This question paper contains 3 printed pages] Roll No

Sl.No. **234**

B.C.A. (Part. II)

B.C.A. (Part - II) EXAMINATION, 2017
(Faculty of Science)
(Three-Year Scheme of 10 + 2+ 3 Pattern)
Paper - 234
DATABASE MANAGEMENT SYSTEM

Time : Three Hours] *[Maximum Marks : 100*

Answer of all the questions (short answer as well as descriptive) are to be given in the main answer -book only. Answers of short answer type questions must be given in sequential order. Similarly all the parts of one question of descriptive part should be answered at one place in the answer-book. One complete question should not be answered at different places in the answer-book. Write your roll numbers on question paper before start writing answers of questions.

Part I: *(Very short Answer) consists of 10 questions of two marks each. Maximum limit for each question is up to 40 words.*

Part II: *(Short answer) consists of 5 questions of four marks each. Maximum limit for each question is up to 80 words.*

Part III: *(Long answer) consists of 5 questions of twelve marks each with internal choice.*

PART - I

Q1) a) List any four advantages of using a DBMS.

b) What is a schema?

c) What is an E-R Diagram?

d) Differentiate between super key and candidate key.

e) What is a transaction?

f) What is Join statement?

P.T.O.

g) What is sub query?

h) Why normalization is required?

i) How transaction is committed in a distributed system?

j) What is ODL?

PART - II

Q2) a) Differentiate between Logical and Physical data independence. **[4]**

b) What is aggregation? Give example. **[4]**

c) Explain the structure of SQL SELECT statement. **[4]**

d) What is access control? **[4]**

e) What do you mean by concurrency control? **[4]**

PART - III

Q3) Define DBMS. What are the advantages of DBMS over conventional file processing system? What are the functions of a database administrator? **[2+6+4]**

OR

Explain the rules defined by Codd that are necessary for any DBMS to be considered as a RDBMS. **[12]**

Q4) Differentiate between following: **[3×4=12]**

a) Strong and Weak entity

b) Referential and Domain integrity

c) Single valued and multi valued attributes

OR

What is relational algebra? Explain different types of join and aggregate operations of relational algebra. Give appropriate examples.

[2+10]

Q5) Explain normalization & its different forms. Give appropriate examples. **[12]**

OR

Describe backup and recovery mechanisms available in DBMS.

Q6) Write SQL queries for the following: **[12]**

Consider the table SPORTS having fields: (RollNo, Class, Name, Game, Grade)

a) Display the names of the students who have grade 'C' or grade 'D'.

b) Display the grade of the students whose name starts with 'D'

c) Display the different games offered.

d) Display the Roll number and name of the student who belong to class '7' and plays hockey.

e) Delete the student record whose roll no. is 101.

OR

Explain the data types availabale in SQL. Also explain various aggregate functions in SQL with suitable examples.

Q7) Explain the following: **[12]**

a) Distributed Transactions

b) Object-relational Databases

OR

Define object databases. Describe persistent programming languages. What are the several approaches proposed to make the objects persistent?