CLASS:   B.TECH                                                          SEMESTER : IV
BRANCH:   EEE/ECE/MECH                                                    SESSION : SP/2023

**SUBJECT: CA201 OBJECT ORIENTED PROGRAMMING USING JAVA**
TIME:   3 Hours                                                          FULL MARKS: 50

**INSTRUCTIONS:**
1. The question paper contains 5 questions each of 10 marks and total 50 marks.
2. Attempt all questions.
3. The missing data, if any, may be assumed suitably.
*4.* Before attempting the question paper, be sure that you have got the correct question paper.
5. Tables/Data hand book/Graph paper etc. to be supplied to the candidates in the examination hall.

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| Q.1(a) | You are assigned with the task of developing a Web-Application. Which type of programming language you will prefer-procedure oriented programming or Object oriented programming to develop the application? Justify your answer. | [5] | 1 | 3 |
| Q.1(b) | Why Java is a platform independent programming language?  What is the role of Java Virtual machine to achieve platform neutrality of Java? | [5] | 2 | 2 |
| Q.2(a) | What is data type? What are the different data types available in java? Give example of each data type. | [5] | 1 | 1 |
| Q.2(b) | Write a program in java to find the sum of digits of a number. Also check if the sum is even or odd. | [5] | 3 | 3 |
| Q.3(a) | Differentiate between while loop and for loop. Why for loop is called an entry controlled loop? | [5] | 3 | 2 |
| Q.3(b) | What is method overloading? Demonstrate method overloading with the help of a program. | [5] | 3 | 2 |
| Q.4(a) | What is final variable, final method and final class? | [5] | 3 | 1 |
| Q.4(b) | Create a class called Circle that include *radius* as instance variable and *Circle_Area()* as method to calculate area of circle. Create another class called Result. This class includes main() method. Create two Circle objects here. Initialize Circle objects through constructors.<br>Display the area of two circles. | [5] | 4 | 4 |
| Q.5(a) | What is inheritance? With an appropriate example demonstrate the use of this keyword in java. | [5] | 4 |  |
| Q.5(b) | With a neat diagram explain the life cycle of applet. | [5] | 5 |  |

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