

(i) Printed Pages : 4]

Roll No. ....

(ii) Questions : 9]

Sub. Code : 

0	3	6	3
---	---	---	---

Exam. Code : 

0	0	0	4
---	---	---	---

**B.A./B.Sc. (General) 4th Semester  
Examination**

**1047**

**COMPUTER APPLICATIONS**

**Paper : B : Programming in C++**

**Time : 3 Hours]**

**[Max. Marks : 65**

**Note :-** Attempt *five* questions in all, including Q. No. 9 in Section-E, which is compulsory, and taking *one* each from Section-A to Section-D.

**Section-A**

1. (a) Explain the Object Oriented concepts. Highlight the merits of Object-Oriented Programming over Structured Programming.
- (b) Give the structure of a C++ program with a suitable example. Why do we need processor directive `#include <iostream.h>` ?

7, 6

**N-550**

( 1 )

Turn Over

2. Explain the following with C++ program with examples :

(a) Polymorphism

(b) Static member variables and static member functions

7, 6

### Section-B

3. (a) Explain the concept of 'call by value' and 'call by reference' with a C++ example.

(b) Define a class and an object in C++ with examples.

7, 6

4. Explain the following in C++ with examples :

(a) Arrays of objects

(b) Conversion of an object one class into an object of another class.

7, 6

### Section-C

5. Define the concept of inheritance ? Illustrate the C++ program to demonstrate 'public', 'private' and 'protected' members of a class with respect to publicly inherited derived class.

13



6. (a) What are the characteristics of constructors in C++ ? Can we have more than one constructor in a class ? If yes, explain the need for such a situation.
- (b) What is operator overloading ? Explain with examples the circumstances under which operator overloading becomes mandatory. 7, 6

#### Section-D

7. (a) Draw the class hierarchy for handling streams in C++. What are stream extraction and stream insertion operators ?
- (b) What is a binary file ? Name and explain the C++ functions used to read and write data in binary file, with examples. 7, 6
8. Write a C++ program that opens two text files for reading data. It creates a third file that contains the text of first file and then that of second file (text of second file to be appended after text of first file, to produce the third file). 13



## Section-E

### (Compulsory Question)

9. (a) Explain the encapsulation property of an object oriented programming language.
- (b) Explain scope resolution operator (::) with an example.
- (c) Define the 'this' pointer with an example.
- (d) Briefly explain multi-level inheritance.
- (e) Explain the difference between structure and class in C++.
- (f) Write a C++ statement using *seekg()* to go backward by 20 bytes from the end. 2,2,2,2,2,3