

R.N.G.PATEL INSTITUTE OF TECHNOLOGY-RNGPIT
(An Autonomous Institute U/s UGC Act 1956)

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

SUBJECT CODE: 2BS104

DATE: 22-12-2025

SUBJECT NAME: INTRODUCTION TO 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 dynamic memory allocation?	03	R	4
	(b)	Explain the difference between structure and union with example.	04	U	4
Q.2	(a)	Define parameter and argument.	03	R	5
	(b)	Define recursion. Give an example of a recursive function.	04	U	5
	(c)	Write a C program to pass an array to a function and display the sum of all its elements.	07	A	5
OR					
Q.2	(a)	What is the difference between call by value and call by reference?	03	R	5
	(b)	Explain the difference between actual parameters and formal parameters with example.	04	U	5
	(c)	Write a C program to calculate the factorial of a number using recursion.	07	A	5
Q.3	(a)	Write the syntax for reading a file using fscanf().	03	R	6
	(b)	Explain the steps for opening and closing a file in C.	04	U	6
	(c)	Write a C program to copy contents from one file to another.	07	A	6

OR

Q.3	(a) What is the difference between fgetc() and getc()?	03	R	6
	(b) Explain the use of fprintf() and fscanf() with examples.	04	U	6
	(c) Write a C program to create a file “student.txt”, read & write student details in it.	07	A	6

SECTION B

		Marks	BL	CO
Q.4	(a) Explain Source Code, Object Code, and Executable Code.	03	U	1
	(b) Explain different data types in C.	04	U	1
Q.5	(a) What are decision-making statements in C? Give examples.	03	U	2
	(b) Explain looping statements in C with an example.	04	U	2
	(c) Write a program to find whether a number is even or odd using if–else statement.	07	A	2

OR

Q.5	(a) What is the use of break and continue statements in C?	03	U	2
	(b) Explain the switch-case statement with an example.	04	U	2
	(c) Write a program to display the multiplication table of a given number using for loop.	07	A	2
Q.6	(a) What is an array in C? Explain declaration and initialization.	03	U	3
	(b) Explain types of arrays with example.	04	U	3
	(c) Write a program to find the sum of all elements in a one-dimensional array.	07	A	3

OR

Q.6	(a) Define a pointer. How do you declare and initialize a pointer in C?	03	U	3
	(b) Explain any four string functions in C with example.	04	U	3
	(c) Write a program to find the smallest and largest number in an array.	07	A	3
