VR20 Reg. No: | | | | | | | | | | |

VELAGAPUDI RAMAKRISHNA

SIDDHARTHA ENGINEERING COLLEGE

(AUTONOMOUS)

II/IV B.Tech. DEGREE EXAMINATION, DECEMBER - 2023

Third Semester

20AI&DS3304 / 20AI&ML3304 JAVA PROGRAMMING

(AI&DS / CSE (AI&ML))

Time: 3 hours ***Max. Marks: 70***

Part-A is compulsory

Answer One Question from each Unit of Part - B

Answer to any single question or its part shall be written at one place only

PART-A

10 x 1 = 10M

1.	a.	Define Inheritance.	**(CO1 K1)**
	b.	Explain type casting.	**(CO1 K2)**
	c.	List different types of operators.	**(CO1 K1)**
	d.	Apply inheritance to Person, Student, Employee, Teacher.	**(CO2 K3)**
	e.	Define Interface.	**(CO2 K1)**
	f.	Explain how to import a package.	**(CO2 K2)**
	g.	Analyze how catch block related to try block.	**(CO3 K4)**
	h.	Create a thread called MyThread using thread creation.	**(CO3 K3)**
	i.	Define Iterators.	**(CO4 K2)**
	j.	Explain FileInput Streams.	**(CO4 K2)**

PART-B

4 x 15 = 60M

UNIT-I

2. a. Examine the concept of method overloading in Java by providing an example where a class contains multiple methods with the same name but different parameter types. **(CO1 K4) 8M**

   b. Apply the concept operators to calculate the total marks, percentage of marks secured by a student and also find average marks for three students. **(CO1 K3) 7M**

(or)

3. a. Apply constructor overloading for the scenario where one object is going calculate area of rectangle without calling parameters and another object calculating area of rectangle by calling parameters. **(CO1 K3) 7M**

   b. Create a java program that demonstrates the use of static and final keywords. **(CO1 K3) 8M**

UNIT-II

4. a. Demonstrate how java achieves multiple inheritance with an example program. **(CO2 K4) 7M**

   b. Design a Java program that illustrates the implementation of various string methods such as length(), substring(), and indexOf(), to manipulate and retrieve information from string objects. **(CO2 K3) 8M**

(or)

5. a. Explain how user defined packages are created, imported with an example program. **(CO2 K2) 8M**

   b. Explain about abstract classes with a program. **(CO2 K2) 7M**

UNIT-III

6. a. Demonstrate the use of try, catch, finally blocks in exception handling with an example. **(CO3 K4) 7M**

   b. Illustrate File Reader and File Writer with a program. **(CO3 K4) 8M**

(or)

7. a. Explain the ways of creating a thread using a program. **(CO3 K2) 8M**

   b. Explain how java achieves synchronization. **(CO3 K2) 7M**

UNIT-IV

8. a. Explain about functional interface and its working procedure. **(CO4 K2) 7M**

   b. Explain the concept of lambda expression with a program. **(CO4 K2) 8M**

(or)

9. a. Develop a program on ArrayList which is used to store a set of integers, and demonstrate the addition, retrieval, and removal of elements from the ArrayList. **(CO4 K3) 8M**

   b. Illustrate the concepts of parallel streams. **(CO4 K2) 7M**

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