

ETIC - TE Sem VI Reg. C 'scheme Summer 2025

Duration: 3hrs

[Max Marks:80]

- N.B. : (1) Question No 1 is Compulsory.
 (2) Attempt any three questions out of the remaining five.
 (3) All questions carry equal marks.
 (4) Assume suitable data, if required and state it clearly.

- 1 Attempt any **FOUR** [20]
 - a Define Data, Database and DBMS. State the purpose of DBMS
 - b State difference between Traditional File System and Database Management System
 - c Explain Security and Authorization in DBMS
 - d Explain level of Abstraction with diagram.
 - e List the ACID properties. Explain the usefulness of each.
- 2 a List and Explain Different types of Keys with example [10]
 - b What is deadlock? Discuss dead lock detection and prevention scheme. [10]
- 3 a List and explain different tiers of DBMS [10]
 - b Explain the overall Database system architecture [10]
- 4 a Explain functions of Database Administrator [10]
 - b Draw an ER Diagram for Hospital management where patient take treatment from physician and also, he/she can claim a medical insurance [10]
- 5 a What are views? Explain how to create a view [10]
 - b What is Normalization? Explain 1NF, 2NF, 3NF, and BCNF. [10]
- 6 a Explain different between the term serial schedule and Serializable Schedule [10]
 - b For the following given database, write SQL queries. [10]

Employee_info (Emp_id, Emp_name, department, projects, address, DOB, gender)

Employee_position (Empid, Emp_position, Dateofjoining, salary)

 - i) Write a query to fetch the number of employees working in the department 'HR'.
 - ii) Write a SQL query to retrieve employee details from EmployeeInfo table who have a date of joining in the EmployeePosition table.
 - iii) Write a query to find all the employees whose salary is between 50000 to 100000.
 - iv) Write a query to retrieve EmpPosition along with total salaries paid for each of them.