Roll No. ....

B.C.A. (Pt. - II)

Data. Mana. Sys.

204/234

B.C.A. (Part - II) EXAMINATION, 2021

(Faculty of Science)

(Three - Year Scheme of 10+2+3 Pattern)

DATABASE MANAGEMENT SYSTEM

Time Allowed : Three Hours

Maximum Marks : 100

No supplementary answer-book will be given to any candidate. Hence the candidates should write their answers precisely in the main answer-book only.

All the parts of one question 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 number on question paper before start writing answers of questions.

*Question paper consists of **three** parts. **All three** parts are **compulsory**.*

PART - A : *(Very short answer) consists of **10** questions of **two** marks each. Maximum limit for each question is upto **40** words.*

PART - B : *(Short answer) consists of **5** questions of **four** marks each. Maximum limit for each question is upto **80** words.*

PART - C : *(Long answer) consists of **5** questions of **twelve** marks each with an internal choice.*

PART - A

1. (a) Define database.   10x2=20
    (b) What is mean by data independance ?
    (c) Define attributes and entities.
    (d) What is mean by aggregation ?
    (e) What is mean by data recovery ?
    (f) Define transactions.
    (g) What is SQL ?
    (h) Define views.
    (i) Define distributed database.
    (j) What is mean by object database ?

PART - B

2. (a) Discuss the Database system v/s File system.   5x4=20
    (b) Discuss the various types of keys.
    (c) Explain Boyce Codd Normal Form with examples.
    (d) Discuss the Aggregate functions with examples.
    (e) What is mean by concurrency control ? Discuss the concurrency control in distributed databases.

PART - C

3. (a) Discuss the architecture of DBMS.   6+6
    (b) Discuss the role of database administrator.

OR

    (a) Explain the advantages and disadvantages of DBMS.   10+2
    (b) What is mean by data independance ?

4. (a) Discuss the fundamental operations of relational algebra. **8+4**
   (b) Discuss the generalization and aggregation.

<center>**OR**</center>

Write short notes on : **4+8**
(a) Mapping constraints
(b) E-R Model

5. Discuss the functional dependencies, access control, backup, recovery and maintenance. **12**

<center>**OR**</center>

Discuss the various Normal Forms with examples. **12**

6. (a) Explain SQL Data types. **5+7**
   (b) Discuss the insert, update and delete operations with examples.

<center>**OR**</center>

Write short notes on : **4+4+4**
(a) Characteristics of SQL
(b) Types of SQL commands
(c) Join, Union and Intersection in SQL

7. (a) Explain object oriented databases. **6+6**
   (b) Discuss Distributed Query Processing.

<center>**OR**</center>

Write short notes on : **6+3+3**
(a) Object Oriented data model
(b) Object Relational databases
(c) Distributed Transactions

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