

Please write your Exam Roll No. Exam Roll No. 8

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 functions
 (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? (2.5+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
 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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BCA-205
P/h

[-2]

Public members:
 Readdata () function accepts the data values and invokes the calculate function.
 Displaydata () function prints the data on the screen. (2.5)
 (b) What are the special properties of a constructor? (6.5)

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)

BCA-205
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