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BO—14—2016

FACULTY OF COMPUTER STUDIES

B.C.A. (First Year) (First Semester) EXAMINATION

OCTOBER/NOVEMBER, 2016

(CBCS Pattern)

COMPUTER APPLICATION

(Database Management System)

(Tuesday, 22-11-2016)

Time : 10.00 a.m. to 1.00 p.m.

Time— Three 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.

(iv) Use of any electronic media such as mobile phone, digital diary and electronic calculator is not permitted.

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

(a) Define DBMS and its characteristics.

(b) Data Independency.

(c) Project Operation.

(d) Define entity, entity set and domain.

(e) Sparse indexing.

(f) Hashed file organization.

(g) ER-Model.

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

(a) Explain the advantages and disadvantages of DBMS.

(b) Explain relational data model.

(c) Explain structure of DBMS.

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

(a) Explain relationship and relationship set.

(b) Explain foreign key in DBMS with example.

(c) What is Aggregation ? Explain.

P.T.O.

4. Attempt any *two* of the following : 10
- (a) Explain selection operation in relational algebra.
 - (b) Explain Cartesian product operation with diagram.
 - (c) What is Natural Join operation ? Explain.
5. Attempt any *two* of the following : 10
- (a) What is non loss decomposition ? Explain.
 - (b) Define functional dependencies with example.
 - (c) Explain 3NF and 2NF in detail.
6. Attempt any *two* of the following : 10
- (a) Describe in brief concept of organization of records in file.
 - (b) Write a short note on indexed file organization.
 - (c) What is heap file organization ? Explain.
7. Attempt any *two* of the following : 10
- (a) Explain the concept of Indexing.
 - (b) Write a short note on B+ tree.
 - (c) What is dense file indexing ? Explain.