

CS/B.TECH/CSE/ODD SEM/SEM-5/CS-504D/2016-17



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Paper Code : CS-504D

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 the following :

10 × 1 = 10

i) Which of the following cannot be used for a variable
name in Java ?

- a) Identifier
- ☒ b) Keyword
- c) Identifier & keyword
- d) None of these.

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[Turn over

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ii) Which one of the following is a valid declaration of
an Applet ?

- ☒ a) Public class MyApplet extends
java.applet.Applet {
- b) Public Applet MyApplet {
- c) Public class MyApplet extends applet
implements Runnable {
- d) Abstract class MyApplet extends
java.applet.Applet {
- e) Class MyApplet implements Applet {

iii) What is the range of the char type ?

- a) 0 to 2¹⁶
- b) 0 to 2¹⁵
- ☒ c) 0 to 2¹⁶ - 1
- d) 0 to 2¹⁵ - 1.

iv) What is the output of this program ?

```
class area {  
    public static void main(String  
args[])  
{  
    double r, pi, a;  
    r = 9.8;  
    pi = 3.14;  
    a = pi * r * r;  
    System.out.println(a);  
}  
}
```

- ☒ a) 301.5656
- b) 301
- c) 301.56
- d) 301.56560000.

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v) What is an example of polymorphism ? *Prefer ticking over-riding, though both options are correct.*

- a) Inner class b) Anonymous classes
 c) Method overloading d) Method overriding.

vi) Exception is defined in which package ?

- a) java.util b) java.lang
 c) java.awt d) java.io

vii) The relation between classes can be represented by

- a) polymorphism b) method
 c) message d) inheritance.

viii) The import statement is always

- a) the first non-comment statement in a java program file *package test; can also be the first non-comment statement. But out of a,b,c ; a seems best choice.*
 b) the default non-comment statement in java program file *import is not a default statement*
 c) a non-comment statement and can be defined anywhere in the program *writing import after main results in error*
 d) none of these.

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ix) Method overloading occurs only when

- a) the names and the type signature of two methods are not identical
 b) the names and the type signature of two methods are identical *we can never have 2 different methods with same signature in same class.*
 c) the names and the return types of two methods are identical
 d) only the names are identical.

x) Which of the following values can a Boolean variable contain ? *true & false should be correct, but we go with best option.*

- a) True & False b) 0 & 1
 c) Any integer value d) True.

GROUP - B

(Short Answer Type Questions)

Answer any *three* of the following. 3 × 5 = 15

- What is byte code ? What does the JVM do ? Why is Java called compiled-interpreted language ? 2 + 3
- Discuss Applet life-cycle indicating the functions.

4. a) What is command line argument ?
b) Compare string and stringBuffer class.
5. What is the base class of Error and Exception ?
Differentiate between throw and throws. 1 + 4

GROUP - C

(Long Answer Type Questions)

Answer any *three* of the following. 3 × 15 = 45

6. a) What is mutable strings ?
b) What are the benefits of organizing 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
7. Write short notes on any *three* of the following : 3 × 5
- a) Wrapper class
b) Meta class
c) Abstraction
d) Polymorphism.

8. a) Write a program running a main thread and a child thread simultaneously.
b) List various attributes of Applet tag used in HTML.
c) Write a Java program that uses the draw polygon () method of Graphics class to draw a triangle with End points (25, 30), (75, 80) and (50, 50).
6 + 3 + 6
9. 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 equal 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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10. a) How is applet different from frame and page ?
- b) How are threads made to communicate with each other ? Explain with example.
- c) Explain any three events with suitable example.

5 + 5 + 5

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