

B.TECH./CSE/ODD/SEM – 5TH/CS504A / R18/2022-2023
REGULAR
YEAR: 2023

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**

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

SL. NO.	Question	Marks	CO No.
(i)	Which of these can be overloaded? a) Methods b) Constructors c) Both a & b d) None of the mentioned	01	CS504A.4
(ii)	Which of the access specifier can be used for an interface? a) Public b) Protected c) private d) All of the mentioned	01	CS504A.2
(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.	01	CS504A.2
(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) It's variables and methods must be static. d) It must extend the enclosing class	01	CS504A.1
(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	01	CS504A.3
(vi)	Inner classes are a) anonymous classes b) nested classes c) sub classes d) derived classes	01	CS504A.3
(vii)	Out of the following which one is not correctly	01	CS504A.1

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matched?

- a) Int – 24 bits b) Short – 16 bit
c) Double – 64 bits d) Byte – 8 bits

(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	01	CS504A.4
(ix)	What is the return type of Constructors? a) int b) float c) void d) none of the mentioned	01	CS504A.1
(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	01	CS504A.4
(xi)	Which of these packages contains abstract keyword? a) java.lang b) java.util c) java.io d) java.system	01	CS504A.4
(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	01	CS504A.5

GROUP – B
(Short Answer Type Questions)

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

SL. NO.	Question	Marks	
2.	(i) Explain the main characteristics of OOP language.	3	CS504A.2
	(ii) Define java literals with example.	2	CS504A.1
3	(i) Write a java program for taking input of an integer number from command line and calculate the factorial for the number.	4	CS504A.3
	(ii) What is hierarchical inheritance?	1	CS504A.4

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4	Write down the function of charAt() and insert() method with suitable examples.	5	CS504A.3
5	Explain the role of JVM.	5	CS504A.1
6	(i) Write a comparative study among final, finally and finalize.	3	CS504A.5
	(ii) Write the functionalities of Synchronized.	2	CS504A.1

GROUP – C
Long Answer Type Questions

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

SL. NO.	Question	Marks	CO No.
7.	(i) Write a java program of multiple inheritance using both extends and implements keyword in a single class	6	CS504A.4
	(ii) What is the role of constructor in inheritance with example?	3	CS504A.2
	(iii) How super() work in this regard?	3	CS504A.4
	(iv) Write a comparative study between method & constructor.	3	CS504A.1
8.	(i) Explain different types of variables.	4	CS504A.1
	(ii) Write programs to create your own package & access it with explanation.	5	CS504A.4
	(iii) “One interface can extends multiple interfaces”- justify whether the statement is true or false.	3	CS504A.4
	(iv) Explain different types of access specifier in java.	3	CS504A.2
9	(i) Write an applet program to print “Hello Applet” inside a colour filled rectangle.	4	CS504A.5
	(ii) Write down the characteristics of abstract class.	3	CS504A.4
	(iii) What is “Deadly Diamond of Death” problem?	2	CS504A.4
	(iv) Describe garbage collection in java.	2	CS504A.1
	(v) Explain how method overriding can be stopped with example code.	4	CS504A.4
10	(i) Explain the different keywords used in exception handling.	5	CS504A.5
	(ii) Write a simple program of using multiple catch blocks (including base & subclass exception).	5	CS504A.5
	(iii) Explain the difference between method overloading & method overriding (provide code snippet also).	5	CS504A.4
11.	(i) What is thread?	2	CS504A.5

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(ii)	Write a code to explain the functionality of thread using Runnable interface.	4	CS504A.5
(iii)	Why java is called platform independent language.	3	CS504A.1
(iv)	What are the basic characteristics of Applet programming?	3	CS504A.5
(v)	Write down Applet life cycle with diagram.	3	CS504A.5