Enrolment No/Seat No.: _____

R.N.G.PATEL INSTITUTE OF TECHNOLOGY-RNGPIT

(An Autonomous Institute U/s UGC Act 1956)

IMSc-IT SEMESTER-III, SEMESTER END EXAMINATION – WINTER 2025

SUBJECT CODE: 1BS305 **DATE: 26-12-2025**

SUBJECT NAME: JAVA PROGRAMMING

TIME: 11:00 AM to 01:30 PM **TOTAL MARKS: 70**

Instructions

1. It is **compulsory** for students to write **Enrolment No. /Seat No.** on the question paper.
2. Write answers of **Section A** and **Section B** in **separate answer books**.
3. Attempt all questions from both **Section A** and **Section B**.
4. Each section carries **35 marks**, with a total of **70 marks** for the examination.
5. The figures to the right of each question indicate full marks, make suitable assumptions with justification.
6. BL - Cognitive Level (As per Revised Bloom's Taxonomy) (R-Remember, U-Understanding, A –Application, N –Analyze, E – Evaluate, C -Create), CO - Course Outcomes.

SECTION A

			Marks	BL	CO
Q.1	**(a)**	What is a Map in Java?	**03**	**R**	**4**
	(b)	Differentiate between List, Set, and Map with examples.	**04**	**U**	**4**
Q.2	**(a)**	What is JavaFX?	**03**	**R**	**5**
	(b)	Explain the life-cycle methods of a JavaFX application.	**04**	**U**	**5**
	(c)	Write a JavaFX program that creates a window with label, text field and button components.	**07**	**A**	**5**
		OR			
Q.2	**(a)**	What is the purpose of the Application class in JavaFX?	**03**	**R**	**5**
	(b)	Explain Scene Graph with stages.	**04**	**U**	**5**
	(c)	Write a JavaFX program that draws the rectangle, circle and line shapes.	**07**	**A**	**5**
Q.3	**(a)**	What is JDBC?	**03**	**R**	**6**
	(b)	Describe the four types of JDBC drivers with examples.	**04**	**U**	**6**
	(c)	Explain PreparedStatement and ResultSet in JDBC with suitable examples.	**07**	**A**	**6**
		OR			

Q.3	**(a)**	What is a ResultSet in JDBC?	**03**	**R**	**6**
	(b)	Explain the role of Connection and Statement interfaces.	**04**	**U**	**6**
	(c)	Explain JDBC Architecture with suitable diagram.	**07**	**A**	**6**

SECTION B

			Marks	BL	CO
Q.4	**(a)**	Explain the difference between Java compiler and Java interpreter.	**03**	**U**	**1**
	(b)	Explain different types of data types and type casting in Java with examples.	**04**	**U**	**1**
Q.5	**(a)**	What are objects and classes in Java? Explain with example.	**03**	**R**	**2**
	(b)	Explain method overloading and method overriding with examples.	**04**	**U**	**2**
	(c)	Explain inheritance in Java. Write a program to demonstrate single and multilevel inheritance.	**07**	**A**	**2**
		OR			
Q.5	**(a)**	What is exception handling in Java and why is it needed?	**03**	**R**	**2**
	(b)	Differentiate between String, StringBuffer, and StringBuilder classes in Java.	**04**	**U**	**2**
	(c)	Explain exception handling in Java with example.	**07**	**A**	**2**
Q.6	**(a)**	What is a thread in Java? Explain the thread model.	**03**	**R**	**3**
	(b)	Explain package naming conventions and type imports in Java.	**04**	**U**	**3**
	(c)	Explain the lifecycle of a thread in Java with suitable example.	**07**	**U**	**3**
		OR			
Q.6	**(a)**	What are thread priorities in Java?	**03**	**R**	**3**
	(b)	What are package access levels and contents in Java?	**04**	**U**	**3**
	(c)	Explain package creation and usage with an example. Also describe package specification and object.	**07**	**U**	**3**

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