MANIPAL UNIVERSITY

THIRD SEMESTER MSc. INFORMATION SCIENCE
DEGREE EXAMINATION – NOVEMBER 2015

SUBJECT: CIS 651 – ADVANCED PROGRAMMING TECHNIQUES

Wednesday, November 18, 2015

Time: 10:00 – 13:00 Hrs.   Max. Marks: 100

1.   Distinguish between the following terms:

1A. Objects and classes
1B. Data abstraction and data encapsulation
1C. Inheritance and polymorphism
1D. Dynamic binding and message passing

(2½ marks × 4 = 10 marks)

2A. Describe, with examples, the uses of enumeration data types in C++.
2B. Explain with an example the **string** class in C++.

(5+5 = 10 marks)

3.   Explain **this** pointer with an example in C++.

(10 marks)

4.   What is operator overloading? Explain it with an example in C++.

(10 marks)

5A. Discuss file pointers available & also its manipulation member functions.
5B. What is a file mode? Describe the various file mode options available.

(5+5 = 10 marks)

6A. How java achieves platform independent codes?
6B. What do you mean by just in time compilation?

(5+5 = 10 marks)

7.   Explain the various operators used in Java.

(10 marks)

8.   Explain the following with their uses (with reference to Java):

8A. Super
8B. Static
8C. Final and finalize()
8D. Garbage Collection

(2½ marks × 4 = 10 marks)

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

(7+3 = 10 marks)

10A. What do you mean by predefined streams (with reference to Java)?
10B. What is Serialization (with reference to Java)? Give one example for Serialization.

(3+7 = 10 marks)