

B.TECH. DEGREE EXAMINATION, NOVEMBER 2009**Fourth Semester**

Branch : Computer Science and Engineering

OBJECT-ORIENTED PROGRAMMING (R)

(Supplementary—Prior to 2007 admissions only)

Time : Three Hours

Maximum : 100 Marks

Part A

*Answer all questions briefly.
Each question carries 4 marks.*

1. What is a destructor ? When are class destructors called ?
2. State the differences between constructor and destructor.
3. When will you make a function inline ? Why ?
4. When will you use multiple inheritance ? Give an example.
5. What is compile time polymorphism ? Give one application.
6. What is meant by overloading functions ? Does it contribute to polymorphism ? If so, in what way ?
7. What is a virtual base class ? Explain.
8. Explain the use of templates ?
9. What are the advantages of using Java over C++ ?
10. Describe any four features of Java.

(10 × 4 = 40 marks)

Part B

*Answer either (a) or (b) section from each module.
Each question carries 12 marks.*

Module 1

11. (a) Explain the various benefits and applications of OOP, with suitable examples.

Or

- (b) (i) Describe the use of scope resolution operator in classes. (6 marks)
(ii) Explain parameterized constructors with an example. (6 marks)

Module 2

12. (a) With appropriate examples, explain various types of inheritance.

Or

Turn over

- (b) What are friend functions and friend classes ? Write a normal function to add objects of the complex number class. Declare this normal function as a friend of "complex" class.

Module 3

13. (a) What are abstract classes ? Give an example. Describe the applications of abstract class.

Or

- (b) Define a class fraction, that represents a fractional number, with the data members-numerator and denominator. Define member functions to add and multiply two fractional numbers, whose results must also be in fractional form.

Module 4

14. (a) Describe the concept of templates with an example. Explain template class specialisation.

Or

- (b) With the help of examples, describe how class templates and function templates are used.

Module 5

15. (a) Explain the principle and advantages of dynamic object allocation.

Or

- (b) Explain the need of multi-threads in Java. How do we set priorities for threads ? Explain the differences between suspending and stopping a thread.

[5 × 12 = 60 marks]