U.G. 2nd Semester Examination - 2021

COMPUTER SCIENCE

[HONOURS]

Course Code : COM.SC-H-CC-L-203

(Programming in C++)

Full Marks : 30　　　　Time : $1\frac{1}{2}$ Hours

The figures in the right-hand margin indicate marks.

Candidates are required to give their answers in their own words as far as practicable.

GROUP–A

1. Answer any **five** questions :　　　　2×5=10

   a) What is inline function? Explain with an example.

   b) What is the difference between function overloading and function overriding?

   c) What is the purpose of constructor?

   d) What do you mean by local variable and global variable?

   e) What is the difference between static binding and dynamic binding?

   f) What is polymorphism?

   g) What is virtual class?

   h) What is reference variable?

GROUP-B

2. Answer any **two** questions :　　　　5×2=10

   a) What is the relation between class and object? Name different features of any object-oriented programming paradigm.　　　　2+3=5

   b) What is operator overloading? What are the benefits of operator overloading? Write down the operators that cannot be overloaded.

   　　　　2+2+1=5

   c) What are the advantages of using 'new' operator over malloc()? Differentiate between normal data member and static data member.

   　　　　3+2=5

   d) What is garbage collection? What do you mean by automatic garbage collection? Whether C++ support automatic garbage collection or not?

   　　　　2+2+1=5

GROUP-C

Answer any **one** question :　　　　　　　　$10 \times 1 = 10$

3.　a)　What are the different types of inheritance in C++? Explain with examples.

　　b)　What do you mean by access modifiers of visibility levels in inheritance?

　　c)　What is virtual base class?　　$6+2+2=10$

4.　a)　Write a C++ program to check whether a number is prime or not.

　　b)　Write a C++ program to add two complex numbers using class, constructor, and operator overloading.　　$3+7=10$

5.　Write short notes on any **two** of the following:

　　　　　　　　　　　$5 \times 2 = 10$

　　a)　Data abstraction and data hiding

　　b)　Friend function

　　c)　Exception handling

　　d)　Different file opening modes in C++

_____