

2019

(4th Semester)

COMPUTER SCIENCE

Paper : COMPT-401

(Database Management System)

Full Marks : 70

Pass Marks : 45%

Time : 3 hours

(PART : B—DESCRIPTIVE)

(Marks : 45)

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

1. What is DBMS? List two responsibilities of database manager. Explain three advantages and three applications of DBMS. 1+2+6=9

OR

2. What is data abstraction? Differentiate between schemas and instances. Explain the various levels of data architecture. 1+2+6=9

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3. Explain the distinctions among the terms primary key, candidate key, and SuperKey. Explain the various data models. 3+6=9

OR

4. What are weak entity and strong entity sets? Explain an E-R diagram for hospital management system. Explain cardinality. 2+4+3=9

5. What is functional dependency? Give an expression in the relational algebra to express the names of all employees who live in city 'Dimapur'. Explain the various types of join. 1+2+6=9

OR

6. What is normalization? With examples, explain 1 NF, 2 NF, 3 NF and BCNF. 1+8=9

7. Explain any four data types in SQL. Differentiate among drop, alter and delete commands. Construct an SQL query to list all students in BCA whose name starts with M. 4+3+2=9

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(Continued)

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OR

8. What is group by clause? What is the purpose of having in group by clause? Explain any three aggregate functions with example. 1+2+6=9

9. What is PL/SQL? Write three advantages of PL/SQL. Explain implicit cursor and explicit cursor with examples. 1+3+5=9

OR

10. Explain PL/SQL architecture with a diagram. Explain triggers with suitable examples. What are stored procedures? 4+3+2=9

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