

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]

- 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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