GIET UNIVERSITY, GUNUPUR – 765022

M. C. A (Second Semester) Regular Examinations, August – 2023

MCA20203 - Database Management Systems

Time: 3 hrs   Maximum: 70 Marks

(The figures in the right hand margin indicate marks.)

PART – A		(2 x 10 = 20 Marks)

Q.1. Answer *ALL* questions

		CO #	BL
a.	Define database. List down different operations performed on database.	1	K1
b.	Describe different types of attributes used in ER model.	2	K2
c.	Discuss the applications & uses of DBMS.	1	K2
d.	Differentiate between primary key and foreign key.	2	K4
e.	Differentiate between E-R model & relational model.	2	K4
f.	Describe concept of concurrency.	3	K2
g.	Explain Shared-Exclusive locking protocol.	3	K2
h.	Describe different types of failure & why recovery is needed?	3	K2
i.	Define Serializability.	3	K1
j.	Describe the steps to convert E-R diagram to relational schema.	2	K2

PART – B		(10 x 5 = 50 Marks)

Answer *ANY FIVE* questions

		Marks	CO #	BL
2. a.	Describe data abstraction & data independence with diagram.	5	1	K2
b.	Describe different types of Join operations.	5	2	K2
3. a.	Draw the E-R diagram for exam scheduling.	5	2	K4
b.	Define E-R diagram. List down different symbols used in E-R diagram. Define degree & cardinality of relationship.	5	2	K1
4. a.	Explain steps of query optimization. How cost is calculated?	5	3	K2
b.	Explain concept of recovery. How schedules are classified based on recovery	5	3	K2
5. a.	Explain concept of normalization. How BCNF is different from 3NF?	5	2	K2
b.	Explain lossless & dependency preserving decomposition.	5	2	K2
6. a.	Define transaction. Explain ACID properties of transaction.	5	3	K1
b.	Explain concurrency control problems with suitable example.	5	3	K2
7. a.	Define relational algebra. Discuss different types of operators used.	5	1	K1
b.	Explain 3 level schema architecture with diagram.	5	1	K2
8. a.	Discuss about file organization & indexing.	5	4	K2
b.	Discuss various levels of RAID with neat diagram.	5	4	K2

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