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**AA—43—2019**

**FACULTY OF SCIENCE**

**B.Sc. (CS) (Second Semester) EXAMINATION**

**OCTOBER/NOVEMBER, 2019**

**(CBCS Pattern)**

**COMPUTER SCIENCE**

**(Database Management System)**

**(Friday, 22-11-2019)**

**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.*

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

- (a) Explain the role of DBA.
- (b) What is entity ? Explain it with example.
- (c) Explain the symbols used in E-R diagram.
- (d) Explain outer join with example.
- (e) Explain the concept of variable length records.
- (f) Explain the secondary index.
- (g) Explain second normal form.

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

- (a) Explain Network Data Model.
- (b) What are the characteristics of DBMS ?
- (c) What is data dictionary ? Explain it.

P.T.O.

3. Attempt any *two* of the following : 10
- (a) Discuss the concept of relationship set in detail.
  - (b) Explain the conversion of entity set to table with example.
  - (c) What is foreign key ? Explain it.
4. Attempt any *two* of the following : 10
- (a) Explain the union operation in relational Algebra.
  - (b) Explain equi join in detail.
  - (c) Explain rename operation.
5. Attempt any *two* of the following : 10
- (a) What is functional dependency ?
  - (b) What is attribute closure ?
  - (c) Explain Boyce-codd normal form.
6. Attempt any *two* of the following : 10
- (a) Distinguish between sorted and indexed file organization.
  - (b) Explain hashed file organization with example.
  - (c) Explain the fixed length organization of records with example.
7. Attempt any *two* of the following : 10
- (a) Explain parse index with example.
  - (b) What is clustered indexing ? Explain.
  - (c) Distinguish between primary and secondary indexes.