Roll No...2023BTECH039...........

CS1101: Object Oriented Programming

Time: 1.5 hours   Max. Marks: 15

Instructions to students:
1. Do not write anything other than your roll number on question paper.
2. Mention all the assumptions for your answers clearly.
3. Write the answers to the point.

1.	Write a Java program to demonstrate function overloading. Create a class *StatsCalculator* that contains overloaded methods named *average()* to perform the average of: a. Two integer numbers b. An array of integers c. A variable number of double arguments In your main() method, create an object of the StatsCalculator class and call all three versions of the average() method with appropriate arguments. Display the results of each call by returning the value back to calling function.	(CO1, CO2) 3.0
2.	Discuss the features of OOP Language. Explain the differences between the OOP and POP briefly.	(CO4) 3.0
3.	(a) What property of Java makes itself to run it on different machines? Why Java code is said "Write Once and Run Anywhere (WORA)". Explain the property associated with it.	(CO2) 2.0
	(b) Design a Traffic Light System using switch-case where the color of the light determines the action (e.g., stop, go, slow down).	(CO4) 2.0
4.	(a) Write a class Converter with overloaded convert() methods: • One that converts inches to centimeters (1 inch = 2.54 cm). • One that converts Fahrenheit to Celsius (C = (F - 32) * 5/9). • One that converts meters to kilometers (1 meter = 0.001 kilometers).	(CO3) 3.0
	(b) Write a program to count the number of vowels(a, e, i, o, u) and consonants or other characters in a string without using predefined functions.	(CO2) 2.0