Q. Code:912962

Reg. No. | | | | | | | | | | | | | |

B.E. / B.TECH. DEGREE EXAMINATIONS, MAY 2024

Third -Semester

CS18304 – ADVANCED OBJECT ORIENTED PROGRAMMING

(Computer Science and Engineering)

(Regulation 2018/2018A)

TIME: 3 HOURS **MAX. MARKS: 100**

COURSE OUTCOMES	STATEMENT	RBT LEVEL
CO 1	Students will be able to establish Java programs using OOP principles	**3**
CO 2	Students will be able to discriminate Java programs with the concepts classes and inheritance	**4**
CO 3	Students will be able to manipulate Java applications using interfaces, strings and exceptions	**4**
CO 4	Students will be able to examine Java applications with IO streams and threads.	**3**
CO 5	Students will be able to demonstrate interactive Java programs using Applets.	**3**

PART- A (10 x 2 = 20 Marks)

(Answer all Questions)

		CO	RBT LEVEL
1.	Compare and contrast object based and object oriented programming languages.	**1**	**2**
2.	Outline the features of java.	**1**	**2**
3.	Distinguish between Shallow copy and Deep copy.	**2**	**4**
4.	List some of the methods available in Arrays class.	**2**	**4**
5.	Discover the conditions for exception handling in Java.	**3**	**4**
6.	List the differences between String and String Buffer Class.	**3**	**4**
7.	Describe the benefits of binary search over linear search.	**4**	**2**
8.	Oultine the states of a thread in java.	**4**	**2**
9.	Demonstrate with an example to achieve special fonts for your text in an applet.	**5**	**2**
10.	Classify the pacakages in java.	**5**	**2**

PART- B (5 x 14 = 70 Marks)

			Marks	CO	RBT LEVEL
11. (a)	**(i)**	Develop a java program to implement a linear search procedure to find whether the given element is present in the array or not.	**(7)**	**1**	**3**

	(ii)	Develop a Java program using recursion to calculate the sum of all numbers from 1 to n.	**(7)**	**1**	**3**
		(OR)			
	(b)	Identify the principles of java and illustrate with examples.	**(14)**	**1**	**3**
12. (a)		Develop a java program to implement the following: (i) Default Constructor (ii) Parameterized Constructor (iii) Copy Constructor (iv) Overloaded constructors	**(14)**	**2**	**3**
		(OR)			
	(b)	**(i)** Develop a Java program to create a class called Employee with methods called work() and getSalary(). Create a subclass called HRManager that overrides the work() method and adds a new method called addEmployee().	**(7)**	**2**	**3**
		(ii) Develop a Java program to create an abstract class Shape with abstract methods calculateArea() and calculatePerimeter(). Create subclasses Circle and Triangle that extend the Shape class and implement the respective methods to calculate the area and perimeter of each shape.	**(7)**	**2**	**3**
13. (a)		There are three statements in a try block–statement 1, statement 2 and Statement 3. After that there is a catch block to catch the exceptions occurred in the try block. Assume that exception has occurred in statement2. Does statement3 get executed or not? Explain by developing suitable java code.	**(14)**	**3**	**3**
		(OR)			
	(b)	**(i)** Develop a Java program to compare two strings lexicographically, ignoring case differences.	**(7)**	**3**	**3**
		(ii) Construct a Java program to create an interface Flyable with a method called fly_obj(). Create three classes Spacecraft, Airplane, and Helicopter that implement the Flyable interface. Implement the fly_obj() method for each of the three classes.	**(7)**	**3**	**3**
14. (a)		**(i)** Demonstrate a java program to copy the contents of one file to another using file stream.	**(10)**	**4**	**2**
		(ii) Compare and contrast Byte Streams and Character Streams.	**(4)**	**4**	**2**
		(OR)			
	(b)	Demonstrate a Java program that executes two threads. First thread displays the alphabets A to Z at every one second. The second thread will display the alphabets Z to A at every two seconds. Both the threads need to synchronize each other for printing alphabets. The second thread has to wait until the first thread finishes its execution. The application waits for all the threads to finish the execution.	**(14)**	**4**	**2**
15. (a)		**(i)** Construct a Package CSE which has one class Student. Accept student detail through parameterized constructor. Write display () method to display details. Create a main class which will use package and calculate total marks and percentage.	**(10)**	**5**	**3**
		(ii) Identify the four categories of Visibility for class members in java?	**(4)**	**5**	**3**

(OR)

			Marks	CO	RBT LEVEL
(b)	**(i)**	Develop an applet program to draw a flower with color packages.	**(7)**	**5**	**3**
	(ii)	Identify the differences between an applet and Java program with suitable example.	**(7)**	**5**	**3**

PART- C (1 x 10 = 10 Marks)

(Q.No.16 is compulsory)

		Marks	CO	RBT LEVEL
16.	Develop a Java program to create a method that reads a file and throws an exception if the file is not found.	**(10)**	**3**	**5**

****