



VIT

Vellore Institute of Technology

Continuous Assessment Test (CAT-2) – October 2022

Programme	B.Tech	Semester	Fall Semester 2022-23
Course Code	CSE1007	Class Nbr(s)	CH2022231000969, CH2022231000319
Course Title	Java Programming		
Faculty(s)	Dr. Pradeep K V/ Dr. A. Balasundaram	Slot	D2
Time	One Hour and Thirty Minutes	Max. Marks	50

Answer all the Questions

Q No	Question Text	Marks
1.	Construct a java program to read a student's mobile number and register number and perform the following: 1. Throw an IllegalArgumentException if the Register Number is not exactly 9 alpha-numeric characters or the Mobile Number is not precisely 10 digits. 2. Raise a InputMismatchException if the mobile number contains any character that isn't a digit. 3. Throw a NoSuchElementException if the Register Number contains any character other than numbers and alphabets. 4. Print "valid" if they are valid; otherwise, print "invalid"	10
2.	Demonstrate method level synchronization for the given scenario. The program will ask the user to enter a number N. Construct threads for performing "StringPattern" and "FibonacciSeries". Assuming that N=5, the StringPattern thread will have the output as "A, AB, ABC, ABCD, ABCDE" and the output of FibonacciSeries series thread will be 0 1 1 2 3. Create a multithreaded Java programme to implement the aforementioned scenario utilizing method level synchronisation. (Minimum 3 Threads, out of which 2 for String-Pattern and 1 for Fibonacci-Series)	10
3.	Let's assume you have access to the data file (ConstituencyResult.txt) containing the constituency election results. The file has the following information: state , candidate , party , and votes-gained . Write a Java program that reads this file and presents a list of candidates along with the number of votes each received. Note : Choose Byte Streaming rather than Character Streaming.	10
4.	Create a class for an address book that can be used to manage Person details like name, address and PAN. The ability to add, remove, or search for a Person object in an address book is provided. • A person object should be added to the address book using the add() method. Make sure the address book doesn't contain any duplicate person objects when using the add method. • The supplied person object should be deleted from the book using the delete() method. • The search() method, which provides a list of people who meet the supplied criteria after searching the address book for a certain individual. The person ID, first name, or last name can all be used in the search. • Identify and implement a solution for the above operations using a suitable collection interface.	10
5.	The placement office of a college mandates certain rules that the student should have a CGPA of 9 or above and no standing arrears to be eligible to sit for placement exam. Assuming that there are 10 students who wish to appear for a placement exam, the program should check whether the mandated rules are satisfied. If any of the rule is not satisfied, the program should throw user defined exceptions namely CGPAException or StandingArrearException. Write a java program to validate the placement rules and permit the student to sit for placement exam.	10