P P SAVANI UNIVERSITY

Third Semester of B. Tech. Examination
May 2019
SECE2011 Database Management System

21.05.2019, Tuesday   Time: 09:00 a.m. To 11:30 a.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

Q - 1	MCQ/Short Question/Fill in the Blanks (Any Five)	[05]
(i)	Every super key is candidate key. TRUE/FALSE	
(ii)	What is data redundancy?	
(iii)	List out any two DCL command.	
(iv)	Give an example of like keyword in SQL.	
(v)	Define primary key.	
(vi)	Write SQL query to create student table to store Name, birthdate and age.	
(vii)	If there are T1 tuples in R1 and T2 tuples in R2 then number of tuples in R1× R2 is _____.	

Q - 2 (a)	Explain various types of join with suitable example.	[05]
Q - 2 (b)	Discuss various applications of database management system.	[05]

OR

Q - 2 (a)	Give any five differences between database management system and file system.	[05]
Q - 2 (b)	What is difference between where and having clause? Justify your answer with proper example.	[05]
Q - 3 (a)	Write SQL query for the following using above relation.	[05]

Student(rollno, name, class, birthdate)
Course(course_code, title, max_marks)
Registered(rollno, course_code, marks)

a) Find average marks obtained by each student.   – 2 marks
b) Display details of students where course is DBMS. – 2 marks
c) Select the course where second and third characters are 'AT'. – 1 mark

Q - 3 (b)	Explain primary key, foreign key, unique, not null and check constraints with example.	[05]

OR

Q - 3 (a)	Describe use of DML commands in SQL.	[05]
Q - 3 (b)	Explain materialization and pipelining in detail.	[05]
Q - 4	Attempt any one.	[05]
(i)	Explain view level, logical level and physical level with neat diagram.	
(ii)	Explain steps of query processing with necessary diagram.	

SECTION – II

Q - 1	MCQ/Short Question/Fill in the Blanks (Any Five)	[05]
(i)	Define Strong Entity Set.	
(ii)	What is multivalued attribute?	
(iii)	Draw the notation of primary key and discriminator attribute.	

(iv)	Give an example of derived attribute.	
(v)	Define transaction.	
(vi)	Give example of 1 to 1 relationship between entities.	
(vii)	Enlist different types of triggers.	
Q - 2 (a)	Create E-R diagram for Airlines management system.	[05]
Q - 2 (b)	Explain concept of specialization with proper example.	[05]

<div align="center">OR</div>

Q - 2 (a)	Create E-R diagram for library management system.	[05]
Q - 2 (b)	Enlist Extended E-R features. Discuss Aggregation with example.	[05]
Q - 3 (a)	What is normalization? Explain 1NF and 2NF with example.	[05]
Q - 3 (b)	Explain 2 phase commit protocol in detail.	[05]

<div align="center">OR</div>

Q - 3 (a)	What is transaction? Describe ACID properties of transaction.	[05]
Q - 3 (b)	Find the 3NF decomposition of following FDs. AB->D, A->D, C->E, C->F	[05]
Q - 4	Attempt any one.	[05]
(i)	Discuss structure of PL-SQL block with example.	
(ii)	What is cursor? Explain the process of working with explicit cursor.	

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