

**R18**

**Code No: 154CE**

**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD**

**B. Tech II Year II Semester Examinations, February - 2024**

**OBJECT ORIENTED PROGRAMMING USING JAVA**

**(Common to CSBS, CSIT, ITE, CE(SE), CSE(CS), CSE(AI&ML), CSE(DS),  
CSE(IOT), CSE(N), AI&DS, AI&ML)**

**Time: 3 Hours**

**Max. Marks: 75**

- Note:** i) Question paper consists of Part A, Part B.  
ii) Part A is compulsory, which carries 25 marks. In Part A, answer all questions.  
iii) In Part B, Answer any one question from each unit. Each question carries 10 marks and may have a, b as sub questions.

**PART – A**

**(25 Marks)**

- 1.a) Define a constructor. [2]
- b) List the costs associated with inheritance. [3]
- c) What is the File class used for in Java? [2]
- d) Write a short note on auto boxing in Java. [3]
- e) How can you rethrow an exception in Java? [2]
- f) Compare checked and unchecked exceptions. [3]
- g) Which class is used for handling date and time in Java? [2]
- h) Which interface does not extend the Collection interface? [3]
- i) Define MVC architecture. [2]
- j) What is the purpose of JTabbedPane? [3]

**PART – B**

**(50 Marks)**

- 2.a) Write an overview of Java.
- b) Explain the concept of method overriding in Java with suitable example. [4+6]

**OR**

- 3.a) Describe the various forms of polymorphism.
- b) Write a Java program that uses the "final" keyword in the context of inheritance. [6+4]

- 4.a) Discuss the procedures for reading and writing files in Java.
- b) Explain the different stream classes in Java's java.io package. [5+5]

**OR**

- 5.a) Write a Java program that illustrate the usage of enumerations.
- b) Discuss the concept of nested interfaces in Java. [5+5]

- 6.a) Differentiate between thread-based multitasking and process-based multitasking.
- b) Explain the mechanisms for synchronizing threads in Java. [5+5]

**OR**

7. Write a Java program demonstrating the use of try-catch-throw-throws blocks for exception handling. [10]

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8.a) Explain the purpose and significance of the Collections Framework in Java.

b) Explain the role of String Tokenizer class in Java.

[6+4]

**OR**

9.a) Differentiate between Hash Set and Tree Set in the Collections Framework.

b) Write a Java program to illustrate the working of a priority queue.

[4+6]

10. Explain the following.

a) Grid Layout.

b) Adapter classes.

[5+5]

**OR**

11. Write a Java program that handles various keyboard events.

[10]

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