2014

B.E. (Information Technology)

Second Semester

ITC-201: Object Oriented Programming Using C++

Time allowed: 3 Hours   Max. Marks: 50

NOTE: *Attempt* <u>*five*</u> *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:-

    a) How does dynamic memory allocation help in C++?

    b) Illustrate use of friend functions using an example of code.

    c) Implement abstract class in C++. How can it be useful?

    d) What do you mean by constant pointers? Show using an example of code.

    e) What are file pointers? Show using an example of code.   (5x2)

SECTION B

Q2 (a) What are the advantages of object-oriented programming over procedural programming? Demonstrate using examples of code.   (5)

    (b) How do dynamic initializations work? Show using code written in C++.   (5)

Q3 (a) Compare different ways of referencing variables in functions using suitable examples.   (5)

    (b) How does memory allocation for classes and object level members happen in C++? Show using suitable examples of code.   (5)

Q4 (a) Compare the purpose of Constructors and Destructors with the help of programs.   (5)

    (b) How does garbage collection take place? Show using examples of code.   (5)

SECTION C

Q5 (a) What is order of invocation of constructors and destructors in inheritance? Show using suitable examples of C++ code.   (5)

    (b) Compare aggregation and composition using C++ code.   (5)

Q6 (a) How are pure virtual functions related to polymorphism? Demonstrate using an example of C++ code.   (5)

    (b) How are different operations performed on a file in C++? Show using suitable example of code.   (5)

Q7 (a) Compare Class templates and Function temples using suitable examples of C++ code.   (5)

    (b) How is Object Oriented Analysis and Design related to Object-Oriented Programming? Discuss using suitable examples.   (5)

x-x-x