Question Paper

MANIPAL ACADEMY OF HIGHER EDUCATION

SCHOOL OF INFORMATION SCIENCES

FIRST SEMESTER MASTER OF ENGINEERING - ME (EMBEDDED SYSTEMS AND INSTRUMENTATION)
Advanced Programming Techniques [ESI 617.2]

Marks: 100   **Duration: 180 mins.**

END SEMESTER DEGREE EXAMINATION NOVEMBER 2018

Answer all the questions.

1)   a) What is object oriented programming? How is it different   (10)
from the procedure-oriented programming?   (5)
b) Write a short note on Inheritance and Polymorphism as applied to OOP   (5)

2)   Explain the terms (with an example in   (10)
C++):   (3+3+4)
         a) Functions with default values   b) Prototyping in functions   c) Inline functions

3)   Explain 'Overloaded Constructors' in C++. Write a small   (10)
program to demonstrate its implementation in C++.
(10)

4)   a) Describe the syntax of the multiple inheritance in C++   (10)
                         (4)
b) In what order the class constructors called when a derived class object is created?   (3)
c) What is a virtual base class in C++?
(3)

5)   Explain virtual functions with an example in C++. Also,   (10)
comment on the compiler behavior with respect to virtual functions.   (10)

6)   a) Explain difference between Java Applets and   (10)
Applications   (4)
b) Discuss the following features of java: (6)
        i) Robust   ii) Architecture-Neutral

7)   a) Write a short note on java's Type Conversion and   (10)
Casting.   (4)
b) Briefly explain different selection statements available in
java.   (6)

8)   Explain call by value and call by reference with an example (10)
(w.r.t java)   (10)

9)   Explain abstract class with an example. Whether abstract   (10)
class can be declared final? Justify the answer (with
reference to Java).   (7 + 3)

10)   a) What do you mean by predefined streams (with   (10)
reference to Java)?   (3)
b) What is Serialization (with reference to Java)? Give one
example for Serialization.   (7)

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