

Roll No. ....

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(2111)

[Total No. of Printed Pages : 4

**BCA (CBCS) RUSA IIIrd Semester  
Examination**

**4516**

**OBJECT ORIENTED PROGRAMMING WITH  
C++  
BCA-0304**

**Time : 3 Hours]**

**[Maximum Marks : 70**

*Note :-* Attempt *five* questions in all. Question No. 1 (Part A) is compulsory containing 10 fill in the blanks of 1 mark each and *five* short answer questions of 4 marks each. Select *one* question each from Parts-B, C, D and E.

**Part-A**

**(Compulsory Question)**

1. Fill in the blanks :

- (i) The ability of a function or operator to act in different ways of different data types is called .....

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- (ii) If class A inherits its properties from class B, then A and B are known as ..... class and ..... class respectively.
- (iii) ..... member function can never be accessed by inherited classes.
- (iv) A function with no return type is declared as .....
- (v) Variable of a class is called .....
- (vi) OOPs follow ..... approach in program design.
- (vii) A ..... method does not return a value.
- (viii) A ..... is a special member function whose task is to initialize the objects of its class.
- (ix) An ..... is a instance of a class.
- (x) In function overloading, two functions can have the same ..... in a program.  $1 \times 10 = 10$

Short answer type questions (25 to 50 words) :

- (i) What is the difference between equal to ( $=$ ) and Assignment operator ( $=$ ) ?

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- (ii) Explain scope resolution operator.
- (iii) What are the comments in C++ ?
- (iv) What is class ?
- (v) What is the role of protected access specifier ?  
Explain with example.  $4 \times 5 = 20$

#### Part-B

##### Unit-I

- 2. Explain various characteristics of object oriented programming language. 10
- 3. (a) Explain the basic structure of C++ program with example.
- (b) Define variable in C++. Explain with example.  $6 \times 4 = 24$

#### Part-C

##### Unit-II

- 4. (a) Write a program in C++ to print first 10 natural numbers.
- (b) Explain if-else and switch statements with the help of example.  $5 \times 5 = 25$
- 5. (a) Explain structures. How the structure members are accessed.
- (b) Explain the concept of overloaded function with the help of example.  $5 \times 5 = 25$

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## Part-D

### Unit-III

6. (a) Define Constructors. What is the use of a constructor ? Explain.
- (b) Describe objects and classes. What are the components of a class. ?  $5+5=10$
7. (a) Explain Array. How the elements of an array can be accessed ? Explain with example.
- (b) Explain Multidimensional arrays. How an array can be initialized ? Describe.  $5+5=10$

## Part-E

### Unit-IV

8. (a) Define operator overloading. Explain the limitations of increment operator.
- (b) Explain the pitfalls of operators overloading and conversion.  $5+5=10$
9. (a) Explain the concept of derived class and base class.
- (b) Define Inheritance. Explain its types.  $5+5=10$

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**BCA UG (CBCS) RUSA IIIrd Semester  
Examination**

**3603**

**OBJECT ORIENTED PROGRAMMING WITH  
C++**

BCA-0304

**Time : 3 Hours]**

**[Maximum Marks : 70**

**Note :-** Attempt *five* questions in all. Question No. 1 (Part A) is compulsory containing 10 fill in the blanks of 1 mark each and *five* short answer questions of 4 marks each. Select *one* question each from Part-B, C, D and E.

**Part-A**

**(Compulsory Question)**

1. Fill in the blanks :

- (i) OOPs follow ..... approach in program design.

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- (ii) In OOPs the emphasis is on ..... whereas in POP the emphasis is on .....
- (iii) ..... are the basic run time entities in object oriented system.
- (iv) The process of making an operator to exhibit different behaviours in different instances is known as .....
- (v) In C++, explicit type conversion of variables or expression is permitted by using ..... operator.
- (vi) Bool takes a value ..... or .....
- (vii) The qualifier used to declare constants in C++ is .....
- (viii) Identifiers refers to the names of ..... functions, arrays, classes etc.
- (ix) A class can have both ..... and ..... as members.
- (x) A ..... is a special member function whose task is to initialize the objects of its class.

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1x10=10

- Short Answer Type (Questions (25 to 50 words) :
- (i) What is a class ? Explain.
- (ii) What do you mean by Dynamic binding ?
- (iii) What are keywords in C++ ?
- (iv) What is scope resolution operator ? Explain.
- (v) What does inheritance means in C++ ? 4x5=20

#### Part-B

##### Unit-I

2. Explain how an Object Oriented Programming Language such as C++ differs from procedure oriented programming language such as C ? 10
3. With the help of an example describe the major parts of a C++ program. 10

#### Part-C

##### Unit-II

4. (a) Write a program to print all prime numbers less than 100.
- (b) Write the syntax of the switch statement. 5+5=10
5. (a) What is function prototyping ? Explain.
- (b) What is the main advantage of passing arguments by reference ? Explain. 5+5=10

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## Part-D

### Unit-III

6. (a) What is a Constructor ? Is it compulsory to use constructor in a class ? Explain.

(b) Arrays are called derived data types. Explain.

7. Write a program for addition of two matrices.

3+3+4=10

10

## Part-E

### Unit-IV

8. (a) What is Operator Overloading ? Explain.

(b) What are unary operators ? Explain with the help of examples.

5+5=10

9. What are the different forms of inheritance ? Explain briefly.

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