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(An Autonomous Institution)

Regulations: A18

Code No: 7EC03 **Date: 27-Aug-2021(FN)**

B.Tech II-Year II- Semester External Examination, Aug/Sept-2021 (Regular)

DATABASE MANAGEMENT SYSTEMS (CSE, IT and ECM)

Time: 3 Hours **Max.Marks:70**

Note: *a) No additional answer sheets will be provided.*
b) All sub-parts of a question must be answered at one place only, otherwise it will not be valued.
c) Missing data can be assumed suitably.

ANSWER ANY 5 OUT OF 8 QUESTIONS. EACH QUESTION CARRIES 14 MARKS.

Bloom's Cognitive Levels of Learning (BCLL)

Remember	L1	Apply	L3	Evaluate	L5
Understand	L2	Analyze	L4	Create	L6

			BCLL	CO(s)	Marks
1.	a)	Explain about Database languages with examples.	L6	CO1	[7M]
	b)	Analyze a large Bank named "XYZ" is an international bank having 28 branches overseas and country and different cities. Each branch offer services banking and trading. Customer can select saving/current account with single or joint operation in the banking. Each branch maintains the account detail of customers keep record of each transaction in each service by the customer to his/her account. Design an E-R diagram indicating all entities with generalization and specialization, attributes with key and cardinality ratio?	L4	CO1	[7M]
2.	a)	Explain the following: i) Key constraints ii) Integrity constraints.	L6	CO2	[7M]
	b)	Define a join. Explain about conditional join and natural join with syntax and example.	L1	CO2	[7M]
3.	a)	Analyze the following tables: Employee (Emp_no, Name, Emp_city) Company (Emp_no, Company_name, Salary) i). Write a SQL query to display Employee name and company name. ii). Write a SQL query to display employee name, employee city ,company name and salary of all the employees whose salary >10000 iii). Write a query to display all the employees working in "XYZ" company.	L3	CO3	[7M]
	b)	Explain the different comparison operators in SQL.	L6	CO3	[7M]
4.	a)	Evaluate the universal relation R={A,B,C,D,E,F,G,H,I} and the set of functional dependencies F={(A,B)→{C], {A}→{D,E}, {B}→{F}, {F}→{G,H}, {D}→[I,J} . What is the key for Decompose R into 2NF,the 3NF relations?	L5	CO4	[7M]
	b)	Describe lossy and lossless decomposition?	L1	CO4	[7M]

5.	a)	Discuss about serializable schedules. Explain conflict serializability.	L2	CO5	[7M]
	b)	Explain the key features of Recoverability of schedule. Also explain log based recovery.	L6	CO5	[7M]
6.	a)	Differentiate between primary and secondary indexes.	L3	CO6	[7M]
	b)	Write detailed notes on tree based indexing.	L4	CO6	[7M]
7.	a)	Define Data Abstraction and discuss levels of Abstraction.	L1	CO1	[5M]
	b)	Illustrate different set operations in Relational algebra with an example.	L4	CO2	[5M]
	c)	Discuss different types of aggregate operators with examples in SQL.	L2	CO3	[4M]
8.	a)	Illustrate Multi valued dependencies and Fourth normal form with example.	L4	CO4	[5M]
	b)	Discuss two phase locking protocol and strict two phase locking protocols?	L2	CO5	[5M]
	c)	Explain about B+ trees.	L6	CO6	[4M]

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