K. J. Somaiya Institute of Engineering and Information Technology, Sion, Mumbai-22
(Autonomous College Affiliated to University of Mumbai)

Subject Code: 1UEXDLC6054   Subject Name: Database Management System

Date:22/12/22

Nov – Dec 2022
B.Tech Program: Electronics And Telecommunication
Examination: TY   Semester: VI

Course Code: 1UEXDLC6054   and   Course Name: Database Management System

Duration: 3.00 Hours   Max. Marks: 60

Instructions:
(1)All questions are compulsory.
(2)Draw neat diagrams wherever applicable.
(3)Assume suitable data, if necessary.

		Max. Marks	CO	BT level
Q 1	Solve any six questions out of eight	12		
i)	List advantages of DBMS	2	CO1	U
ii)	Explain the term one to many relationship	2	CO2	U
iii)	List the types of integrity Constraint	2	CO3	R
iv)	Explain selection operator	2	CO4	U
v)	What are views in database	2	CO5	U
vi)	List the states in a transaction	2	CO6	R
vii)	List types of Outer Join	2	CO5	R
viii)	Explain Cross product	2	CO4	U
Q.2	Solve any four questions out of six.	16		
i)	Explain the difference between logical and physical data independence.	04	CO1	U
ii)	Write short note on foreign key	04	CO2	U
iii)	In relation R(ABCD), functional dependencies are given, FD{AB$\longrightarrow$CD, D$\longrightarrow$A }, What is the candidate key?	04	CO3	A
iv)	Write short note on : Security and Authorization in DBMS.	04	CO4	U
v)	Explain Set Operations in SQL with example ?	04	CO5	A

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vi)	Check conflict pairs in other transactions and draw edges	04	CO6	A

T1	T2	T3
R(x)		
		R(y)
		R(x)
	R(y)	
	R(z)	
		W(y)
	W(z)	
R(z)		
W(x)		
W(z)		

Q.3	Solve any two questions out of three.	16		
i)	Why would you choose a database system instead of simply storing data in operating system files? When would it make sense not to use a database system?	08	CO1	U
ii)	Explain following relational algebra operations with suitable example: a) Cartesian product b) Outer join c) Generalized projection d) Set difference e) Rename	08	CO4	U

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iii)	Calculate and explain in detail Nth highest salary using SQL	08	CO5	A
	E_Id / Salary table: 1 — 10000 2 — 20000 3 — 30000 4 — 40000 5 — 50000			
		16		
Q.4	Solve any two questions out of three.	08	CO2	U
i)	List and explain different types of cardinalities	08	CO3	U
ii)	Draw UML diagram for shopping app	08	CO6	U
iii)	Define normalization? Explain 1NF, 2NF,3NF and BCNF?			

E_Id	Salary
1	10000
2	20000
3	30000
4	40000
5	50000

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