

QP_CODE : S220FN01

Time : 3 Hours

Max Marks : 80 (CPP : 35 marks, SQL : 25 marks, Record : 10 marks, Viva : 10 Marks)

Q1. An electricity board charges the following rates to domestic users to discourage large conceptions of energy.

100 units Rs 1.50 p/unit

200 units Rs 1.80 p/unit

Beyond 200 Rs 2.50 p/unit

All users are charged a minimum of Rs 50/-. If the total amount is more than 300 then an additional surcharge of 15% is added. Write a C++ program to read the names of users, number of units consumed and print out the charge using minimum charge as Default Argument.

Q2. TABLE 1 : ITEM

COLUMN NAME	DATA TYPE	CONSTRAINTS
Item_No	Varchar(6)	Primary key
Item_Name	Varchar(15)	Not Null
Unit_Price	Number(8,2)	

TABLE 2 : SALES

COLUMN NAME	DATA TYPE	CONSTRAINTS
Bill_No	Varchar(6)	Primary key
Bill_date	Date	
Item_No	Varchar(6)	Foreign Key
Quantity	Number	Must be >0

Write SQL queries for the following :

1. Create the above tables.
2. Insert 5 records in each table.
3. Increase the Unit_Price of Item_No 'P123' by 40%.
4. List the Item_No, Item_Name and total quantity sold for the Item 'Pencil'.
5. List Item_No, Item_Name, Bill_No, Quntity in the descending order of Bill_date.

QP_CODE : S220FN02

Time : 3 Hours

Max Marks : 80 (CPP : 35 marks, SQL : 25 marks, Record : 10 marks, Viva : 10 Marks)

Q1. Create a class Part to represent spare parts details of vehicle such as Model No, Part No, Cost, etc. Also write an appropriate C++ program to read and display the details of spare parts using the concept of Array of Objects.

Q2. TABLE 1 : EMPLOYEE

COLUMN NAME	DATA TYPE	CONSTRAINTS
Emp_ID	Number	Primary key
Emp_Name	Varchar(15)	Not Null
Emp_Sex	Varchar(6)	
Dept_ID	Number	Foreign key

TABLE 2 : DEPARTMENT

COLUMN NAME	DATA TYPE	CONSTRAINTS
Dept_ID	Number	Primary key
Dept_Name	Varchar(15)	

Write SQL queries for the following :

1. Create the above tables.
2. Insert 5 records in each table.
3. Find total number of male and female employees
4. List the department name and number of employees in each department
5. Find the department name having maximum female employee.

QP_CODE : S220FN03

Time : 3 Hours

Max Marks : 80 (CPP : 35 marks, SQL : 25 marks, Record : 10 marks, Viva : 10 Marks)

Q1. Write a C++ program to perform addition of two Matrix objects by operator overloading using friend function.

Q2. TABLE 1: SALARY

COLUMN NAME	DATA TYPE	CONSTRAINTS
DESIGNATION	VARCHAR(8)	Primary key
BASIC_PAY	NUMBER	Not Null
HRA	NUMBER	250, 500
DA	NUMBER	

TABLE 2 : EMPLOYEE

COLUMN NAME	DATA TYPE	CONSTRAINTS
EMP_CODE	NUMBER	PRIMARY KEY
EMP_NAME	VARCHAR(15)	
DESIGNATION	VARCHAR(8)	FOREIGN KEY
DATE_OF_JOIN	DATE	

Write SQL queries for the following :

1. Create the above tables.
2. Insert 5 records in each table.
3. Update DA as 30% of all designation of employees.
4. Find number of employees of each designation
5. Display the EMP_NAME, DESIGNATION and salary (BASIC_PAY + HRA +DA) in the ascending order of year of experience.

QP_CODE : S220FN04

Time : 3 Hours

Max Marks : 80 (CPP : 35 marks, SQL : 25 marks, Record : 10 marks, Viva : 10 Marks)

Q1. Define the class Student with basic attributes such as Roll No and Name. Inherit a class called Marks from the Student class. Class Marks includes details such as marks of three subjects, total marks and percentage of marks. Use necessary member functions for both the classes. Write a C++ program to implement the above concept.

Q2. TABLE 1 : STUDENT

COLUMN NAME	DATA TYPE	CONSTRAINTS
ST_NO	NUMBER	PRIMARY KEY
ST_NAME	VARCHAR(15)	NOT NULL
ST_SEX	VARCHAR(6)	

TABLE 2 : EXAM

COLUMN NAME	DATA TYPE	CONSTRAINTS
SEMESTER	NUMBER	PRIMARY KEY
ST_NO	NUMBER	PRIMARY KEY, FOREIGN KEY
TOTAL_MARK	NUMBER	LESS THAN 600

Write SQL queries for the following:

1. Create the above tables.
2. Insert 5 records in each table.
3. Find total number of male and female students.
4. Find number of female students in each semester.
5. Display ST_NAME, ST_NO and TOTAL_MARK of each student.