

Bachelor of Science (B.Sc. I.T.) Semester–II (C.B.S.) Examination**DATABASE MANAGEMENT SYSTEM****Paper—V**

Time : Three Hours]

[Maximum Marks : 50

Note :— (1) All questions are compulsory and carry equal marks.

(2) Draw neat and labelled diagram wherever necessary.

EITHER

1. (a) Give classification of Data Model and explain them. 5
- (b) List types of Database users and explain any two. 5

OR

- (c) Explain three-level Architecture of a Database system. 5
- (d) Distinguish between Hierarchical Data Model and Network Data Model. 5

EITHER

2. (a) Draw E-R diagram of a Mess management system. 5
- (b) Differentiate between weak and strong entity set. 5

OR

- (c) Explain tabular representation of relationship set. 5
- (d) Explain with example Specialization and Generalization. 5

EITHER

3. (a) Explain the projection and selection operations in detail. 5
- (b) Explain join operations with example. 5

OR

- (c) Write extended relational algebra operations. 5
- (d) Explain the following aggregate functions with example : 5
 - (i) avg(); (ii) count(); (iii) max(); (iv) min(); (v) sum()

EITHER

4. (a) Explain 4NF with example. 5
- (b) Explain with example :
 - (i) Full functional dependency
 - (ii) Multivalued functional dependency. 5

OR

- (c) Why normalized form is desirable ? Explain with example and give objectives of normalization. 5
- (d) Write notes on the following :
 - (i) Transitive Dependencies
 - (ii) Partial Dependencies. 5

5. Attempt **all** :

- (a) Explain Data Abstraction. 2½
- (b) Write a short note on Aggregation. 2½
- (c) Explain rename operation with example. 2½
- (d) Consider relation STUDENT (stuid, sname, s_mobilno, s_per)

Write a query to display name and mobile no. of students, who have been placed in distinction. 2½