

**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD****MCA III Semester Examinations, April/May - 2019****JAVA PROGRAMMING****Time: 3hrs****Max.Marks:75****Note:** This question paper contains two parts A and B.

Part A is compulsory which carries 25 marks. Answer all questions in Part A. Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

PART - A**5 × 5 Marks = 25**

- 1.a) Compare various differences between Java and C++. [5]
- b) Explain the Usage of “Super” keyword, with an example program. [5]
- c) Explain briefly about Vector class with an example. [5]
- d) Differentiate between Checked and Unchecked exceptions. [5]
- e) Explain in detail about AWT class hierarchy. [5]

PART - B**5 × 10 Marks = 50**

- 2.a) What is Array? Explain different types of array and also discuss its advantages.
- b) Define static field and method. Explain with an example. [5+5]

OR

- 3.a) What is method overloading? Explain with an example program.
- b) What is a conditional statement? Discuss various types with examples. [5+5]

- 4.a) List different types of inheritances in Java? Explain each of them in detail with an example programs.
- b) Explain the uses of inner classes and local inner classes, with an example. [5+5]

OR

- 5.a) What is dynamic binding? Explain with an example.
- b) Write a Java program for defining and implementing interfaces. [5+5]

- 6.a) Discuss about String Tokenizer class. Explain with an example.
- b) Explain briefly about iterator with an example. [5+5]

OR

7. Distinguish between
 - a) Input Stream and Reader classes
 - b) Output Stream and Writer Classes [5+5]

- 8.a) Write a Java program that implements a multi-thread application that has three threads. First thread generates random integer every 1 second and if the value is even, second thread computes the square of the number and prints. If the value is odd, the third thread will print the value of cube of the number.
- b) What are the benefits of exception handling? [5+5]

OR

- 9.a) What is synchronization? Explain with an example program.
- b) How is inter thread communication achieved? Give an example. [5+5]

- 10.a) Develop an applet that receives an integer in one text field and computes its factorial value and returns it in another text field, when the button named “compute” is clicked.
- b) Distinguish various differences between Swing and AWT. [5+5]

OR

- 11.a) What is Applet? Write in detail about life cycle of an applet.
- b) Develop a Java program to illustrate the use of applets. [5+5]