

(i) Printed Pages: 3

Roll No. ....

(ii) Questions : 9

Sub. Code : 

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Exam. Code : 

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**B.A./B.Sc. (General) 3<sup>rd</sup> Semester**

**(2122)**

**INFORMATION-TECHNOLOGY**

**Paper—A Computer Programming C++**

**Time Allowed : Three Hours]**

**[Maximum Marks : 65**

**Note :—** Attempt five questions in all taking one each from Unit I to IV. Question No. 9 is compulsory.

**UNIT—I**

1. (a) Differentiate between Object oriented programming and Procedure oriented programming 6
- (b) Discuss about friend function and inline function. 7
2. (a) How to use arrays within a class ? How to declare and use arrays of objects in a program ? 6
- (b) Define and discuss Encapsulation, Abstraction and Polymorphism. 7

**UNIT—II**

3. (a) Give the characteristics and uses of constructors and destructors. 6
- (b) Discuss about Multiple and Multilevel inheritance. 7



4. (a) How to extend a class using the concept of inheritance ? Give example code. 6
- (b) Discuss nesting of classes with the help of example code. 7

### UNIT—III

5. (a) How to use pure virtual functions in a program ? Give example code. 6
- (b) Give applications and demonstration of data abstraction. 7
6. (a) Discuss about virtual functions with the help of example code. 6
- (b) How to use classes with data file ? Give example code. 7

### UNIT—IV

7. (a) How arrays are represented in memory ? Give applications of arrays. 6
- (b) What do you understand by complexity of an algorithm ? Explain with the help of examples. 7
8. (a) What are the operations performed on queue ? Give applications of queue. 6
- (b) How to perform insertion and deletion in Linked List ? Explain with the help of examples. 7



## UNIT—V

9. (a) What are I/O streams ? Give example. 2
- (b) What do you understand by pass by reference in a function ? 2
- (c) What is a default constructor ? 2
- (d) What do you understand by function overloading ? 2
- (e) What do you understand by early binding ? 2
- (f) How is a stack different from a queue ? 2
- (g) How to open a data file in a program ? 1