

2063  
B.E. (Information Technology)  
Second Semester  
ITC-201: Object Oriented Programming Using C++

Time allowed: 3 Hours

Max. Marks: 50

NOTE: Attempt five questions in all, including Question No. 1 (Section-A) which is compulsory and selecting two questions from each Section B-C.

x-x-x

Section A

Q1. Attempt the following:-

- Why do we need virtual functions? Show using an example.
- What are inline functions? Illustrate using an example of code.
- What do you mean overriding of functions in C++?
- Demonstrate the use of constructor using an example of code.
- What are friend functions? Show using an example of code. (5x2)

SECTION B

- Q2 (a) Distinguish between abstraction and encapsulation. How can these be implemented in C++. Illustrate using examples of code. (5)
- (b) Demonstrate various data structures using samples of C++ code. (5)
- Q3 (a) Illustrate the use of array of objects using a suitable code example in C++. (5)
- (b) Demonstrate Pointers to member functions using examples of code. (5)
- Q4 (a) Show Order of Invocation in C++ with the help of a program. (5)
- (b) How does dynamic memory allocation take place? Illustrate using examples of C+ code. (5)

SECTION C

- Q5 (a) Compare multilevel and multiple inheritance using suitable examples of C++ code. (5)
- (b) Illustrate the invocation of Constructors and Destructors in Inheritance using C++ code. (5)
- Q6 (a) How can we assign pointers to derived and base classes? Show using examples of code. (5)
- (b) Demonstrate the use of this Pointer in C++ using suitable example of code. (5)
- Q7 (a) How can Template Functions be overloaded? Show using suitable examples of C++ code. (5)
- (b) Demonstrate the use of File Pointers using examples of C++ code. (5)