

(4)

11. What do you mean by inheritance ? Give the types of inheritance supported in C++. Write a program in C++ that showing the use of single inheritance. $2\frac{1}{2}+2\frac{1}{2}+10$
12. Discuss formatted and unformatted I/O operations in stream classes.
13. Write short notes on any two of the following :
- (i) Scope resolution operator
 - (ii) Manipulators
 - (iii) Generic Classes.

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Roll No.

B. C. A.-III Sem.

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B. C. A. Examination, Dec. 2016

Object Oriented Programming Using C++

(BCA-301)

(New Course)

Time : Three Hours]

[Maximum Marks : 75

Note: Attempt questions from all Sections as per instructions.

Section-A

(Very Short Answer Questions)

Answer all the five questions. Each question carries 3 marks. Very short answer is required not exceeding 75 words. $3 \times 5 = 15$

1. Explain the terms :
Class, Exception handling, Call by value.
2. What is the role of friend function in C++ ? Justify your answer with example.

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3. What do you mean by encapsulation and how is it implemented in C++?
4. Differentiate between Object oriented and Object based programming languages.
5. Name any three library functions and any three preprocessor directives in C++.

Section-B

(Short Answer Questions)

Answer any *two* questions out of the following three questions. Each question carries $7\frac{1}{2}$ marks. Short answer is required not exceeding 200 words. $7\frac{1}{2} \times 2 = 15$

6. Describe the different access specifiers in class. Why do we need different access specifiers in class? $5 + 2\frac{1}{2}$
7. (a) Write a program in C++ to calculate and display area A and perimeter P of a rectangle R using classes. Given that for a rectangle R of length l and breadth b, area $A = l \times b$ and perimeter $P = 2 \times (l + b)$. 5
(b) What is static data class? Explain with example. $2\frac{1}{2}$

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8. Explain for loop in C++ give the flow diagram, syntax and one example.

Section-C

(Detailed Answer Questions)

Answer any *three* questions out of the following five questions. Each question carries 6 marks. Answer is required in detail. $15 \times 3 = 45$

9. (a) Describe memory management operators **new** and **delete** in C++.
- (b) Two single dimensional arrays A and B contain the elements as follows:
 $A[9] = 2, 4, 8, 32, 16, \dots, 70, 89, 98$
 $B[6] = 3, 7, 9, 30, 35, \dots$
Write a C++ program that merges A and B and gives a third array C as follows:
 $C[15] = 2, 3, 4, 7, 8, 9, 32, 30, \dots, 35, 60, 24, 70, 89, 98$
10. (a) Explain the use of constructors and destructors in C++ with the help of an example.
- (b) Write a C++ class named calculation that initializes two integers 5 and 25 to variables First_Val and Second_Val and prints the result after addition, subtraction, multiplication and division operations.

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Roll No.

B.C.A. III Sem.

18011

B.C.A. Examination, Dec.-2017

Object Oriented Programming Using C++

BCA-301

(New)

Time : Three Hours]

[Maximum Marks : 75

Note : Attempt **all** questions as per instructions.

Section-A

(Very Short Answer Questions)

Note : Attempt all **five** questions. Each question carries 3 marks. Very short answer is required not exceeding 75 words.

1. Explain the term Class, Object and Abstraction.
2. List the basic difference in C and C++.
3. What is a constructor?
4. Define Overriding.
5. What is Exception handling?

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Section-B

(Short Answer Questions)

Note : Attempt any **two** out of the following 3 questions. Each question carries 7.5 marks. Short answer is required not exceeding 200 words.

6. Write a sample code to show the structure of C++ program code.
7. Explain different types of inheritance with the help of a sample program.
8. Write a program to overload + operator.

Section-C

(Detailed Answer Questions)

Note : Attempt any **three** questions out of the following 5 questions. Each question carries 15 marks. Answer is required in detail.

9. (a) What are different types of header files, data types, operators available in C++.

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- (b) Write a program that does dynamic memory allocation and then free the memory space for any variable.

10. Write a program to show the working of constructors along in inherited classes.
11. (a) Write a program to overload unary addition operator.
(b) Differentiate between operator overloading and operator overriding.
12. Write a program to show the use of friend functions.
13. Write short notes on the following:
 - (i) Parametric Polymorphism
 - (ii) Garbage collection
 - (iii) Exception Handling
 - (iv) Generic Classes

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13. What do you mean by Exception Handling ? Write a program to show how it is achieved in C++.

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BCA- III Sem.

Roll No.

18011

B. C. A. Examination, Dec. 2018

Object Oriented Programming

Using C++

(BCA-301)

Time : Three Hours]

[Maximum Marks : 75

Note : Attempt questions from all Sections as per instructions.

Section-A

(Very Short Answer Questions)

Answer all the *five* questions. Each question carries

3 marks. Very short answer is required. $3 \times 5 = 15$

1. Define the terms Object, Class.

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2. What do you mean by Inheritance ?
3. What is data hiding ?
4. Differentiate between call by value and call by reference.
5. What is aggregation ?

Section-B

(Short Answer Questions)

Answer any *two* questions out of the following three questions. Each question carries $7\frac{1}{2}$ marks. Short answer is required.

$$7\frac{1}{2} \times 2 = 15$$

6. Write a sample code to show the difference between C and C++.
7. Write a code to compute factorial of a number, use of constructors shall be done.

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8. What is polymorphism ? Write a code to show the use of polymorphism.

Section-C

(Detailed Answer Questions)

Answer any *three* questions out of the following five questions. Each question carries 15 marks. Answer is required in detail.

$$15 \times 3 = 45$$

9. Write a program in C++ to compute the average marks of 50 students in the class. Take necessary assumptions.
10. What are constructors ? Write sample code to show the working of constructors with inheritance.
11. What is the difference between Operator Overloading and Operator Overriding ? Write a code to show how overriding is achieved.
12. Write a program to overload unary + and unary - operator.

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BCA-III Sem.

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Roll No.

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B.C.A. Examination, November-2019

OBJECT ORIENTED PROGRAMMING

Using C++

(BCA-301)

Time : Three Hours]

[Maximum Marks : 75

Note : Attempt questions from *all* sections as per instructions.

Section-A

(Very Short Answer Questions)

Note : Attempt all the *five* questions. Each question carries 3 marks. Very short answer is required.

$5 \times 3 = 15$

1. What is destructors ? Give example. 3
2. Give the significance of 'Protected' access specifiers. 3
3. How the ambiguity in multiple inheritance can be resolved ? 3

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4. What are default arguments. 3
5. Explain the term data hiding. 3

Section-B

(Short Answer Questions)

Note: Answer any *two* questions out of the following three questions. Each question carries 7½ marks. Short answer is required not exceeding 200 words.

$$2 \times 7\frac{1}{2} = 15$$

6. What are inline functions ? How are they useful ? 7½
7. Explain : Overloading Vs. Overriding. 7½
8. Explain the concept of abstract classes and virtual base classes with a suitable example. 7½

Section-C

(Detailed Answer Questions)

Note: Attempt any *three* questions out of the following five questions. Each question carries 15 marks. Answer is required in detail. 3×15=45

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9. What do you mean by exception handling ? How exceptions are handling is done in C++. Illustrate with example. 15
10. In what ways object oriented paradigm is better than structured programming paradigm ? Explain the features of oops. 15
11. What do you mean by Polymorphism ? Explain with the help of example how polymorphism is achieved at (i) compile time (ii) run time. 15
12. Explain
- (i) Constructors 5
 - (ii) Inheritance 5
 - (iii) Aggregation 5
13. What is pointer variable ? What are the applications of Pointer variable ? What are its advantages and disadvantages ? What operations can be performed on the pointer variables ? What are basic data and derived data types which can be expressed in pointer variables ? 15

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3. How do you define member function outside the class? Give example. 3
4. What is abstract class. 3
5. Explain the basic data types in C++ with example. 3

Section-B

(Short Answer Questions)

Note : Attempt any **two** questions.

$$2 \times 7\frac{1}{2} = 15$$

6. What do you mean by nesting of classes? Also explain how friend function is important in C++? 7½
7. Explain static data member & Static data member functions with example. 7½
8. Define polymorphism. What are different methods of implementing polymorphism in C++. 7½

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Section-C

(Detailed Answer Questions)

Note : Attempt any **three** questions.

$$3 \times 15 = 45$$

9. (a) Define Inheritance. What are the various types of inheritance? Explain with suitable example. 10
- (b) Give the General form of derived class. 5
10. (a) What is File? Write a program to update the contents using random access. 8
- (b) Explain the concept of reusability with example. 7
11. Define Functions. What are the advantages of using functions? What are the various methods of parameter passing to the functions? Explain. 15

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P.T.O.

12. Write short notes on:

- (i) Operator overloading 5
- (ii) Functions overloading 5
- (iii) Name Spaces 5

13. (a) What are the advantages of using new & delete operators as compared to the malloc () & calloc ()? 7½
- (b) What is constructor? Explain various types of constructor with example. 7½

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BCA-III Sem.

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Roll No.

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B.C.A. Examination, Dec.-2020

Object Oriented Programming

Using C++

(BCA-301)

Time : Three Hours]

[Maximum Marks : 75

Note : Attempt questions from **all** Sections as per instructions.

Section-A

(Very Short Answer Questions)

Note : Answer all the **five** questions. Each question carries 3 marks. Very short answer is required. 5×3=15

Attempt **all** questions.

- 1. Define Encapsulation. 3
- 2. List the features of oops. 3

P.T.O.