Name: Enrolment No:	**UPES** UNIVERSITY OF TOMORROW

UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
End Semester Examination, December 2022

Course: Advanced Database Management System   Semester: I
Program: M.Tech (CS)   Time   : 03 hrs.
Course Code: CSEG 7002   Max. Marks: 100
Instructions: Attempt All questions.

SECTION A
(5Qx4M=20Marks)

S. No.		Marks	CO
Q 1	Compare inner join and outer join with suitable example.	4	CO1
Q 2	Define multidimensional data model with example.	4	CO4
Q 3	Compare primary key and unique key with suitable example.	4	CO1
Q 4	Discuss the methods of handling deadlocks in transaction management.	4	CO3
Q 5	If in a relation there is no attribute qualified to become a key. How you will ensure the entity integrity constraint in this relation. (If there is a way, write SQL for same).	4	CO2

SECTION B
(4Qx10M= 40 Marks)

Q 6	Elaborate the concept of Normalization in ADBMS.	10	CO1
Q 7	Through suitable example explain the following terms briefly: • Data Warehousing • Data Mining	10	CO5
Q 8	Compare the shadow-paging recovery scheme with the log-based recovery schemes in respect to ease of implementation and overhead cost. OR Discuss Concurrency Control techniques and how they are implemented?	10	CO3
Q 9	Draw comparison between Hash based Indexing v/s Tree Based indexing with suitable example.	10	CO5

SECTION-C
(2Qx20M=40 Marks)

Q 10	Describe three-level schema architecture. Why do we need mappings between schema levels? How do different schema definition languages support this architecture?	20	CO4
Q 11	Construct an E-R diagram for a hospital with a set of patients and a set of medical doctors. Associate with each patient a log of the various tests	20	CO2

and examinations conducted.		
OR		
Consider the following four relations:		
employee (<u>pid</u>, person-name, street, city)		
works (<u>person-name, company-name</u>, salary)		
company (<u>cid</u>, company-name. city)		
manager (<u>person-name, manager-name</u>)		
Answer the following queries in SQL:		

i. Find all the manager's name along with their company names.
ii. Find names of employees whose salary is greater than the average salary of employees in their company.
iii. Find the names of all employees who live in the same city and the same street as their managers.
iv. Find the names of all employees who earn more than every employee of Small Bank Corporation.