

## B.Tech. 5th Semester Exam., 2013

INTRODUCTION TO JAVA  
PROGRAMMING LANGUAGE

Time : 3 hours

Full Marks : 70

## Instructions :

- (i) All questions carry equal marks.
- (ii) There are **NINE** questions in this paper.
- (iii) Attempt **FIVE** questions in all.
- (iv) Question No. 1 is compulsory.

## 1. Answer any seven questions :

- (a) Which of the following functions is performed by a constructor?
- (i) Construct a new class
  - (ii) Construct a new object
  - (iii) Construct a new function
  - (iv) Initialize objects
- (b) Which of the following factors supports the statement that reusability is a desirable feature of a language?
- (i) It decreases the testing time
  - (ii) It lowers the maintenance cost
  - (iii) It reduces the compilation time
  - (iv) Both (i) and (ii)

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- (c) Which will legally declare, construct and initialize an array?

- (i) `int [] myList = {"1", "2", "3"};`
- (ii) `int [] myList = {5, 8, 2};`
- (iii) `int myList [] [] = {4, 9, 7, 0};`
- (iv) `int myList [] = {4, 3, 7};`

- (d) What is the numerical range of a char?

- (i) ~~128 to 127~~
- (ii)  $-(2^{15})$  to  $(2^{15})-1$
- (iii) 0 to 32767
- (iv) 0 to 65535

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- (e) `Public class test {}`

What is the prototype of the default constructor?

- (i) ~~Test()~~
- (ii) `Test(void)`
- (iii) `public Test()`
- (iv) `public Test(void)`

- (f) Which of the following provides a reuse mechanism?

- (i) Abstraction
- (ii) Inheritance
- (iii) Dynamic binding
- (iv) Encapsulation

- (g) Which is not a valid comment style in Java?
- (i) /\* comment \*/
  - ~~(ii) /\* comment~~
  - (iii) /\*\* comment \*/
  - (iv) //comment
- (h) What is the correct signature of the main method?
- ~~(i) public static void main (String[] args)~~
  - (ii) static public void main (String[] args)
  - (iii) public void main (String[] args)
  - (iv) Both (i) and (ii)
- (i) Which of the following statements is correct?
- (i) Class is an instance of object
  - (ii) Object is an instance of class
  - ~~(iii) Class is an instance of data type~~
  - (iv) Object is an instance of data type
- (j) Which keyword is used to inherit class?
- (i) Inherit
  - ~~(ii) Extends~~
  - (iii) Inheritance
  - (iv) Extend

- ~~2~~ 1(a) Explain the main features of object-oriented programming language.
- (b) List the eight basic data types used in Java. Give examples.
3. (a) Discuss the Java error handling mechanism. What is the difference between runtime (unchecked) exceptions and checked exceptions? What is the implication of catching all the exceptions with the type 'Exception'?
- (b) Explain abstract class with a program. What is the Java virtual machine?
4. (a) What is an applet?
- (b) Write a Java program for applet to reverse a user inputted string.
5. (a) What is the main difference between pass-by-reference and pass-by-value?
- (b) What are access modifiers? Explain each of the access modifiers in Java.
6. (a) What is AWT? What are the different AWT components in Java?
- (b) Write a program in Java to create and close a frame.

7. (a) What is the major difference between an interface and a class?
- (b) Write a program to multiply two matrices  $A$  and  $B$ . (Assume  $A$  and  $B$  are two-dimensional matrices.)
8. (a) Explain interface in a package.
- (b) Create an applet which contains a Jpopup-Menu with the following items :
- New, Open, Cut, Copy, Paste
- Display an appropriate message while clicking the respective menu items and print the output to the console.
9. (a) Explain deadlock in threads with the help of a program.
- (b) Write a program in Java to multiply two 2-dimensional matrices inputted from user.

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