QP Code: RM22BTECH215 | Reg. No | | | | | | | | | | | AY 22

GIET UNIVERSITY, GUNUPUR – 765022

B. Tech (Fourth Semester Regular) Examinations, May – 2024

22BCSES24002 – Database Management Systems

(Common to EE, EEE , ECE , Mechanical)

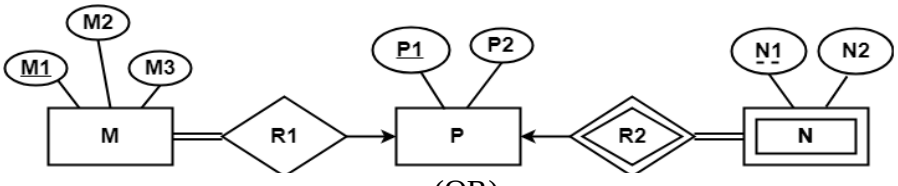
Time: 3 hrs | Maximum: 70 Marks

(The figures in the right hand margin indicate marks)

PART – A **(2 x 5 = 10 Marks)**

Q.1. Answer ***ALL*** questions	CO #	Blooms Level
a. What is DBMS?	CO1	K1
b. What is a unary relationship give two examples?	CO2	K1
c. Write down the syntax of rename operator.	CO2	K1
d. What is the condition for no transitive Dependency?	CO3	K1
e. Define Read(), Write() Operations in Transaction.	CO2	K2

PART – B **(15 x 4 = 60 Marks)**

Answer ***ALL*** questions	Marks	CO #	Blooms Level
2. a. Explain type of DBMS architecture.	8	CO1	K2
b. Draw the DBMS Structure and explain.	7	CO1	K2
(OR)			
c. Explain the different types of relationship with suitable example.	8	CO1	K2
d. Briefly discuss about the database Users.	7	CO1	K2
3.a. Consider the following relational database schema consisting of the four relation schemas: Sailor (sid, sname, rating, age) Boat (bid, bname, color) Reserves (sid, bid, day) using relational algebra queries and TRC (i) Find the name of the sailor who reserved green boat. (ii) Find the colour of the boat reserved by Asmita. (iii) Find the sid of the sailor with age over 20 who have not reserved a red boat. (iv) Find out the name of the sailor who reserved red and green boat	10	CO2	K3
b. Find the minimum number of tables required to represent the given ER diagram in relational model- 	5	CO2	K3
(OR)			
c. Consider the relation schema R (A, B, C, D, E, F) and the functional Dependencies(A->B, C->DF, AC->E, D->F.) What is the candidate key of this relation R? What is its highest normal form?	10	CO2	K3

d.	What is normalisation discuss with suitable example?	5	CO2	K1
4.a.	The primary keys of the records are given as: 5,1,3,12,10,18, 2,7,4,20 Using B+ tree of order 4, explain how the records are arranged in the file.	8	CO3	K3
b.	Discuss storage system in DBMS.	7	CO3	K2
	(OR)			
c.	Explain different levels of RAID.	8	CO3	K2
d.	Write down difference between sparse index and dense index.	7	CO3	K4
5.a.	Explain transaction properties with an example.	8	CO4	K2
b.	Define concurrency along with its advantages and limitations.	7	CO4	K2
	(OR)			
c.	Explain transaction states with a suitable diagram.	8	CO4	K2
d.	Discuss Database Recovery System.	7	CO4	K2

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