VIT
Vellore Institute of Technology

Slot : A2+TA2

School of Computer Science Engineering and Information Systems

Fall Semester 2023-2024

Continuous Assessment Test – I

Programme Name & Branch: MCA

Course Name & code: Java Programming & PMCA502L

Class Number (s): VL2023240106172, VL2023240106176, VL2023240106716

Faculty Name (s): Dr. MAREESWARI V, Dr. THILAGAVATHI M, Dr. VIJAYARANI A

Exam Duration: 90 Min. **Maximum Marks: 50**

General instruction(s):

Q.No.	Question	Max Marks
1.	a) List out the features of Java programming in detail. (5 marks) b) Illustrates the associated concepts of the operator involved in the given expression, and discuss the result in each stage of evaluation: double d ='a'+ 2 * (int)3.14; (5 marks)	10
2.	Write a Java program to read the required input at command line and write the static method to display the factorial of given input. (6 marks) b) Shows the different usage of super keyword. (4 marks)	10
3.	- Create a class "BankAccount" with required members (AccNumber, AccHolderName, balance, TransCount) and methods (deposit(), withdraw(), getTransactionCount(), display()). - Implement a BankAccount that pays a bonus of $10 for each new account. - Create a derived class "NewScheme" with certain changes in functionalities. - Change the withdraw method of the BankAccount class so that a charge of $1.00 is deducted for each withdrawal. - Change the deposit and withdraw methods of the BankAccount class so that a count of transactions is updated. For example, if you construct a bank account and invoke deposit once and withdraw twice, calling getTransactionCount should return 3. - Develop a Java program to automate this Bank Process. You must use constructor and abstract concept.	10
4.	Create an interface with methods add() and sub() to perform arithmetic integer operations. Create another interface with methods add() and sub() to perform arithmetic double operation. Write the complete Java program to implement both the interfaces. Print the result of all the arithmetic operations.	10
5.	The annual examination results of 50 students are tabulated as like follows:	10

Rollno	Subject1	Subject2	Subject3
1001	60	70	80
1002	75.5	73.5	76

Compose a Java program to read the data using the Scanner class and write the methods to determine the following with array concept:

- The highest total marks for those who obtained in the class.
- The highest marks in each subject and the Rollno of the student who secured it.

Write the required exception handling mechanism to handle invalid input, array indexing, and any other errors that occur.