KUMARAGURU college of technology
character is life

Register Number:…….

MCA DEGREE EXAMINATIONS: APRIL/MAY 2024

(Regulation 2020)

First Semester

MASTER OF COMPUTER APPLCATIONS

P20CAT1004**:** Programming with Java

COURSE OUTCOMES

CO1: Apply the fundamental core java, packages, data base connectivity for computing.

CO2: Implement Java programs.

CO3: Make use of hierarchy of Java classes to provide a solution to a given set of requirements.

CO4: Use the frameworks JSP, Hibernate, Spring.

CO5: Design and implement server-side programs using Servlets and JSP.

Time: Three Hours **Maximum Marks: 100**

Answer all the Questions:-

PART A (10 x 1 = 10 Marks)

1. Consider the following steps of Java Programming. CO1 [K_4]

   1. Create a Java Program
   2. Install Eclipse
   3. Run the Java program.
   4. Compile the Java program.

   Arrange them in correct sequence.

   a) 3-2-1-4 b) 2-1-4-3

   c) 1-2-4-3 d) 4-1-3-2

2. Which data type in Java is used to represent a single character? CO2 [K_2]

   a) int b) float

   c) char d) boolean

3. Which of the following is not a Java features? CO2 [K_2]

   a) Object-oriented b) Platform-independent

   c) Use of pointers d) Multithreaded

4. Match the List –I (Collections) with List-II (Purpose) and select the correct answer using the codes given below. CO2 [K_4]

List I	List II
A. Array List	1. access and retrieval times are quite fast.
B. Linked List	2. Provides Dynamic array in Java.
C. Hash set	3. Each element points to the next element.
D. Tree set	4. Elements are inserted on the basis of their hash code.

a) A-1 B-2 C-3 D-4 b) A-2 B-3 C-4 D-1

c) A-3 B-1 C-4 D-2 d) A-4 B-3 C-2 D-1

5. Which of the following method is used to perform DML statements in JDBC? CO3 [K_2]

a) executeResult() b) executeQuery()

c) executeUpdate() d) execute()

6. RMI Stands for _____. CO3 [K_2]

a) Rest Method Innovation b) Repeat Model Iteration

c) Remote Method Invocation d) Request Medium Identification

7. Assertion (A): Java is platform-independent. CO4 [K_4]

Reason (R): ava code is compiled into machine-specific code.

a) Both A and R are Individually true, and R is the correct explanation of A b) Both A and R are Individually true, but R is not the correct explanation of A

c) A is true but R is false d) A is false but R is true

8. ORM stands for_____. CO4 [K_2]

a) Object Request Module b) Object Relational Mapping

c) Open Resource Matching d) Open Request Module

9. Consider the following term: CO5 [K_5]

1. IP address

2. Socket

3. Tree set

4. Port number

Which of the following option represents the Networking terminology?

a) 1,2 b) 1,4

c) 1,2,3 d) 1,2,4

10. Which of these class is used to encapsulate IP address and DNS? CO5 [K_2]

a) DatagramPacket b) URL

c) InetAddress d) ContentHandler

PART B (10 x 2 = 20 Marks)

11. Write a Java program to check if a given number is even or odd using the conditional operator. CO1 [K_2]
12. What are the advantages of the Java packages. CO1 [K_2]
13. Compare Array List and Linked List. CO2 [K_4]
14. Write a shot note about TreeSet. CO2 [K_2]
15. Draw a diagram to represent JDBC Network Protocol driver. CO3 [K_3]
16. Compare HTTP GET and POST methods. CO3 [K_4]
17. List the JSP directives. CO4 [K_2]
18. What is Aspect Oriented Programming (AOP)? CO4 [K_2]
19. What are the advantages of garbage collection? CO5 [K_2]
20. Write the purpose of JAR files. CO5 [K_2]

PART C (6 x 5 = 30 Marks)

21. Write a Java program to calculate the sum of the digits of the given number using while loop. CO1 [K_3]

22. Write a Java program to add the following elements to a TreeSet: "Alice", "Bob", "Charlie", "Diana". Traverse the elements in ascending order. CO2 [K_3]

23. Write a Java Program using JDBC to add the values for student information in a Mysql database. CO3 [K_2]

24. Draw the Architecture of the Spring Framework. CO4 [K_2]

25.	Write a Java Program to demonstrate the Garbage collection.	CO5	[K_2]
26.	Write a Java Program to check the given number is prime or not?	CO1	[K_3]

Answer any FOUR Questions
PART D (4 x 10 = 40 Marks)

27.	Explain the exception Handling with neat Sketch.	CO1	[K_2]
28.	Write a Java Program to create a Linked List using the following elements: "Apple", "Banana", "Cherry", "Date". Insert "Apricot" as the first element and "Elderberry" as the last element. Perform remove first and remove last operations. Access and display the elements using Iterator.	CO2	[K_3]
29.	Write a Java Program to Store and Retrieve information using FileInputStream and FileOutputStream.	CO3	[K_3]
30.	Explain the multitiered application with neat sketch.	CO4	[K_2]
31.	Write a Java Program for Sending and Receiving Datagram packet by Datagram socket.	CO5	[K_2]

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