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End Term Examination 2023-24

Name of the Course: MCA

Semester- II

Name of the Paper: Advance JAVA Programming

Paper Code: TMC-202

Time: 3 Hours

MM: 100

Note:

- (i) All Questions are compulsory
- (ii) Answer any two sub-questions among a, b, and c in each main question.
- (iii) Each question carries 10 marks.

Q.1	(10*2= 20 Marks)	
a)	Explain following term with example 1) Static method and static variable. 2) Inner class and garbage collection 3) parameterized constructor and default constructor.	CO1
b)	Explain the use of String, StringBuilder and StringBuffer class with their merits and demerits. Write a program to count the number of words and character in a string.	
c)	Explain "this" keyword in java with suitable example. Also Explain Garbage Collection in java.	
Q.2	(10*2= 20 Marks)	
a)	Explain overloading and overriding in java with suitable example. Also explain use final keyword using example.	CO2
b)	Explain interface with suitable example. How it is differ from abstract class? Create an abstract class "Employee" with abstract methods "calculateSalary()" and "displayEmployeeDetails()". Implement two subclasses "Manager" and "Worker" which extend "Employee" and implement the abstract methods.	
c)	What is package in java? Explain with example. Also explain static import in package. What is JAR file?	
Q.3	(10*2= 20 Marks)	
a)	What is an exception? What are the methods of handling exception in java? Write a program in Java socket programming where client sends a text message and server receives and prints it and send acknowledge to client.	CO3
b)	Explain thread with its lifecycle. What is the use of synchronized block and method in multithreading programming in java?	
c)	Define stream in java and also explain the object serialization. Write java code to read and write operation in the file using FileInputStream and FileOutputStream classes.	
Q.4	(10*2= 20 Marks)	
a)	What is servlet in java? Show the life cycle of servlet. Design a web application in servlet that handle form data using doGet () or doPost() method.	CO4
b)	Write the some merits of servlet over the CGI (common gateway interface) and explain the some commonly used method of servlet.	
c)	Define following term. a) Single thread Model interface. b) Http status code c) Web server and application server	
Q.5	(10*2= 20 Marks))	
a)	What is JDBC? Explain the various type of driver used in data base connectivity. And create a java program to illustrate the database connectivity.	CO5
b)	Explain cookies in java with its advantage? Write a program to create cookies and delete cookies.	
c)	Define JSP with its life cycle. Explain JSP architecture. Write a program to check given number is palindrome or not in jsp.	