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CS-504D

OBJECT ORIENTED PROGRAMMING

Time Allotted: 3 Hours   Full Marks: 70

The questions are of equal value.
The figures in the margin indicate full marks.
Candidates are required to give their answers in their own words as far as practicable.
All symbols are of usual significance.

GROUP A
(Multiple Choice Type Questions)

1. Answer any *ten* questions.   10×1 = 10

   (i) JVM is

   (A) platform dependent
   (B) platform independent
   (C) depends on machine architecture only
   (D) depends on operating system only

   (ii) Out of the following which one is not correctly matched?

   (A) Int – 24 bits   (B) Short – 16 bits
   (C) Double – 64 bits   (D) Byte – 8 bits

   (iii) In System.out.println, out is

   (A) a class   (B) output stream object
   (C) method   (D) none of these

   (iv) Constructor can be overloaded

   (A) never   (B) always
   (C) partially   (D) either (B) or (C)

   (v) Scanner class resides in

   (A) java.applet   (B) java.io
   (C) java.util   (D) java.net

   (vi) Which one of the following statements is wrong?

   (A) A base class reference can refer to an object of a derived class
   (B) The dynamic method dispatch is not carried out at the run time
   (C) The super( ) construct refers to the base class constructor
   (D) The super.base-class-method-name( ) format can be used only within a derived class

   (vii) What is the correct ordering for the import, class and package declarations where found in a single file?

   (A) package, import, class   (B) class, import, package
   (C) import, package, class   (D) package, class, import

   (viii) Stack overruns

   (A) error   (B) exception   (C) virus   (D) worm

   (ix) What is the output of this code fragment?
       1. int x = 3 int y = 10;
       2. System.out.println (y % x);

   (A) 0   (B) 1   (C) 2   (D) 3

   (x) Which of the following statements is not correct?

   (A) The 'try' block should be followed by a 'catch' block
   (B) The 'try' block should be followed by a 'finally' block
   (C) The 'try' block should be followed by either a 'catch' block or a 'finally' block
   (D) The 'try' block should be followed by at least two 'catch' blocks

(xi) The wait( ) and notify( ) methods are used to perform

  (A) interthread communication   (B) synchronisation

  (C) deadlock   (D) all of these

(xii) Which one of the following is wrong?

  (A) 'Runnable' is a predefined interface

  (B) The sleep( ) method instructs a thread to terminate its execution

  (C) The isAlive( ) method tells whether a thread has not yet died

  (D) MAX_PRIORITY represents the level 10

GROUP B
(Short Answer Type Questions)

Answer any *three* questions.   3×5 = 15

2. What is parametric and non-parametric constructor? Explain with suitable example.   1+1+3

3. How does string class differ from string buffer class? Explain with example.   3+2

4. What is the difference between 'error and exception'? What are the benefits of organizing classes into packages?   2.5+2.5

5. Discuss the Applet life-cycle indicating the functions.   5

6. What is difference between final, finally and finalize in java? What do you mean by Garbage Collection in java?   3+2

GROUP C
(Long Answer Type Questions)

Answer any *three* questions.   3×15 = 45

7. (a) What do you mean by parameter passing?   3

(b) What is the difference between call by value or pass by value and call by reference or pass by reference? Explain.   3+6

(c) What is 'this' keyword? Give suitable example.   3

8. (a) What are the differences between Method Overloading and Method Overriding?   4

(b) Explain Dynamic Method Dispatch with suitable example.   4

(c) Write a program to access static variable and static method to explain 'static' keyword properly.   7

9. (a) What are mutable strings?   2

(b) How many types of Inheritance in java?   2

(c) How can you create your own package and add classes in that? Explain with the help of an example.   2+3

(d) Explain with the help of an example, how java gets benefited by using Interface?   6

10.(a) What is multithreading? What is the difference between creation of user thread by extending thread class and implementing Runnable interface? Which one is better? Example.   2+6

(b) What is thread synchronization? Why is it needed?   3

(c) Describe the differences between an Applet and Application.   2

(d) List various attributes of Applet tag used in HTML.   2

11. Write short notes on any *three* of the following: 3×5

(a) Wrapper Class

(b) Link and Association

(c) Thread Life-Cycle

(d) Command Line Argument

(e) Co-Varient Return.