No. of Printed Pages—2

473 (OOP)

[20–HBGPOW–D3S(O)21A]

BCA 3rd Semester (Old) Exam., 2020 (W)

OBJECT-ORIENTED PROGRAMMING THROUGH C++

[BCA–08]

Full Marks : 50

Time : 2 hours

The figures in the margin indicate full marks for the questions

1. Fill in the blanks/Answer the following question : 1×6=6

(a) Data _____ refers to the data that can be used without taking into account how the data are stored.

(b) The _____ statement exists out of a loop and transfers the control to the statement immediately following the control structure.

(c) The factor that tells in what direction the operands associated with the operator are to be evaluated is known as _____.

(d) Bitwise operator can be used only with _____ and _____ data types.

(e) The two types of constants are _____ and _____.

(f) Mention the use of scope resolution operator.

2. Answer the following questions : 2×5=10

(a) What are the benefits of making a function inline?

(b) Mention two advantages of abstraction.

(c) setw( ) and setprecision( ) are examples of what? Mention their purposes.

(d) What is an infinite loop? Write one example of infinite loop in C++.

(e) Mention the rules for declaring and defining constructor in C++.

3. Answer any *four* questions : 4×4=16

(a) What is the use of copy constructor in C++ programming? How can constructor be overloaded?

(b) Mention the properties of friend function. How is it different from friend class?

(c) Write a C++ program defining member functions inside and outside a class. What is the default access specifier of class member?

(d) What is a class? How does it accomplish data hiding?

(e) Write the importance of the two characteristics 'precedence' and 'associativity' of operators.

4. Answer any *one* from the following : 8

(a) Write a C++ program using appropriate inheritance which will inherit two classes 'triangle' and 'rectangle' from a 'polygon' class.

Use member functions for entering appropriate parameters like width, height, etc. Also calculate area of triangle and rectangle by entering width, height, etc. 8

(b) Mention the rules for declaring virtual function. When do we make a class virtual? Why is virtual function necessary? How can compile time polymorphism be achieved? 2+2+2+2=8

5. Answer any *one* from the following : 10

(a) Explain the use of private and public keywords. How are they different from each other?

Mention the characteristics of static data member. Show the use of static member function describing a simple C++ program. 3+2+5=10

(b) Write short notes on (any *two*) : 5×2=10

(i) Reference variable

(ii) File classes

(iii) Multipath inheritance

★ ★ ★