

END TERM EXAMINATION

THIRD SEMESTER [BCA] JANUARY-FEBRUARY 2023

Paper Code: BCA 205 Subject: Object Oriented Programming with C++

Time: 3 Hours

Maximum Marks: 75

Note: Attempt five questions in all including Q.No.1 which is compulsory.
Select one question from each unit.

- Q1. Write the short note on the following:- (2.5X10=25)
- (a) Inline function
 - (b) Describe the various benefits of OOP.
 - (c) New Vs Delete
 - (d) Static data member
 - (e) Copy constructor
 - (f) Virtual base class
 - (g) Friend function
 - (h) Class template
 - (i) This pointer
 - (j) Early Vs Late binding

UNIT-I

- Q2. (a) Explain the following terms: (4)
(i) Literals (ii) Implicit conversion
- (b) Write a program that will find out whether the given number is even or odd.
If it is odd number then find out whether it is prime or not? (3.5+5=8.5)
- Q3. (a) Illustrate the comparison between C and C++. (4.5)
(b) Describe the concepts of parameter passing by value, reference and pointer with the help of an example. (8)

UNIT-II

- Q4. (a) Explain the concept of constructor overloading and function overloading. (6)
(b) What do you understand by access specifiers? What are these access specifiers? (6.5)
- Q5. (a) Define a class Teacher with the following specifications: (10)
Private members:
Name 20 characters
Subject 10 characters
Basic, DA, HRA float
Salary float
Calculate () function computes the salary and returns it. Salary is sum of Basic, DA and HRA

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Public members:

Readdata () function accepts the data values and invokes the calculate function.

Displaydata () function prints the data on the screen.

(b) What are the special properties of a constructor? (2.5)

UNIT-III

Q6. (a) How can a data member and member function present in public mode in class be accessed through pointer object? Explain it by taking an example. (6)

(b) Create class COMPLEX and overload binary + operator to add objects. Using friend functions. (6.5)

Q7. Define an inheritance and its advantage? Explain the types of inheritance. (2.5+10=12.5)

UNIT-IV

Q8. (a) What do you mean by generic programming? Write a program to swap the any two different types of variables using function template. (2+4=6)

(b) Create a class Stack that throws Overflow and Underflow exceptions. (6.5)

Q9. (a) Explain the following terms: (6)

(i) seekg () (ii) getline () (iii) write ()

(b) What is the file access mode? Describe the various file modes. (6.5)

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