Total No. of Questions: 3

Enrollment No. EN22CS301219

Faculty of Engineering

Mid Sem-II Examination April 2024

CS3CO39 Database Management Systems

Programme: B.Tech. *Branch/Specialization: CSE All*

Duration: 1.5 Hrs. **Maximum Marks: 30**

Note: All questions are compulsory. Internal choices, if any, are indicated. Answers of Q.1 (MCQs) should be written in full instead of only a, b, c or d. Assume suitable data if necessary. Notations and symbols have their usual meaning.

				BL	CO	PO	PSO
Q.1	i.	A table is in BCNF if it is in 3NF and if every determinant is a _____ key. a) Dependent b) Normal c) Candidate d) Both Normal and Candidate	1	BL_{01}	CO_{01}	PO_{01}	PSO_{01} PSO_{02}
	ii.	Functional Dependencies are the types of constraints that are based on_____ a) Key b) Key revisited c) Superset key d) None of the mentioned	1	BL_{01}	CO_{01}	PO_{02}	PSO_{02}
	iii.	A table is in 3NF if it is in 2NF and if it has no _____ a) Functional Dependencies b) Transitive Dependencies c) Trivial Functional Dependency d) Multivalued Dependencies	1	BL_{01}	CO_{01}	PO_{01}	PSO_{03}
	iv.	In order to maintain the consistency during transactions, database provides a) Commit b) Atomic c) Flashback d) Retain	1	BL_{02}	CO_{04}	PO_{02}	PSO_{02} PSO_{04}
	v.	Which of the following makes the transaction permanent in the database? a) View b) Commit c) Rollback d) Flashback	1	BL_{01}	CO_{04}	PO_{01}	PSO_{04}

	vi.	Transaction processing is associated with everything below except a) Conforming an action or triggering a response b) Producing detail summary or exception report c) Recording a business activity d) Maintaining a data	1	BL-	CO-	PO-	PSO-; PSO-
Q.2	i.	Explain the following keys with example. a) Candidate key b) Foreign key.	2	BL-;	CO-	PO-	PSO-; PSO-
	ii.	What is functional dependency? Explain its use in database design.	3	BL-;	CO-	PO-	PSO-; PSO-
	iii.	Explain 3NF and 2NF with example?	7	BL-	CO-	PO-	PSO-; PSO-
OR	iv.	Find all the candidate key and super key of the following- A)R(A,B,C,D,E,F) and FD={AB→C,C→DE,E→F, D→A,C→B}	7	BL-	CO-	PO-	PSO-; PSO-
Q.3	i.	Define Transaction processing?	3	BL-	CO-	PO-; PO-;	PSO-; PSO-
	ii.	Draw a transition state diagram and describe each state that a transaction goes through during its execution.	4	BL-;	CO-	PO-; PO-;	PSO-; PSO- 4
	iii.	What is locking protocol? Explain recoverability and serializability?	5	BL-	CO-	PO-	PSO-; PSO-
OR	iv.	Explain the different types of failure in DBMS.	5	BL-	CO-	PO-; PO-;	PSO-; PSO-

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