P P SAVANI UNIVERSITY

First Semester of BSC_IT Examination
November 2022
SSIT1050 Database Management System

22.11.2022, Tuesday   Time: 01:00 p.m. To 3:30 p.m.   Maximum Marks: 60

Instructions:
1. The question paper comprises of two sections.
2. Section I and II must be attempted in separate answer sheets.
3. Make suitable assumptions and draw neat figures wherever required.
4. Use of scientific calculator is allowed.

SECTION – I

			CO	BTL
Q - 1	MCQ/Short Question/Fill in the Blanks (Any Five)	[05]		
(i)	The number of tuples in a relation is known as		1	1
	a) Degree b) Relation c) Attribute d)Cardinality			
(ii)	A Database Management System is a type of _____software.		1	1
	a) It is a type of system software b) It is a kind of application software			
	c) It is a kind of general software c) Both A and C			
(iii)	Which one of the following given statements possibly contains the error?		2	2
	a) select * from emp where empid = 10003;			
	b) select empid from emp where empid = 10006;			
	c) select empid from emp;			
	d) select empid where empid = 1009 and Lastname = 'GELLER';			
(iv)	Which of the following command is a type of Data Definition language command?		1	1
	a) Create b) Update c) Delete d) Merge			
(v)	Which of the following keys is generally used to represents the relationships between the tables?		1	1
	a) Primary key b) Foreign key c) Secondary key d) None of the above			
(vi)	Which of the join operation do not preserve non matched tuples?		1	1
	a) Left outer join b) Right outer join c) Inner join d) Natural join			
(vii)	Which of the following statements does not change the state of the database?		1	1
	a) Where b) Select c) Insert d) Drop			
Q - 2 (a)	Explain the three level architecture of DBMS.	[05]	1	1
Q - 2 (b)	Enlist different type of join and explain with example.	[05]	2	2

OR

			CO	BTL
Q - 2 (a)	What is Data Independence? Describe the two types of data Independence.	[05]	1	2
Q - 2 (b)	Difference between File Management and DBMS.	[05]	1	4
Q - 3 (a)	Briefly explain Projection, selection and set difference in relational algebra with example.	[05]	2	1
Q - 3 (b)	Explain Transaction Control Command with suitable example.	[05]	1	1

OR

			CO	BTL
Q - 3 (a)	Explain primary Key, Froing Key and not null with example.	[05]	2	2
Q - 3 (b)	Explain insert and update subquery in DBMS with example.	[05]	3	2
Q - 4	Attempt any five.	[05]	3	6
(i)	Write any five SQL query for the following table.			

Students (RollNo, Name, Address, Phone, DOB, City, Marks)

1. Remove an one Column name is City from the Students table.

2. Change the City for RollNo is '52' to 'Surat'.
3. Write a query to fetch the number of students whose belong in the Rajkot City.
4. Write a query to find all the students whose marks between 50 to 80.
5. Write a query to find the names of students that begin with 'S'.
6. Insert any one record in the students table.
7. Write the query name of students who got the highest marks in students table.

SECTION – II

Q - 1	MCQ/Short Question/Fill in the Blanks (Any Five)	[05]		
(i)	Which of the following is the property of transaction that protects data from system failure?		1	1
	a) Atomicity b) Isolation c) Durability d) Consistency			
(ii)	When a relation contains an atomic value, it is a __ relation.		3	1
	a) 1NF b) 2NF c) 3NF d) BCNF			
(iii)	What is rows of a relation known as?		1	1
	a) Degree b) Entity c) Tuple d) None			
(iv)	How is an attributes in ER diagram represented?		2	1
	a) Circle b) Ellipse c) Triangle d) Square			
(v)	A _____ means that one record in a particular record type is related to only one record of another record type.		1	1
	a) One-to-one relationship b) One-to-many relationship			
	c) Many-to-one relationship d) Many-to many relationship			
(vi)	Which of the following is an operation of transactions?		1	1
	a) Read b) Write c) Commit d) All of the above			
(vii)	Which of the following is not Armstrong's Axiom?		1	1
	a) Reflexivity rule b) Transitivity rule			
	c) Pseudotransitivity rule d) Augmentation rule			
Q - 2 (a)	What is an Attribute? Explain all type of attribute with diagram.	[05]	1	2
Q - 2 (b)	Explain Generalization Model with example.	[05]	2	1

OR

Q - 2 (a)	What is Relationship ? Explain types of relationship with example.	[05]	2	4
Q - 2 (b)	Explain Specialization Model with example.	[05]	2	1
Q - 3 (a)	Draw ER diagram of Hotel Management System using suitable entity, attribute and relationship.	[05]	4	6
Q - 3 (b)	Explain Normalization from 1NF, 2NF and 3NF with example.	[05]	3	5

OR

Q - 3 (a)	Explain ACID Property.	[05]	1	1
Q - 3 (b)	Explain transaction states of processing.	[05]	2	2
Q - 4	Attempt any one.	[05]	3	3
(i)	Consider the relation scheme R = {E, F, G, H, I, J, K, L, M, N} and the set of functional dependencies {{E, F} -> {G}, {F} -> {I, J}, {E, H} -> {K, L}, K -> {M}, L -> {N}} on R.			
	Find closure for {E, F}			
	Find closure for {E, F, H}			
	Find closure for {E, F, H, K, L}			
	Find closure for {E}			
(ii)	Explain E-R diagram with its symbol.		4	6

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