

2125
B.E. (Information Technology)
Third Semester
PC-IT-303: Database Management System

Time allowed: 3 Hours

Max. Marks: 50

NOTE: Attempt five questions in all, including Question No. 1 which is compulsory and selecting two questions from each Section.

x-x-x

1.	i) Difference between serial and non serial schedules . ii) Explain data models with example. iii) Explain database Triggers. iv) What is Query? Give example. v) Explain DBMS Layers. vi) Define Functional Dependency. vii) Define DBMS. Mention any two advantages of DBMS. viii) Define Primary key and Foreign Key. ix) What is Dirty-Read? x) What is Precedence Graph? Explain with example.	(10x1)
SECTION A		
2.	i) Explain how B+ tree eliminate the redundant storage of search key values. ii) Explain Dense and Sparse indexes.	(5) (5)
3.	i) Write an E-R diagram of employee salary database and also mention type of association between the entities. ii) Explain cardinality with examples.	(5) (5)
4.	i) Difference between Domain Relational Calculus and Tuple Relational Calculus. ii) Explain selection and projection operations in relational algebra with example each.	(5) (5)
SECTION - B		
5.	Write SQL queries for following:- i) Create table EMP (empno, deptno, ename, salary, Designation, joiningdate, DOB, city). ii) Revoke select, insert and update privileges from the user	(5) (5)
6.	i) Is the decomposition in 4NF always dependency preserving and lossless? Explain with an example. ii) Consider the following relation R(A,B,C,D,E) and FD's $A \rightarrow BC$, $C \rightarrow A$, $D \rightarrow E$, $F \rightarrow A$, $E \rightarrow D$ is the decomposition of R into R1(A, C, D), R2(B, C, D) AND R3(E,F,D) lossless?	(5) (5)
7.	i) How to perform rollback, commit, check pointing operations on transactions? Explain. ii) Explain transaction properties with examples.	(5) (5)

x-x-x