Bachelor of Science (B.Sc.) Semester–V (C.B.S.) Examination
COMPUTER SCIENCE
(Database Management System)
Paper—2

Time : Three Hours]   [Maximum Marks : 50

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

(2) Draw neat and labelled diagrams wherever necessary.

1. **EITHER**

    (a) Explain the role of DBA.   5

    (b) What are the objectives of Database Management System ?   5

    OR

    (c) Explain Hierarchical model with suitable example.   5

    (d) What are the problems in traditional file processing system ?   5

2. **EITHER**

    (a) Define entity. Write a note on weak entity and strong entity.   5

    (b) Explain in brief : Generalization, Aggregation.   5

    OR

    (c) List components/symbols used in E-R diagram and explain their meaning. Give one example
         of E-R diagram.   5

    (d) Define attribute. Explain :

         (i)   Simple and Composite

         (ii) Single valued and Multivalued

         (iii) Null attribute

         (iv) Derived attribute.   5

3. **EITHER**

    (a) Explain select and project operation with example.   5

    (b) Explain structure of Relational Database.   5

    OR

    (c) What are aggregate functions ? Explain each with five examples. 5

    (d) Explain union and intersection operation.   5

4. **EITHER**

    (a) Explain full functional and partial functional dependency with example.   5

    (b) What is 1NF ? Explain it with example.   5

    OR

    (c) Explain multivalued dependency.   5

    (d) Explain 3NF with example.   5

5.   (a) Write a short note on Data abstraction.   2½

    (b) Write a short note on Aggregation.   2½

    (c) Explain assignment operation with example.   2½

    (d) Define 2NF.   2½