GIET UNIVERSITY, GUNUPUR – 765022

MCA (First Semester)Regular Examinations, January – 2024

MCA20103 – Database Management System

Time: 3 hrs | Maximum: 60 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. Write the difference between primary key and candidate key.	CO1	K1
b. Describe briefly types attributes.	CO2	K1
c. Define Serializability.	CO4	K2
d. Define Isolation Property with example.	CO4	K2
e. List the difference between DROP and DELETE.	CO2	K2

PART – B **(10 x 5 = 50 Marks)**

Answer ***ALL*** questions	Marks	CO #	Blooms Level
2. a. What do you mean by data abstraction and explain different Levels.	5	CO1	K1
b. Discuss different data models of Database.	5	CO1	K1
(OR)			
c. Who is a DBA? Explain responsibilities of a DBA ?	5	CO1	K1
d. What you mean as mapping cardinalities and explain?	5	CO1	K2
3.a. Draw the ER diagram for Ticket Booking Management System.	5	CO2	K2
b. Give the following queries in SQL. i) To change the column EMPNO NUMBER (4) TO EMPNO NUMBER (6) in Employees table ii) To display name job, salary, location whose salaries not from 10000 to 30000. iii) To display name, job, salary of employees whose name is starting with 'B' iv) Find the names of the employee working at Mumbai.	5	CO2	K3
(OR)			
c. What you mean as mapping cardinalities and explain?	5	CO2	K2
d. What you mean as enhanced ER Model and discuss about Generalization and specialization	5	CO2	K2

4.a.	Explain about Normalization. Explain different types of normal forms	5	CO3	K2
b.	What do you mean by joins? Explain types of joins.	5	CO3	K2
	(OR)			
c.	Consider a relation R= {A, B, C, D, E, F, G, H, I, J} and set of functional dependencies are FD= {AB->C, AD->GH, BD->EF, A->I, H->J} i)What are the key of R ii) Decompose R into 2NF	5	CO3	K3
d.	Discuss Transitive Dependency and BCNF and explain why BCNF?	5	CO3	K2
5.a.	Explain about atomicity, Consistency property of a transaction with bank accounts A and B, funds transfer example.	5	CO4	K2
b.	Explain about Deadlock handling mechanism in DBMS.	5	CO4	K2
	(OR)			
c.	Explain properties of transactions. How can you implement atomicity in transactions?	5	CO4	K2
d.	Discuss on strict two-phase locking and time stamp-based protocol.	5	CO4	K2
6.a.	Illustrate about RAID in detail.	5	CO5	K2
b.	Describe static hashing and dynamic hashing.	5	CO5	K2
	(OR)			
c.	Explain about various file operation performed on DBMS.	5	CO5	K2
d.	Explain Query processing by using suitable block diagram.	5	CO5	K2

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