

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

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

**APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY**  
**FOURTH SEMESTER B.TECH DEGREE EXAMINATION(R&S), MAY 2019**

**Course Code: CS206**

**Course Name: OBJECT ORIENTED DESIGN AND PROGRAMMING (CS)**

Max. Marks: 100

Duration: 3 Hours

**PART A**

*Answer all questions, each carries 3 marks.*

Marks

- |   |                                                                                                                                                                         |     |
|---|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| 1 | Explain the terms: Polymorphism and Encapsulation                                                                                                                       | (3) |
| 2 | Consider a Banking System. Identify three entities in the system which can be represented using classes and show the relationship between them using UML class diagrams | (3) |
| 3 | Explain how objects are passed as function parameters with a suitable example.                                                                                          | (3) |
| 4 | What are parameterized constructors? Is it possible to define a parameterized constructor for a class without defining a parameter-less constructor?                    | (3) |

**PART B**

*Answer any two full questions, each carries 9 marks.*

- |   |                                                                                                                                                                                                                                               |     |
|---|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| 5 | a) Draw Use case Diagram for online Pizza ordering system                                                                                                                                                                                     | (6) |
|   | b) What is the role of Java Virtual Machine?                                                                                                                                                                                                  | (3) |
| 6 | a) Explain Object Oriented System Development Life Cycle.                                                                                                                                                                                     | (4) |
|   | b) Write a Java program that accepts two three digit numbers as command line arguments and find all palindrome numbers between them.                                                                                                          | (5) |
| 7 | a) Explain method overloading with the help of an example.                                                                                                                                                                                    | (3) |
|   | b) Define a class Queue for representing a queue data structure. The class must define a default constructor, a parameterized constructor and functions for enqueue, de-queue and display operations. Write a Java program to implement this. | (6) |

**PART C**

*Answer all questions, each carries 3 marks.*

- |    |                                                                                             |     |
|----|---------------------------------------------------------------------------------------------|-----|
| 8  | What are packages? Explain how packages are created in Java.                                | (3) |
| 9  | What are interfaces? How interfaces are used in Java?                                       | (3) |
| 10 | What are Checked Exceptions? Give an example.                                               | (3) |
| 11 | What are thread priorities? How can you assign priority values for threads created in Java? | (3) |

**PART D**

*Answer any two full questions, each carries 9 marks.*

- 12 a) Discuss the different access specifiers used in java. (4)  
b) Explain how inheritance is implemented in Java. What is the use of 'super' keyword? Illustrate its usage with suitable examples. (5)
- 13 a) Discuss about any two stream classes used in Java. (4)  
b) Write a Java program to create two threads: One for displaying all odd numbers between 1 and 100 and second thread for displaying all even numbers between 1 and 100. (5)
- 14 a) What are abstract classes? (3)  
b) Create a user defined Exception 'InvalidNumberException'. Write a Java program that computes the average of N positive numbers given as Command Line Arguments. Raise the Exception 'InvalidNumberException' on reading a negative number or zero as input. (6)

**PART E**

*Answer any four full questions, each carries 10 marks.*

- 15 a) Explain Event Delegation model in Java. (6)  
b) Discuss any four methods used for string processing in Java (4)
- 16 a) How can we pass parameters to an Applet? Explain with an example. (5)  
b) Discuss how fonts are managed in AWT with suitable examples (5)
- 17 a) What are layout managers? Explain any one layout manager with an example. (5)  
b) What are Adapter Classes? How do we make you adapter classes while handling window events? (5)
- 18 a) What are dynamic queries? Explain how they are processed with suitable examples? (5)  
b) Explain the life cycle of an applet (5)
- 19 a) Discuss the different steps involved in establishing a JDBC connectivity and query processing with a suitable example. (7)  
b) What are the differences between a Java applet and a Java application? (3)
- 20 a) What is the use of paint() method? How do we invoke it? (3)  
b) Discuss any two AWT controls, the events generated by them and how they are handled with suitable code fragments. (7)

\*\*\*\*