BCA-09/DIT-05

Database Management System

Diploma/Bachelor of Computer Application
(BCA/DIT)

3rd Semester, Examination June 2022

Time : 2 Hours　　　　　　　　**Max. Marks:80**

Note : This paper is of eighty (80) marks divided into two (02) Sections A and B. Attempt the questions contained in these sections according to the detailed instructions given therein.

Section-A

(Long Answer-type questions)

Note: Section 'A' contains Five (05) long-answer-type questions of Twenty (20) marks each. Learners are required to answer any two (02) questions only.

(2 x 20=40)

Q.1　Consider the following schema:

Employee(emp_no, name, dno, salary, headno)

department(dno, dept_name)

children(emp_no, child_name, dob, sex)

P.T.O.

In the above schema, domain of headno is same as that of empno. The underlined attributes act as the primary key in the relation. Write queries in sql to :

(i) Create employee and department tables.

(ii) Modify the name of the research department of science in the department table.

(iii) Retrieve the name of all the employees, whose name end with the letter "a".

(iv) Count the female department of each employee.

(v) Add a new constraint on salary, salary should not be <500.

Q.2 Discuss in detail the operators SELECT, PROJECT, UNION with suitable examples.

Q.3 Write short notes on the following:

a) Structured Query Language (SQL)

b) Data Manipulation Language (DML)

c) Data Definition Language (DDL)

d) Transaction Control Statements (TCS)

e) Data Control Language (DCL)

Q.4   Explain the various procedures of 'Backup of database' and recovery method of a database.

Q.5   Explain in details about the following keys used in database systems:
a)   Composite Key
b)   Candidate Key
c)   Primary Key
d)   Alternate Key
e)   Foreign Key

Section-B

(Short Answer-type questions)

Note: Section 'B' contains Eight (08) short-answer-type questions of Ten (10) marks each. Learners are required to answer any four (04) questions only.

(4 x 10=40)

Q.1   What are the disadvantages of file processing system?

Q.2   Write a note on functional dependencies.

Q.3   Who is a DBA? What are the responsibilities of a DBA?

P.T.O.

Q.4 What is a data model? List the types of data models used.

Q.5 What is a entity relationship model? Explain with suitable examples.

Q.6 What are Integrity constraints in a database management system? Define Referential integrity.

Q.7 Explain BCNF with suitable example.

Q.8 Differentiate between Conceptual model, logical model of Database management system.

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