

TDC (CBCS) Even Semester Exam., 2023

B.VOC (Information Technology)

(4th Semester)

Course No. : BVOCGE-402T

(DBMS)

Full Marks : 70

Pass Marks : 28

Time : 3 hours

*The figures in the margin indicate full marks
for the questions*

Answer any five questions

1. Define database and traditional file approach. Explain the difference between file system and database management system.
7+7=14
2. What is DBMS? Explain the characteristics of DBMS.
2+12=14
3. Explain the various operations involved in relational algebra with purpose and taking example of each operation.
14

4. (a) How does tuple relational calculus differ from domain relational calculus? Explain with an example. 7
- (b) What is safe expression in relational calculus? Explain with an example. 4
- (c) Write short notes on the following : 3
- (i) Select
- (ii) Join
- (iii) Equijoin
5. What is entity in DBMS? Explain the different entity types with examples. 2+12=14
6. (a) Design an E-R diagram of a banking system. 8
- (b) Write the difference between strong and weak entity sets. 6
7. What is functional dependency? Explain the techniques of decomposition of relational schemas by using functional dependency with example. 2+12=14
8. Write the informal design guidelines for relational schema. 14

9. (a) What do you mean by key constraints? Write the differences between primary key and foreign key. 1+6=7
- (b) Define data manipulation language (DML). Explain all types of DML statements with example. 1+6=7
10. Explain the following with examples : 7×2=14
- (a) Pattern machine technique
- (b) Range searching
