

III/BCA/304

2017

(3rd Semester)

BACHELOR OF COMPUTER APPLICATION

Paper No. : BCA-304

(Object-oriented Programming in C++)

Full Marks : 75

Time : 3 hours

(PART : B—DESCRIPTIVE)

(Marks : 50)

*The figures in the margin indicate full marks
for the questions*

1. (a) Differentiate between procedure-oriented programming and object-oriented programming. 4
- (b) Explain the following terms : 2×3=6
 - (i) 'Class
 - (ii) Object
 - (iii) Encapsulation

8G/266a

(Turn Over)

(2)

Or

- (c) Write a CPP program to demonstrate inheritance. 8
- (d) Differentiate between variables and constants. 2
2. (a) Explain the concept of function overloading with example. 4
- (b) Explain the concept of array of object with a program example. 6
- Or
- (c) What is friend function? Why do we need friend function? 4
- (d) Explain the concept of in-line function with a program example. 6
3. (a) Define a class 'complex No' which has two real numbers (float type) as private data member, one represent the real part and one for imaginary part. Define constructors to initialize the object. 5
- (b) What is copy constructor? 2
- (c) What are the three special characteristics of static data member? 3

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(Continued)

(3)

Or

- (d) Differentiate between constructor and destructor. 4
- (e) Write a CPP program to find the sum of two complex numbers using overloading binary operator. 6
4. (a) What are derived class and base class? 2
- (b) Differentiate between public and private inheritances. 4
- (c) What is operator overloading? Explain the steps involved in operator overloading. 4
- Or
- (d) Explain the concept of multiple inheritance with a program example. 6
- (e) What are new and delete operators in memory management? 4
5. (a) What is a template? Write a CPP program to show the use of function template. 1+4=5
- (b) Define container. With a neat diagram explain the three categories of a container. 1+4=5

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(Turn Over)

(4)

Or

(c) Explain hierarchy of the stream classes
with a neat and labelled diagram. 5

(d) What is an exception? How is it handled in
C++? 5

(6)

SECTION—II

(Marks : 10)

3. Answer the following questions : $2 \times 5 = 10$

(a) What are the significance of visibility modes in inheritance?

(7)

(b) Give any two applications of OOP.

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(8)

(c) Explain virtual function.

(d) Define stream. Give example.

(9)

(e) What is generic programming?

(6)

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