

P P SAVANI UNIVERSITY

Second Semester of B.Sc. (IT) Examination

May 2019

SSIT1050 Database Management System

16.05.2019, Thursday

Time: 12:30 p.m. To 3:00 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

- Q - 1 MCQ/Short Question/Fill in the Blanks (Any Five) [05]
- (i) Every candidate key is primary key. TRUE/FALSE
- (ii) What is data inconsistency?
- (iii) List out any two DDL command.
- (iv) Give an example of like keyword in SQL.
- (v) What is degree of relationship?
- (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 $R1 \times R2$ is _____.

- Q - 2 (a) Explain various types of join with suitable example. [05]
- Q - 2 (b) What is DBA? Enlist different users of database system. [05]

OR

- Q - 2 (a) Explain view level, logical level and physical level with neat diagram. [05]
- Q - 2 (b) Discuss aggregate functions 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 projection, selection, union, intersection and rename operator with example. [05]

OR

- Q - 3 (a) Explain IN, ALL and ANY keywords with proper example. [05]
- Q - 3 (b) Explain primary key, foreign key, unique, not null and check constraints with example. [05]
- Q - 4 Attempt any one. [05]
- (i) Discuss any five disadvantages of file system.
- (ii) Explain steps of query processing with necessary diagram.

SECTION - II

- Q - 1 MCQ/Short Question/Fill in the Blanks (Any Five) [05]
- (i) Enlist different types of triggers.
- (ii) Give example of many to many relationship between entities.
- (iii) Draw the notation of multivalued attribute and Derived attribute.
- (iv) Give an example of composite attribute.

- (v) Define transaction. [05]
(vi) Define Weak Entity Set. [05]
(vii) What is full form of PL-SQL? [05]
Q - 2 (a) Create E-R diagram for Hospital management system. [05]
Q - 2 (b) Briefly explain concept of overlapping and disjoint constraints with proper example. [05]
OR
Q - 2 (a) Write down the steps to convert E-R diagram into database schema. [05]
Q - 2 (b) Enlist Extended E-R features. Discuss any two. [05]
Q - 3 (a) What is normalization? Explain partial dependency and transitive dependency. [05]
Q - 3 (b) Discuss structure of PL-SQL block with example. [05]
OR
Q - 3 (a) What is difference between procedure and function? Give one example of procedure or function. [05]
Q - 3 (b) Find the 3NF decomposition of following FDs. [05]
AB->D, A->D, C->E, C->F
Q - 4 Attempt any one. [05]
(i) Explain concept of conflict serializability.
(ii) Explain atomicity, consistency, isolation and durability with example.
