



Mahavir Education Trust's
SHAH & ANCHOR KUTCHHI ENGINEERING COLLEGE
Chembur, Mumbai - 400 088
UG Program in Information Technology

Sample paper for DBMS DSE 2020-21

Q1.	Choose the correct option for following questions. All the Questions are compulsory and carry equal marks
1.	In ER diagram, attributes are represented by _____ notation.
Option A:	Ellipse
Option B:	Double Ellipse
Option C:	Double Rectangle
Option D:	Rectangle
2.	In ER diagram, weak entities are represented by _____ notation.
Option A:	Ellipse
Option B:	Double Ellipse
Option C:	Double Rectangle
Option D:	Rectangle
3.	An Entity set that does not have sufficient attribute to form primary key is called
Option A:	Weak Entity
Option B:	Strong Entity
Option C:	Simple Entity
Option D:	Composite Entity
4.	The derived attribute and multivalued attribute is respectively represented as
Option A:	Dashed oval, Double ovals
Option B:	Dashed oval, Single oval
Option C:	Double ovals, Dashed oval
Option D:	Double ovals, Single oval
5.	In E-R diagram Total participation and Partial participation are respectively shown by
Option A:	Single line and Double line
Option B:	Double line and Dashed line
Option C:	Single line and Dashed line
Option D:	Double line and Single line
6.	_____ key is used to represent relationship between two relations
Option A:	Primary key
Option B:	Candidate key



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Option C:	Secondary key
Option D:	Foreign key
7.	If relation R is having A as multivalued attribute then how it will be mapped to RDBMS?
Option A:	New relation will be created for attribute A
Option B:	Attribute A will be included in same relation R
Option C:	Attribute A will be considered as composite attribute
Option D:	Attribute A will be consider as simple attribute and included in same relation.
8.	Which of the following is used to denote the Projection operation in relational algebra?
Option A:	Sigma
Option B:	Pi
Option C:	Lambda
Option D:	Omega
9.	Identify Key R(P,Q,R,S,T) where $S \rightarrow R$, $R \rightarrow Q$, $Q \rightarrow P$.
Option A:	P
Option B:	Q
Option C:	PQ
Option D:	ST
10.	Normalize to 2NF R(P,Q,R,S,T) where $S, T \rightarrow R$, $S \rightarrow Q$, $Q \rightarrow P$.
Option A:	R(P,Q,R,S,T)
Option B:	R1(P,Q,R) R2(R,S) R3(S,T)
Option C:	R1(R,S,T) R2(P, Q,S)
Option D:	R1(P,S,T) R2(P,Q) R3(Q,R)
11.	Partial dependency exists if
Option A:	key has only one attribute
Option B:	part of key determines non-key attributes
Option C:	non-key determines another non-key
Option D:	cell is not ordered
12.	Which of the following is a DCL command?
Option A:	Control
Option B:	Grant
Option C:	Select
Option D:	Edit



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13.	Which constraint is imposed by primary key?
Option A:	null
Option B:	not unique
Option C:	unique and not null
Option D:	not null
14.	Which of the following is a set operations ?
Option A:	Min
Option B:	Max
Option C:	Difference
Option D:	Average
15.	Which of the following is not a DDL command?
Option A:	Alter
Option B:	Delete
Option C:	Drop
Option D:	Create table
16.	BCNF is
Option A:	Bayes Codd Normal Form
Option B:	Boyce Codd Normal Form
Option C:	Buys Code Normal Form
Option D:	Boys Code Normal Form
17.	Sigma relational operator is used to represent
Option A:	Select
Option B:	Project
Option C:	Cartesian Product
Option D:	Rename
18.	Pi relational operator is used to represent
Option A:	Select
Option B:	Project
Option C:	Cartesian Product
Option D:	Rename
19.	Rho relational operator is used to represent
Option A:	Select
Option B:	Project
Option C:	Cartesian Product
Option D:	Rename



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20.	In ER diagram, discriminator attribute is represented by _____ notation.
Option A:	Ellipse with dashed underline
Option B:	Double Ellipse
Option C:	Double Rectangle
Option D:	Rectangle

Q2	Solve any Two Questions out of Three	10 marks each
A	Draw and explain notations for ER diagram	
B	Construct an EER diagram for a hospital with a set of patients and a set of medical doctors associated with each patient a log of various tests and examinations, conducted..	
C	Write the steps to Map ER diagram to Relational Model (tables) and map following ER diagram to Relational Model (tables)	

Q3.	Solve any Four out of Six	5 marks each
A	Explain triggers with example	
B	Consider Insurance Database given below and answer the following queries in SQL. Person (driver_id, name, address) Car (license, model, year) Accident (report_no, adate, location) Owns (driver_id, license) Participated (driver_id, license, report_no, damage_amount) (1) Find total number of people who owned cars that are involved in accidents in 2004.	
C	Consider the following dependency of relation R and Normalize to 3NF Empno, ContractNo → Hours Empno → Ename ContractNo → Hotelno, HotelLoc	



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	Hotelno \rightarrow HotelLoc Key (Empno, ContractNo)
D	Explain BCNF with example
E	Explain Relational Algebra operations
F	Explain set operations and aggregate functions