SHRIMATHI DEVKUNVAR NANALAL BHATT VAISHNAV COLLEGE FOR WOMEN
(AUTONOMOUS)
(Affiliated to the University of Madras and Re-accredited with 'A+' Grade by NAAC)
Chromepet, Chennai — 600 044.
M.Sc.(Appl.Maths) END SEMESTER EXAMINATIONS NOVEMBER - 2023
SEMESTER - I
20PAMCT1003 - Programming In C++

Total Duration : 2 Hrs. 30 Mins. Total Marks : 60

Section B

Answer any **SIX** questions $(6 \times 5 = 30 \text{ Marks})$

1. Interpret the concept of Data Abstraction in Object-Oriented Programming.Provide real-world scenarios to support your explanation.

2. Illustrate the advantages of Object-Oriented Programming (OOP) and elucidate how it contributes to improved software development.

3. Classify the various data types in C++ with their representations and sizes in memory, accompanied by relevant examples.

4. Compute a C++ program to calculate the factorial of a given number and provide the necessary demonstration.

5. Sketch a C++ program to overload unary + and unary - operator.

6. Classify the various types of inheritance in object-oriented programming.

7. Predict how virtual functions facilitate runtime polymorphism and how they differ from regular member functions.

8. Explain various file operations with example.

Section C

I - Answer any **TWO** questions $(2 \times 10 = 20 \text{ Marks})$

9. Classify the benefits of using inline functions in C++ compared to regular functions. Illustrate specific scenarios where inline functions are more.

10. Compute a C++ program that calculates the area of a triangle, circle, and rectangle using function overloading. Utilize multiple functions with the same name but different parameters to compute the area for each shape.

11. Determine the order in which constructors are invoked in various scenarios involving multiple inheritance and class hierarchies.

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12. Explain about Applications of OOPs with example.

<div align="center">II - Compulsory question $(1 \times 10 = 10$ Marks$)$</div>

13. Compute a C++ program which will accept 'n' integers from user write all even integers into "even.dat" file and write all odd integers into "odd.dat" file. Display the contents of both the files

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