

R16

Code No: 136FM

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Tech III Year II Semester Examinations, February - 2023

JAVA PROGRAMMING
(Common to CE, EEE, ME, ECE)

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) If all objects of a class need to share the same variable, how must you declare that variable? [2]
- b) What is the difference between call-by-value and call-by-reference? [3]
- c) How does a subclass constructor execute its superclass's constructor? [2]
- d) How many classes can implement an interface? How many interfaces can a class implement? [3]
- e) What is the purpose of the run() method defined by Runnable? [2]
- f) How do you restrict access to an object to one thread at a time? [3]
- g) What are the types of JDBC drivers? [2]
- h) Distinguish between text files and binary files. [3]
- i) Discuss on hierarchy of swing components. [2]
- j) Mention the relationship between event sources and event listeners. [3]

PART – B

(50 Marks)

- 2.a) What is garbage collection, and how does it work? What is finalize()?
- b) Develop a Java program that sorts an array of strings by their lengths (instead of sorting them alphabetically). [5+5]

OR

- 3.a) Write a Java program that creates a “triangular” two-dimensional array A of 10 rows. The first row has length 1, the second row has length 2, the third row has length 3, and so on. Then initialize the array using nested for loops so that the value of A[i][j] is i+j. Finally, print out the array in a nice triangular form.
- b) Mention the operators hierarchy in Java. [5+5]

- 4.a) Explain how inheritance, method overriding, and abstract classes are used to support polymorphism.
- b) Implement queue data structure using interfaces. [5+5]

OR

- 5.a) What are anonymous inner class? Give an example program.
- b) Present a brief note on abstract classes and methods. [5+5]

QA QA QA QA QA QA QA G

6.a) Write a program using the synchronized Statement.

b) Illustrate throws keyword with a program.

[5+5]

QA QA QA QA QA QA QA G

7.a) Discuss on thread priorities.

b) How to create your own exceptions. Illustrate with an example.

[5+5]

8.a) How to perform input and output operation on a text file.

b) How to use enumerator and iterator to cycle through the elements of a collection object?

[5+5]

QA QA QA QA QA QA QA G

9.a) Describe the random access file operations.

b) Enumerate the steps used to connect to database using JDBC.

[5+5]

10.a) Design an application that handles the button click event.

b) How to pass parameters to applets? Illustrate using Java Code.

[5+5]

OR

QA QA QA QA QA QA QA G

11.a) What is the importance of adapter classes and list out the event listeners and the corresponding adapter classes?

b) List out the security issues of applets?

[5+5]

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QA QA QA QA QA QA QA G

QA QA QA QA QA QA QA G

QA QA QA QA QA QA QA G

QA QA QA QA QA QA QA G