

**6E3204**Roll No. : \_\_\_\_\_ Total Printed Pages : **2****6E3204****B.Tech. (Sem.VI) (Main) Examination, May/June-2011  
Computer Engineering  
6CS4 Programming in JAVA**

[Time : 3 Hours]

[Total Marks : 80]

[Min. Passing Marks : 24]

*Attempt any five questions, selecting one question from each unit. All questions carry equal marks. (Schematic diagrams must be shown wherever necessary.) Any data you feel missing may suitably be assumed and stated clearly. Units of quantities used/calculated must be stated clearly.*

**UNIT-I**

1. (a) Explain java virtual machine. What is the significance of java byte code in java programming language? (6)
- (b) Explain Type conversion and Type casting in Java with an example. (4)
- (c) Explain the following operators with an example :
  - (i) Bitwise operators
  - (ii) Relational operators and Boolean logic operators. (6)

**OR**

1. (a) How can you implement an array in Java, whose size may change during execution of a program? (4)
- (b) Explain briefly the following object oriented concepts :
  - (i) Abstraction and Encapsulation
  - (ii) Methods and messages
  - (iii) Inheritance
  - (iv) Polymorphism (12)

**UNIT - II**

2. (a) Write object oriented program in java which covers following concept:
  - (i) Using break (ii) Using continue (iii) Return (6)
- (b) What is method overloading? What are the important points which should be taken care of while overloading methods?(6)
- (c) Write a java program to explain the "Using final with inheritance". (4)

OR

2. (a) Write object oriented program in java to exemplify different types of visibility modifiers namely :  
(i) Public (ii) Protected  
(iii) Private (iv) Private Protected  
(v) friendly (default). (10)
- (b) Explain about explicitly invoking garbage collector and finalize () method, with an example. (6)

UNIT – III

3. (a) What is an interface? Describe the purpose and applications of Interface. (6)
- (b) How do you add a class or an interace to a package? Explain with an example. (4)
- (c) What is string buffer? Give the three ways of creating a string object. (6)

OR

3. (a) Explain with the help of a java program how an interface can be used to support multiple inheritance. (8)
- (b) Describe the various levels of access protection available in packages and their implications with an example program.(8)

UNIT – IV

4. (a) What is main difference between Readers/Writers and Input/Output streams? Give a few sub classes of Reader and Writer class. (6)
- (b) Write a detail note on byte streams and character streams in Java. (10)

OR

4. Write detail note on exception handling in terms of following :  
(i) Try-catch (ii) The finally keyword  
(iii) Catching multiple exceptions  
(iv) The throws keyword and Throwing exception. (16)

UNIT – V

5. (a) Explain the structure of applet, with the help of example.(8)
- (b) Describe complete life cycle of thread. How thread is different from process? (8)

OR

5. (a) Describe the concept of applet. What are various types of applets? Explain the procedure of creating threads. (10)
- (b) Briefly explain :  
(i) Thread Synchronization (ii) Thread Execution (6)