

Reg. No. :

**Question Paper Code : Z 8433**

B.Sc. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2009.

Fourth Semester

Computer Technology

BCS 243 — INTERNET PROGRAMMING

(Common to B.Sc. Information Technology)

(Regulation 2003)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Define data abstraction and encapsulation.
2. Define casting.
3. When do we declare the member of a class as static in Java?
4. Give the need for vector class in Java.
5. What is the major difference between an interface and a class in Java?
6. Define the term package in java.
7. Represent the hierarchy of the InputStream classes in Java.
8. List some of the most common type of exceptions that might occur in Java.
9. Represent the chain of classes inherited by the Applet class in Java.
10. What is CODEBASE?

PART B — (5 × 16 = 80 marks)

11. (a) Write a Java program to evaluate the following investment equation

$$V = P(1+r)^n$$

and print the tables which would give the value of V for various combinations of the following values of P, r and n.

$$P = 1000, 2000, 3000$$

$$r = 0.15, 0.20$$

$$n = 3, 6$$

(Hint: P is the principal amount and V is the value of money at the end of n years. This equation can be recursively written as

$$V = P(1 + r)$$

$$P = V$$

That is, the value of money at the end of first year becomes the principal amount for the next year and so on). (16)

Or

- (b) (i) List out the benefits and advantages of Java to the Internet and the Programming world. (8)
- (ii) Represent and write about the following type of operators in Java: Relational, logical, instanceof (8)
12. (a) (i) Write a Java program to do the following:  
Store the names of 10 students in an array. Sort the names in alphabetical order and display them in the screen. (8)
- (ii) Write a java program to illustrate the use of some most commonly used wrapper class methods. (8)

Or

- (b) (i) Explain the following in Java:  
final variables, final methods, final classes, abstract methods and classes. (8)
- (ii) Describe method overloading in Java with a suitable Program. (8)
13. (a) Describe the procedure to create a package, access the package and adding an additional class to the package. Write the necessary syntax everywhere with example programs. (16)

Or

- (b) (i) Describe constructors and subclass constructors. (8)
- (ii) Draw a block diagram and explain about multilevel inheritance and hierarchical inheritance. (8)

14. (a) (i) Explain the two procedures to implement multithreading in Java. Write the necessary syntax. (8)
- (ii) Write a Java program to append the following text to an existing file test 1 .txt already having some other text:  
"Time and Tide will not wait for anybody". (8)

Or

- (b) (i) List out the various operations supported by the File class and its methods. (8)
- (ii) Explain how exception handling mechanism can be used for debugging a program in Java. (8)
15. (a) Describe how to design a web page that is embedded with an applet code? Develop an interesting applet of your choice and write the necessary steps to get the applet executed using two different tools. (16)

Or

- (b) (i) Discuss the security aspects available in programming with applets. (6)
- (ii) Write a java applet to display the numeric values using a method of the String class. Explain each and every piece of code used for writing the applet. (About the classes, the packages their hierarchy, methods, keywords etc). (10)