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E—38—2019

FACULTY OF SCIENCE

B.Sc. (CS) (First Year) (Second Semester) EXAMINATION
MARCH/APRIL, 2019
(CBCS Pattern)

COMPUTER SCIENCE

(S.2.1)

(Database Management System)

(Thursday, 25-4-2019)   **Time : 10.00 a.m. to 1.00 p.m.**

Time—3 Hours   *Maximum Marks*—75

N.B. :— (i) *All* questions are compulsory.

(ii) Figures to the right indicate full marks.

(iii) Assume suitable data, if necessary.

1. Attempt any *five* of the following :   15

   (a) Explain data independency.

   (b) Explain advantages of DBMS.

   (c) Explain the projection operation.

   (d) Explain sparse indexing.

   (e) Define the term ER model.

   (f) Explain 3NF.

   (g) Explain the concept of file organization.

2. Attempt any *two* of the following :   10

   (a) Define DBMS. Explain uses of DBMS.

   (b) Explain relational and network data model.

   (c) Describe the structure of a DBMS.

3. Attempt any *two* of the following :   10

   (a) Describe the entity and entity set.

   (b) Explain aggregation in DBMS.

   (c) Explain the concept of integration constraints in DBMS.

P.T.O.

4. Attempt any *two* of the following : 10

   (*a*) Explain the selection operation in DBMS.

   (*b*) Describe the term natural join with example.

   (*c*) Explain the intersection operation with diagram.

5. Attempt any *two* of the following : 10

   (*a*) Describe the 1NF and 2NF.

   (*b*) Explain the term non-loss decomposition.

   (*c*) Explain functional dependencies.

6. Attempt any *two* of the following : 10

   (*a*) Explain sorted file organization.

   (*b*) Describe hash file organization.

   (*c*) Explain indexed file organization.

7. Attempt any *two* of the following : 10

   (*a*) Explain the structure of B^+ tree.

   (*b*) Define indexing. Explain clustered index.

   (*c*) Explain secondary index.