End Semester Examination 2024

Name of the Program:B.Tech(CSE)   Ser

Name of theSubj :Java   CourseCode:TCS-408
Programming Language

Time:3Hour
                                                Maximum Marks:100

Note:

(i)   Answer **all the questions** by choosing *any two of the subquestions*.
(ii)   Each question carries 10marks.
(iii) Total marks in each main question are twenty.
(iv)   All questions are compulsory.

Q1	(20 marks)	
(a)	What are Wrapper classes? Why is Wrapper classes used? WAP to demonstrate autoboxing and auto unboxing ?	CO1
(b)	Why are Strings immutable in java? What are the differences between StringBuilder and StringBuffer classes?	
(c)	WAP to find the number of words, alphabets and numbers in a given input String?	
Q2	**(20 marks)**	
(a)	What are the type of inheritances supported in java? What is protected access specifiers? WAP to show constructor overriding in java.	CO2
(b)	What is the use of super keyword and super method? WAP to demonstrate the use of super keyword and super method?	
(c)	Explain: Static variable Static function Static block Static import Static classes	
Q3	**(20 marks)**	
(a)	What are Exceptions? WAP to demonstrate how to handle divide by zero exception in java.	CO3
(b)	What are checked and unchecked exceptions in java? Explain throw and throws statements with the help of a program in java.	
(c)	Explain the life cycle of a thread in java. WAP to demonstrate Producer Consumer problem in java.	
Q4	**(20 marks)**	
		CO4

(a) What are generics in java? WAP to demonstrate bounded types in java.	
(b) WAP that accepts a shopping list of five items from the keyboard and stores them in a list. Include following functionalities. - To delete a specified item from the list - To add an item at a given position - To add an item at the end - To print the contents of the list	
(c) What is an iterator? WAP to demonstrate the use of an iterator in a hashMap.	
(20 marks) **Q5**	
(a) What is an adapter class? What is an event and what are the models available for event handling?	**CO5**
(b) What are source and listener? How can a GUI component handle its own events? What event results from the clicking of a button?	
(c) What is JDBC? What is JDBC driver? What are the steps to connect to the Database in java? What are CLOB and BLOB data types in jdbc?	