

Name :

Roll No. :

Invigilator's Signature :

CS/B.TECH (CSE) (N)/SEM-5/CS-504D/2012-13
2012

OBJECT ORIENTED PROGRAMMING

Time Allotted : 3 Hours

Full Marks : 70

The figures in the margin indicate full marks


*Candidates are required to give their answers in their own words
as far as practicable.*

GROUP – A

(Multiple Choice Type Questions)

1. Choose the correct alternatives for any *ten* of the following :

10 × 1 = 10

- i) 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.

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ii) A sub-class having more than one super class is called

- a) category b) classification
c) combination d) partial participation.

iii) 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.

iv) What is the correct ordering for the import, class and package declarations when found in a single file ?

- a) Package, import, class
b) Class, import, package
c) Import, package, class
d) Package, class, import.

v) Which one of the following statements is not correct ?

- a) An interface can inherit another interface.
b) The package name and subdirectory name need not be identical. All are correct.
c) Only the classes declared as public in a package are accessible outside that package.
d) The import java.awt.* ; directive will not import classes in java.awt.event package.

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vi) What results from the following fragment of code ?

```
1. int x = 1 ;  
2. String [ ] names = { "Fred", "Jim", "Sheila" } ;  
3. names[ -- x ] += ". " ;  
4. for ( int i = 0 ; i < names. length ; i ++ ) {  
5. system.out.println (names[ i ] ) ;  
6. }
```

- a) The output includes Fred. with a trailing period.
- b) The output includes Jim. with a trailing period.
- c) The output includes Sheila. with a trailing period.
- d) None of the outputs shows a trailing period.
- e) An `ArrayIndexOutOfBoundsException` is thrown.

vii) 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.

viii) Which of the following statements is 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.

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- ix) The wait() and notify() methods are used to perform
- ☒ a) Interthread communication
 - b) Synchronisation
 - c) Deadlock
 - d) all of these.
- x) If a data-item is declared as a protected access specifier then it can be accessed
- a) anywhere in the program
 - ☒ b) by the base and derived classes
 - c) only by base classes
 - d) only by derived classes.
- xi) Which one of the following is wrong ?
- a) 'Runnable' s a predefined interface.
 - ☒ b) The leep() 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.
- xii) What type of following stream is used to read binary data ?
- ☒ a) InputStream
 - b) InputStreamReader
 - c) DataInputStream
 - d) None of these.

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GROUP – B**(Short Answer Type Questions)**Answer any *three* of the following. $3 \times 5 = 15$

2. Write down a program to implement Command Line arguments.
3. What are the main characteristics of OOP Language ? Explain each.
4. How does string class differ from String buffer class ?
5. What are Implicit and Explicit Casting ? Explain with the help of example. $2 + 3$
6. What is the difference between 'error' and 'exception' ? What are the benefits of organizing classes into packages ?

$$2\frac{1}{2} + 2\frac{1}{2}$$

GROUP – C**(Long Answer Type Questions)**Answer any *three* of the following. $3 \times 15 = 45$

7. a) What is mutable strings ?
- b) What are the benefits of organising classes into package ?
- c) How can you create your own package and add classes in that ? Explain with the help of an example.
- d) Explain with the help of an example, how java gets benefited by using Interface ? $2 + 2 + (2 + 3) + 6$

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

- a) Wrapper Class
- b) Meta class
- c) String Tokenizer Class
- d) getCodeBase() methods.

9. a) Explain the life cycle of an Applet.
- b) List various attributes of Applet tag used in HTML. Explain the purpose of these attributes
- c) Write a Java program that uses the draw Polygon() method of Graphics class to draw a triangle with endpoints (25, 30) ; (75, 80) and (50, 50).

$$3 + (3 + 3) + 6$$

10. a) Why does Java have two ways to create child threads (by extending Thread or implementing Runnable) and which approach is better ?
- b) Define an exception called "NotEqualException" that is thrown when a float value is not equals to 3.14 write a program that uses that user defined exception.
- c) Write a Multithreading program to generate the square roots to the first 30 natural numbers using Runnable interface.
- d) What do you mean by 'Synchronization' ? Why do we need it ?

$$2 + 5 + 5 + 3$$

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11. a) How applet is different from frame and panel ? Explain.
- b) How threads are made to communicate with each other ? Explain with example.
- c) Explain any three events with suitable example.

5 + 5 + 5

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