

1st Sessional Examination 2017-18 ( Odd Semester)

Roll No.:

Subject Name: Database Management System

Year/Branch: 3rd/C.S.E /I.T

Subject Code: NCS-502

Max Time: 1Hours 30 Minute

Max Marks: 50

SECTION-A

**Q.1 Attempt all parts carry equal marks. Write answer of each part in short. (2x5=10)**

- (a) List out Different Task perform by database manager
- (b) How weak entity is differing from strong entity?
- (c) Distinguish between Physical data independence and Logical data independence?
- (d) Difference between SQL and PL/SQL.
- (e) How group by clause is differ from order by clause.

SECTION-B

**Note: Attempt any five questions from this section. (5x5=25)**

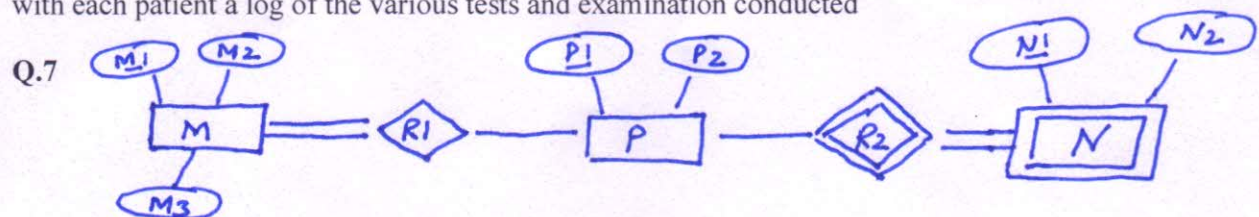
Q.2 Discuss Different type of Join operation used in Database with suitable example

Q.3 Draw the Architecture of DBMS.

Q.4 Distinguish between Cartesian-Product and Natural-Join operation? Explain with example.

Q.5 Explain role of aggregate function in DBMS and describe its type with example.

Q.6 Draw E.R diagram for a hospital with a set of patients and a set of medical doctors . Associate with each patient a log of the various tests and examination conducted



How many minimum no. of Table needed and Attributes

Q.8 Consider the following table and give the answer of following questions

Student (Roll No,Name,FatherName,Branch)

Book(ISBN, Title, Author, Publisher)

Issue(Roll no, ISBN, Date-of-Issue)

Explain the query in Relation algebra:-

- (i) List Rollno and Name of all student of the branch CSE
- (ii) Find the name of students who have issued a book published by 'ABC' publisher

(iii) List Title of all books and their authors issued by a student 'XYZ'

(iv) List title of all books issued on or before Jan 1, 2011

(v) List all books published by publisher 'ABC'

### SECTION-C

**Note: Attempt any two questions from this section.**

**(7.5 x 2 = 15)**

**Q.9** A College registrar's office maintains data about the following entities:

- a. Courses including number, title, credits, syllabus, and prerequisites;
- b. Course\_offerings including course\_number, year, semester, section\_number, instructor(s), timings, and classroom;
- c. Students including student-id, name, and program;
- d. Instructors including identification number, name, department, and title.

Further, the enrolment of students in courses and grades awarded to students in each course they are enrolled for must be appropriately modelled. Construct an E-R diagram for the registrar's office. Document all assumptions that you make about the mapping constraints. Reduce E-R Diagram into Tables.

**Q.10** Write the following query in SQL:-

- (i) Create a student table with fields (Stu\_id, Name, Branch, Year, City).
- (ii) Add a primary key in existing student table.
- (iii) Change the width of City to 15.
- (iv) Delete the column name Year from existing student table.
- (v) Delete records of student who lives in City='Chennai'.
- (vi) List the name of students whose name start with 'A'.
- (vii) List the name and branch of students in ascending order.

**Q.11** Consider the following table and give the answer of following questions

**Employee(Emp#, Name)**

**Assigned\_to(Project#, Employee#)**

**Project(Project#, Project\_Name, Chief\_Architect)**

**Solve the following Queries in Relational Algebra:-**

- (i) Print the Emp# of the employee working on project 'AAA'.
- (ii) Print the details of employees working on project 'BBB'.
- (iii) Print the details of employees working on the Data Mining project.
- (iv) Print the number of employees who do not work on project 'AAA'.
- (v) Print the detail of all the employees who are working on project 'AAA' and 'BBB'