BTS-III(R/S)-02.22-0030 Reg. No. | | | | | | | | |

B

B.Tech. Degree III Semester Regular/Supplementary Examination February 2022

CS 19-202-0304 OBJECT ORIENTED PROGRAMMING

(*2019 Scheme*)

Time: 3 Hours Maximum Marks: 60

PART A

(Answer *ALL* questions)

(8 × 3 = 24)

I. (a) What is the advantage of using inline function?

(b) How does the non-member function of a class access its private data?

(c) Difference between private and protected members of a class?

(d) Explain the dynamic memory allocation of an object.

(e) What is a destructor?

(f) What is 'this' pointer?

(g) Write a short note on virtual base class.

(h) What are the different ways in which we can open a file?

PART B

(4 × 12 = 48)

II. Explain the basic concepts of object oriented programming. (12)

OR

III. What do you mean by overloading of a function? Explain with an example. (12)

IV. Define a class to represent a bank account. Include the following members: (12)

Data Members

(i) Name of the depositor
(ii) Account number
(iii) Type of account
(iv) Balance amount in the account

Member functions

(i) To assign initial values
(ii) To deposit an amount
(iii) To withdraw an amount after checking the balance
(iv) To display name and balance

Write a main program to test the program.

OR

V. Create a circle class. Each object of this class will represent a circle, storing its radius and x and y coordinates of its centre. Include a default constructor, parameterized constructor, access functions, an area function and a circumference function. (12)

(P.T.O.)

VI. Explain the different types of Inheritance. (12)

OR

VII. Assume that a bank maintains two kinds of accounts for customers, one called as savings account and the other as current account. The Savings account provides compound interest and withdrawal facilities but no cheque book facility. The current account provides cheque book facility but no interest. Current account holders should also maintain a minimum balance and if the balance falls below this level, a service charge is imposed. (12)

Create a class account that stores customer name, account number and type of account. From this derive the classes curracct and savacct to make them more specific to their requirements. Include necessary member functions in order to achieve the following tasks:

(i) Accept deposit from a customer and update the balance
(ii) Display the balance
(iii) Compute and deposit interest
(iv) Permit withdrawal and update the balance
(v) Check for the minimum balance, impose penalty, if necessary, and update the balance.

Do not use any constructors. Use member functions to initialize the class members.

VIII. Write a program to create an output file, writes information to it ,closes the file and opens it again as an input file and reads the information. (12)

OR

IX. Illustrate the use of exception handling with a C++ program. (12)

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