

GURU NANAK INSTITUTE OF TECHNOLOGY
An Autonomous Institute under MAKAUT
2020-2021
OBJECT ORIENTED PROGRAMMING USING JAVA
CS504A

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

Answer any *ten* from the following, choosing the correct alternative of each question: **10×1=10**

		Marks	CO No
1.	(i) The wait() and notify() method are defined in: a) Java.lang.string b) Java.lang.object c) Java.lang.thread d) Java.lang.runnable	1	CO1
	(ii) JVM is a) platform dependent b) platform independent c) depends on machine architecture only d) depends on operating system only	1	CO2
	(iii) What is byte code in the context of Java? a) The type of code generated by a Java compiler b) The type of code generated by a Java Virtual Machine c) It is another name for a Java source file d) It is the code written within the instance methods of a class.	1	CO2
	(iv) Which statement is true about a static nested class? a) You must have a reference to an instance of the enclosing class in order to instantiate it. b) It does not have direct access to non-static members of the enclosing class. c) Its variables and methods must be static. d) It must extend the enclosing class	1	CO1
	(v) What restriction is there on using the super reference in a constructor? a) It can only be used in the parent's constructor. b) Only one child class can use it. c) It must be used in the last statement of the constructor d) It must be used in the first statement of the constructor	1	CO3
	(vi) Scanner class resides in a) java.applet b) java.util c) java.io d) java.net	1	CO3

B. TECH/CSE/ODD/SEM-V/CS504A/R18/2020-2021

- | | | | |
|--------|--|---|-----|
| (vii) | A package is a collection of
a) Classes
b) Interfaces
c) Editing tools
d) Both (a) and (b) | 1 | CO1 |
| (viii) | 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 | 1 | CO4 |
| (ix) | 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 | 1 | CO5 |
| (x) | Which of the keyword can be used in subclass to call the constructor of super class?
a) Super
b) this
c) extent
d) extends | 1 | CO4 |
| (xi) | Exception is defined in which package?
a) Java.util
b) Java.awt
c) Java.io
d) Java.lang | 1 | CO1 |
| (xii) | When Exceptions in Java does arise in code sequence?
a) Run Time
b) Compilation Time
c) Can Occur Any Time
d) None of the mentioned | 1 | CO5 |

GROUP – B

(Short Answer Type Questions)

(Answer any *three* of the following) 3 x 5 = 15

- | | | Marks | CO No |
|----|--|--------------|--------------|
| 2. | (a) Why do we use “static” and “public” keywords in the following statement –“public static void main(String args[])” ? | 3 | CO2 |
| | (b) Describe the usage of Command line argument in a Java program. | 2 | CO2 |
| 3 | (a) Write a java program for taking input of an integer number from command line and calculate the factorial for the number. | 4 | CO3 |

B. TECH/CSE/ODD/SEM-V/CS504A/R18/2020-2021

	(b)	What is hierarchical inheritance?	1	CO4
4		Write down the function of charAt() and insert() method with suitable examples.	5	CO3
5		Explain the purpose of this keyword with example code.	5	CO2
6	(a)	Write a comparative study among final, finally and finalize.	3	CO5
	(b)	Explain the multithreading concept in java.	2	CO1

GROUP – C

Long Answer Type Questions

(Answer any *three* of the following) 3 x 15 = 45

			Marks	CO No
7.	(a)	What do you mean by the term Polymorphism? Explain with a suitable example.	2	CO2
	(b)	Describe Static polymorphism or Method Overloading technique with the help of a simple Java program.	7	CO2
	(c)	What is the difference between Method overloading and Constructor overloading in Java?	3	CO2
	(d)	Differentiate “early binding” and “late binding w.r.t. polymorphism technique in java.	3	CO4
8.	(a)	Explain the term “inheritance” with a suitable example in java.	2	CO4
	(b)	Describe different type of inheritance in Java with the help of suitable diagrams.	4	CO4
	(c)	Explain Dynamic Method Dispatch with a suitable Java program.	6	CO4
	(d)	Why Java does not support multiple inheritance? Justify your answer.	3	CO4
9	(a)	Write an applet program to print “Hello Applet” inside a colour filled rectangle.	4	CO5
	(b)	Write down the characteristics of abstract class.	3	CO4
	(c)	What is “Deadly Diamond of Death” problem?	2	CO4
	(d)	Describe garbage collection in java.	2	CO1
	(e)	Explain how method overriding can be stopped with example code.	4	CO4
10	(a)	What is exception? How to handle exception in java?	5	CO5
	(b)	Write a simple program of using multiple catch blocks (including base & subclass exception).	5	CO5
	(c)	Explain the difference between method overloading & method overriding (provide code snippet also).	5	CO4
11.	(a)	What is package? Discuss the benefits of package.	5	CO2
	(b)	Explain applet lifecycle.	5	CO2
	(c)	What do you mean by synchronization between threads? How we implement synchronization between two threads? Explain with example code.	5	CO2