10)

- a) Discuss different advantages and disadvantages of using DBMS. Write different roles of DBA. 6+4=10
- b) Consider the following three tables, containing electoral data for a block of some district:

Voter-goes-Booth (Voter-ID, Voter-Name, Voter-Village, Booth-ID)

Booth-involves-PO (Booth-ID, Booth-Name, Booth-Village, PO-ID)

PO (PO-ID, PO-Name, PO-Office, PO-Designation)

Populate the tables with appropriate data and then express the following queries in SQL

- i. Names all polling-booths having the designation of PO as Engineer
- ii. For a particular voter-ID retrieve the name of the PO
- iii. List names and address of all voters PO's name wise.

4+6=10