

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

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

**APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY**

Third Semester B.Tech Degree Examination December 2021 (2019 scheme)

**Course Code: CST205****Course Name: OBJECT ORIENTED PROGRAMMING USING JAVA**

Max. Marks: 100

Duration: 3 Hours

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

- |   | Marks |
|---|-------|
| 1 What is Just-In-Time compiler?  | (3)   |
| 2 Why Java is said to be a secure programming language?                   | (3)   |
| 3 Does Java support multiple inheritance? Justify your answer.            | (3)   |
| 4 Why is the 'main' method in Java qualified as public, static, and void? | (3)   |
| 5 Explain any three Byte Stream classes in Java.                          | (3)   |
| 6 What are Checked Exceptions? Give an example.                           | (3)   |
| 7 List any six Event Listener interfaces.                                 | (3)   |
| 8 Explain any three special string operations in Java                     | (3)   |
| 9 Summarize any three features of Swing API.                              | (3)   |
| 10 Differentiate between Components and Containers in Swing.              | (3)   |

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

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|---|-----|
| 11 a) Explain Lexical issues in Java with examples.   | (6) |
| b) Differentiate between function oriented and object oriented software design approaches using a suitable example.   | (8) |
| 12 a) Construct a UML Class diagram for Online Movie Ticket Booking System. The various entities involved in the system are Admin, Registered User, Visitor / Guest User, Movie, Book Ticket, Make Payment. | (8) |
| b) Construct a UML Activity diagram for Food Ordering System, which shows the flows between the activity of Order, Delivery, Food Item, Category, Payment.  | (6) |

**Module 2**

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|---|-----|
| 13 a) Explain different data types in Java. Give examples.  | (8) |
| b) Write a Java program to reverse bits of a given integer.   | (6) |
| 14 a) Demonstrate how objects are passed as function parameters with a suitable example.                  | (8) |
| b) Write a Java program to find the frequency (count the occurrence) of each element in an integer array. | (6) |

**Module 3**

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|---|-----|
| 15 a) Develop a Java package named 'evenpackage', with a class Even containing a static method that check whether a number is even or not, and returns that | (8) |
|---|-----|

information. Import this package in another class and use to check a number is even or not.

- b) Differentiate between *try-catch*, *throw* and *throws* keywords. (6)
- 16 a) Write a Java program that reads a binary file and write to another file. (8)
- b) Write Java code that reads a character file and prints the contents of file on the display, with a line number before each line. (6)

**Module 4**

- 17 a) Write a Java program to find the duplicate characters in a string. (8)
- b) What are the uses of *synchronized* keyword in Java? Explain with examples. (6)
- 18 a) Write a Java program that creates three threads. First thread generates a random positive number (>1) every 1 second. If the number is even, the second thread prints all even numbers between 1 and the generated number. If the number is odd, the third thread will print all odd numbers between 1 and the generated number. (10)
- b) Differentiate between Collection Interface and Collections Class. (4)

**Module 5**

- 19 a) How do you establish connection between a Java program and database? Explain the steps with sample code. (10)
- b) Write java code to demonstrate the execution of select and delete queries using JDBC (4)
- 20 a) How events are handled in java Swing? (4)
- b) Write a Java program using Swing to create a frame having three text fields, three labels and a button. The interface has to accept a number in the first text field. While clicking the button, the second and third textfields have to display the previous number and next number respectively, of the accepted input number. (10)

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