

Reg. No. :

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Question Paper Code: 2436363

B.E. / B.Tech. DEGREE EXAMINATIONS, NOV / DEC 2024

Sixth Semester

Artificial Intelligence and Data Science

U20AI625 – JAVA PROGRAMMING

(Regulation 2020)

Time: Three Hours

Maximum: 100 Marks

Answer ALL questions

PART – A

(10 x 2 = 20 Marks)

1. Why is Java not a pure object-oriented language?
2. Write a java Program to display the grade of a student in a five subject mark statement using else if condition.
3. Assume that there are three statements in a try block – statement1, statement 2 and statement 3 and that there is a catch block to catch the exceptions occurred in the try block. If exception has occurred in statement 2, does statement 3 get executed or not?
4. How can you access package from another package?
5. Write about Input and Output streams in java.
6. What are Set and its types?
7. Write a java program to count number of words and characters using Key Listener.
8. List the uses of JList.
9. How will you get the current state of thread? Give an example.
10. Define pure function?

PART – B

(5 x 16 = 80 Marks)

11. (a) What is an Operator? Explain various types of operators in java with suitable programs. (16)

(OR)

- (b) Create a java program for an "Electricity Bill" with the following attributes: Consumer number, consumer name, previous month's reading, current month's reading and the type of EB connection (either domestic or commercial)
If the type of the EB connection is domestic, calculate the amount to be paid as follows:

- 001- 100 units - Rs. 1 per unit
- 101- 200 units - Rs. 2.50 per unit
- 201- 500 units - Rs. 4 per unit
- > 501 units - Rs. 6 per unit

If the type of the EB connection is commercial, calculate the amount to be paid as follows:

- 001- 100 units - Rs. 2 per unit
- 101-200 units - Rs. 4.50 per unit
- 201 -500 units - Rs. 6 per unit
- > 501 units - Rs. 7 per unit (16)

12. (a) Explain the following runtime expectations with programs. (16)

- (i) ArithmeticException
- (ii) ClassCastException
- (iii) NullPointerException
- (iv) ArrayIndexOutOfBoundsException
- (v) NegativeArraySizeException

(OR)

- (b) Explain Inheritance and its types with suitable program. (16)

13. (a) Explain character stream. Write a java program to read data from one file and write that data in another file using character stream. (16)

(OR)

- (b) Discuss in detail how is java platform implementing Map collection framework. (16)

14. (a) Create a simple calculation in java using Swing. It reads two numbers using JTextFields and four JButtons to perform addition, subtraction, multiplication and division operations and a JTextFields to display the result. Add ActionListeners interface to perform appropriate actions. (16)

(OR)

- (b) Create a java application to insert and display an employee's details in MYSQL using the concept of JDBC programming. (16)

15. (a) (i) Explain the life cycle of threads with a neat block diagram. (8)

- (ii) Explain in detail about generic classes. (8)

(OR)

- (b) Describe the how Synchronization Methods are used in Java Threads to avoid deadlock constraints with suitable code. (16)