

Agnel Charities'
Fr. C. Rodrigues Institute of Technology, Vashi

2014/22

Prelim Examination FH-2022

Branch: Comp

Subject:DBMS

Examination: SE Sem-IV

Time 3-hours Max. Marks: 80

Q1	Choose the correct option for following questions. All the Questions carry equal marks. (2 Marks each) Total Marks - 20	CO
1	Which type of data can be stored in the database?	1
Option A:	Image oriented data	
Option B:	Text, files containing data	
Option C:	Data in the form of audio or video	
Option D:	All of the above	
2	Relational Algebra is a _____ query language that takes two relations as input and produces another relation as an output of the query.	3
Option A:	Relational	
Option B:	Structural	
Option C:	Procedural	
Option D:	Fundamental	
3	Which of the following is used to denote the selection operation in relational algebra?	3
Option A:	Pi (Greek)	
Option B:	Sigma (Greek)	
Option C:	Lambda (Greek)	
Option D:	Omega (Greek)	
4	A table is in BCNF if it is in 3NF and if every determinant is a _____ key.	5
Option A:	Dependent	
Option B:	Normal	
Option C:	Candidate	
Option D:	Both Normal and Candidate	
5	A table is in 3NF if it is in 2NF and if it has no _____	5
Option A:	Functional Dependencies	
Option B:	Transitive Dependencies	
Option C:	Trivial Functional Dependency	
Option D:	Multivalued Dependencies	
6	In a given relationship R, if an attribute A uniquely defines all other attributes, then the attribute A is a key attribute which is also known as the _____ key.	5
Option A:	Candidate	
Option B:	Join	
Option C:	Functional	
Option D:	None of the Mentioned	
7	The _____ clause allows us to select only those rows in the result relation of the _____ clause that satisfy a specified predicate.	4
Option A:	Where, from	
Option B:	From, select	
Option C:	Select, from	
Option D:	From, where	

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8	A transaction that has not been completed successfully is called as _____	6
Option A:	Compensating transaction	
Option B:	Aborted transaction	
Option C:	Aborted transaction <input checked="" type="checkbox"/> Active Transaction	
Option D:	Partially committed transaction	
9	Which of the following is not a transaction state?	6
Option A:	Active	
Option B:	Partially committed	
Option C:	Failed	
Option D:	Compensated	
10	The scheme that controls the interaction between executing transactions is called as _____	6
Option A:	Concurrency control scheme	
Option B:	Multiprogramming scheme	
Option C:	Serialization scheme	
Option D:	Schedule scheme	
Attempt ANY TWO QUESTIONS out of THREE Each question is for 10 marks		CO
Q-2	A What is an attribute? Explain different types of attributes with examples.	2
	B Describe the overall architecture of DBMS with suitable diagrams	1
	C Construct an E-R diagram for a Library Management System. Convert the E-R Diagram to Tables	2
Attempt ANY TWO QUESTIONS out of THREE Each question is for 10 marks		CO
Q-3	A Describe following concepts a) Log-based recovery b) Deadlocks in the database	6
	B What is Normalization? Explain 1NF, 2NF, 3NF, and BCNF	5
	C Discuss Data Definition and Manipulation commands in SQL.	4
Attempt ANY TWO QUESTIONS out of THREE Each question is for 10 marks		CO
Q-4	A Summarize the following Relational Algebra operations with a suitable example. a) Project b) Select c) Union d) Cartesian Product	3
	B Illustrate 2PL protocol	6
	C Write SQL queries for the given database. Employee(eid, emp-name, street, city) Works(eid, cid, salary) Company(cid, comp-name, city) Manager(eid, manager-name) (i) Find the names of all the employees having 'S' as first letter in their names. (ii) Display the annual salary of all the employees. (iii) Find the name, street, and city of all employees who work for "Accenture" and earn more than 30,000. (iv) Give total number of employees.	4