

10. (i) Write a program in C++ to check the entered year by the user is leap year or not.
- (ii) Write a program in C++ to explain the concept of virtual functions.
11. (i) Describe the different features of an object oriented programming language.
- (ii) Explain the concept of function overloading in C++ using suitable example.
12. (i) Explain the life-cycle of an applet in Java.
- (ii) Explain the concept of Layout Manager in Java with suitable example.
13. (i) Explain the concept of thread synchronization in Java with suitable example.
- (ii) Explain the concept of wrapper classes with suitable example.

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

June – Examination 2020

**MSCCS/PGDCA/CPCJ/MCA
(I Year) Examination**

OOPs Programming with C++ and Java

Paper : PGDCA/MSCCS-03/MCA-103/CPCJ

Time : 3 Hours]

[Maximum 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 Type 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) What is the main benefit of using the concept of multithreading ?

- (ii) Define pointer to an array in C++.
- (iii) Define templates in C++.
- (iv) What do you mean by Abstract Class ?
- (v) How many objects can be created of a class in C++ ?
- (vi) Write the syntax to create a package and import a user-defined package in Java.
- (vii) If you find the no. of bytes taken by a float variable on different platforms, will it show same value in Java ? Write one reason to justify your answer.
- (viii) What is source and listener in Java event handling ?

Section-B **4×8=32**

(Short Answer Type Questions)

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

2. Explain the concept of polymorphism in C++, with a suitable example.

3. Can every operator be overloaded in C++ ? Justify your answer with suitable example.
4. Explain the concept of class template with suitable example.
5. Write a program in C++ to find the sum of squares of first 20 odd numbers.
6. How does Java implement the essence of multiple inheritance using interfaces ?
7. How does multithreading in Java help enhance the efficiency of a system ? Explain with suitable example.
8. Write a Java Program for handling mouse click events.
9. Explain the concept of exception handling in Java using a suitable example.

Section-C **2×16=32**

(Long Answer Type Questions)

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