

December 2023  
BCA-V SEMESTER

Object Technologies & Programming Using Java (BCA-17-301)

Time: 3 Hours

Max. Marks:75

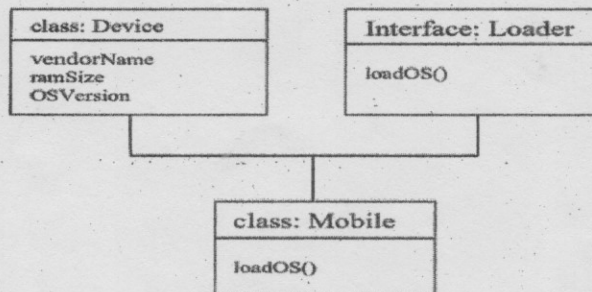
- Instructions:**
1. It is compulsory to answer all the questions (1.5 marks each) of Part -A in short.
  2. Answer any four questions from Part -B in detail.
  3. Different sub-parts of a question are to be attempted adjacent to each other.

**PART -A**

- Q1 (a) How is data hiding implemented in JAVA (1.5)  
 (b) Differentiate between Compiler and interpreter. (1.5)  
 (c) What is the purpose of garbage collector? (1.5)  
 (d) Explain final, finally finalize (1.5)  
 (e) What is significance of each word in the following: (1.5)  
 public static void main (String a[])  
 (f) How do we set CLASSPATH? (1.5)  
 (g) Define different types of exceptions (1.5)  
 (h) What does JVM do when an exception occurs in a program? (1.5)  
 (i) What are the benefits of multi-threaded programming? (1.5)  
 (j) What are volatile modifier in java (1.5)

**PART -B**

- Q2 (a) How Abstract classes are different than interfaces? Explain with the help of a (10)  
 suitable example  
 (b) Explain with the help of a suitable example *this* pointer (5)
- Q3 (a) Write a program to count number of words from a text file using stream classes (5)  
 (b) What do you mean by function overloading:? Demonstrate the concept with the (10)  
 help of a suitable example.
- Q4. What do you mean by inheritance? Define its types. Implement following (15)  
 inheritance:



- Q5 (a) Write a program to create package Math\_s having two classes as addition and subtraction. Use suitable methods in each class to perform basic operations (5)
- (b) Explain the exception handling mechanism. With the help of a suitable java program demonstrate the usage of try, catch, throw and throws (10)
- Q6 How can we create a Thread in Java? What are different states in lifecycle of Thread? Write a program in java to create two threads T1 and T2. T1 prints all the odd numbers between (1-1000) and T2 prints all the even numbers between (1-1000). (15)
- Q7 Write short notes on (any three): (15)
- i) String class
  - ii) Packages
  - iii) Function overriding
  - iv) Encapsulation

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