

**PGDCA/MSCCS-03/MCA-103/CPCJ**

December - Examination 2019

**MSCCS / PGDCA / CPCJ/MCA I Year****Examination****OOPs Programming with C++ and Java****Paper - PGDCA/MSCCS-03/MCA-103/CPCJ****Time : 3 Hours ]****[ Max. Marks :- 80**

**Note:** The question paper is divided into three sections A, B and C. Write answers as per the given instructions.

**Section - A****8 × 2 = 16**

(Very Short Answer Questions)

**Note:** Answer **all** questions. As per the nature of the question delimit your answer in one word, one sentence or maximum up to 30 words. Each question carries 2 marks.

- 1) (i) In C++, the predefined object count is an instance of which class?
- (ii) Which operator is used to allocate memory dynamically in C++?
- (iii) If the return type of a function in C++ is void, what will it return?

- (iv) If we check the size of an integer variable on different platforms / operating systems, will it return same value in C++?
- (v) What syntax do you use in order to inherit a class from another class in C++?
- (vi) What does `init()` method do in Applets in Java?
- (vii) Write the output of following piece of code in Java for  
`(int i = 0; i < 10; i ++)`  
`{ if (i == 4) }`  
`break;`  
`{ System.out.println(i);`  
`}`
- (viii) What is the purpose of using `finally` statement in Java?

### Section - B

4 × 8 = 32

(Short Answer Questions)

**Note:** Answer **any four** questions. Each answer should not exceed 200 words. Each question carries 8 marks.

- 2) Write a program in C++ to print first 20 odd natural numbers.
- 3) Write a program in Java to evaluate following expression, where  $x$  is an integer, that will be entered by the user-  
 $x^3 + x^2 + 5x - 3$ .
- 4) Write a function in C++ to swap two integers.
- 5) Explain the concept of thread priorities in multithreading in Java.

- 6) Explain the concept of friend functions in C++.
- 7) Explain the concept of encapsulation in Java.
- 8) Describe the concept of array of pointers in C++.
- 9) How Java is a platform independent language?

**Section - C****2 × 16 = 32**

(Long Answer Questions)

**Note:** Answer **any two** questions. You have to delimit your each answer maximum up to 500 words. Each question carries 16 marks.

- 10) (i) Write a program to find the factorial of an integer in C++.  
(ii) Write a program to implement the event handling in Java.
- 11) (i) Explain the concept of templates in C++.  
(ii) Describe the concept of method overriding in Java with suitable example.
- 12) (i) Explain the concept of destructors in C++ with suitable example.  
(ii) Write a program in C++ to overload assignment operator.
- 13) (i) Write the code for an applet in Java to show the message "Hello India" at location (50,75).  
(ii) Explain following keywords in Java in brief -
  - (a) throw
  - (b) Continue
  - (c) extends
  - (d) implements