

Reg No.: \_\_\_\_\_

Name: \_\_\_\_\_

**APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY**

Third Semester B.Tech (Minor) Degree Examination December 2024 (2023 Admission)

**Course Code: CST281****Course Name: OBJECT ORIENTED PROGRAMMING**

Max. Marks: 100

Duration: 3 Hours

**PART A***Answer all questions. Each question carries 3 marks*

Marks

- |    |   |     |
|----|---|-----|
| 1  | Describe the structure of a Java program.                             | (3) |
| 2  | Demonstrate the role of an Activity diagram in OOD.                   | (3) |
| 3  | Write a program to print the odd numbers between 1 and 100.           | (3) |
| 4  | What is recursion? Present with an example.                           | (3) |
| 5  | What is the use of <b>import</b> keyword?                             | (3) |
| 6  | Describe unchecked exception.   | (3) |
| 7  | List and explain about any 2 constructors of <b>File</b> class.       | (3) |
| 8  | Demonstrate the use of <code>indexOf()</code> in <b>String</b> class. | (3) |
| 9  | What is a thread?   | (3) |
| 10 | Explain the parts of the statement, <b>JFrame.EXIT_ON_CLOSE</b>       | (3) |

**PART B***Answer any one question completely from each module. Each question carries 14 marks***Module 1**

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|----|---|-----|
| 11 | a) Compare Functional Oriented and Object Oriented Design approaches.   | (8) |
|    | b) Describe the terms JDK, JRE and JVM.                                 | (6) |
| 12 | a) Define the structure of Class diagram and Interaction Diagram.       | (6) |
|    | b) What is java applet? How an applet is different from an application? | (8) |

**Module 2**

- |    |   |     |
|----|---|-----|
| 13 | a) List the 8 basic data types in java. How they are used in a program.   | (8) |
|    | b) Write a program in java to check whether the given character is a vowel.                                       | (6) |
| 14 | a) Show the different precedence levels of operators in java.   | (6) |
|    | b) Discuss the use of <b>static</b> , <b>final</b> , <b>this</b> and <b>super</b> keywords in java with examples. | (8) |

**Module 3**

- 15 a) Describe the different forms of inheritance in java. (9)
- b) Write a program that generates an **ArrayIndexOutOfBoundsException** (5)
- 16 Design a class to represent a bank account, includes the following data members 1.Name 2. Account Number 3. Type of Account 4. Balance and a constructor for assigning initial values and methods to deposit an amount, withdraw an amount after checking balance, display name and balance. Write a complete java program for implementing the class. (14)

**Module 4**

- 17 a) What is an iterator? How it is useful to access an ArrayList? (6)
- b) Describe **DataOutputStream** and **DataInputStream** and its functions (8)
- 18 a) Compare **String** and **StringBuffer** class methods. (6)
- b) How files are created for input and output operations in java. (8)

**Module 5**

- 19 a) Describe the complete lifecycle of a thread. (5)
- b) Write a java program to create a login window using Swing. (9)
- 20 a) What is thread synchronization? (4)
- b) Explain about any 5 different classes from **javax.swing** package. (10)