

SVKM'S NMIMS

MUKESH PATEL SCHOOL OF TECHNOLOGY MANAGEMENT ENGINEERING /
SCHOOL OF TECHNOLOGY MANAGEMENT ENGINEERING

Program: MCA

Year: I

Semester : I

Academic Year: 2022-2023

Subject: Java Programming

Date : 21 February 2023

Marks: 100

Time: 11:00 am - 02:00 pm

Duration: 3 (Hrs)

No. of Pages: 03

Re-Examination (2022-23)

Instructions: Candidates should read carefully the instructions printed on the question paper and on the cover of the Answer Book, which is provided for their use.

- 1) Question No. 1 is compulsory.
- 2) Out of remaining questions, attempt any 4 questions.
- 3) **In all 5 questions to be attempted.**
- 4) All questions carry equal marks.
- 5) **Answer to each new question to be started on a fresh page.**
- 6) **Figures in brackets on the right hand side indicate full marks.**
- 7) **Assume Suitable data if necessary.**

Q1		Answer briefly:	
CO-1 BL-2	a.	Explain concept of command line arguments with an example.	[5]
CO- 1 BL- 3	b.	Implement a class <i>Circle</i> with data member as below: Radius: double Pi = 3.14 : static final double Define below methods within a class: Area() : to calculate the area of circle Display () : to display radius and area of the circle. Write a main method to create object of <i>Circle</i> class and to display appropriate information.	[5]
CO- 1 BL-4	c.	Differentiate abstract class and interface with an example.	[5]
CO- 2 BL- 2	d.	Explain importance of Generics in Java. Write a generic method that takes two parameters of any numeric data type and performs addition of both.	[5]
Q2 CO- 1 BL- 2	a.	Explain the concept of classes, objects and constructor with an example.	[10]
CO- 1 BL- 3	b.	Create a package, <i>Faculty_Details</i> with a class <i>faculty</i> , having faculty id and name as data members. Derive a class <i>full time teaching faculty</i> from	[10]

		faculty class. Full time teaching faculty class will have qualification and number of research paper published as data members. Create a package <i>Demo_Faculty</i> with a class <i>visiting faculty</i> derived from faculty class with data members no of hours' lecture conducted. The visiting faculty earns 1000 rs for one hour. Write a method to calculate salary of visiting faculty. Write a main function to create objects of full time faculty and visiting faculty class and to call methods to take input from the user and display appropriate details. Write appropriate methods for the above classes.	
Q3 CO-2 BL- 2	a.	Discuss collection framework in Java.	[10]
CO- 1 BL- 3	b.	Implement a Java program that has class Item with data members as a float array to store price of 5 items. The input method will take price of 5 items from the user. The display method, displays item prices. The program must handle an array out of bound exception. Write a main method to create an object and call appropriate methods.	[10]
Q4 CO- 1 BL- 2	a.	Explain difference between String and StringBuffer class in Java with an example. Discuss below methods of String class. 1. compareTo() 2. equals()	[10]
CO- 1 BL- 3	b.	Implement a Java program to create class Student with data members st_no (Student no), name and total_marks. Write methods to take details of students from the user and count number of students having marks greater than 30 and number of students having marks less than 30. Write a main function to create array of objects that allows to store details of 10 students.	[10]
Q5 CO- 1 BL-2	a.	What is finally block? How it is used? Explain with an example code.	[10]
CO- 1 BL- 3	b.	Write a Java program to check whether the entered string is palindrome or not.	[10]
Q6 CO- 3	a.	Explain JavaFX architecture and different types of events.	[10]

BL- 2			
CO- 2 BL- 3	b.	Write a Java program to use ArrayList for storing GPA of students. The program must allow to add GPA into array list, display entire list, display GPA at particular index, delete GPA at particular index and clear entire list.	[10]
Q7 CO- 3 BL- 2	a.	Explain the steps for querying the database using JDBC.	[10]
CO- 2 BL- 3	b.	Demonstrate use of Iterator interface using an example.	[10]