

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: 1BS104

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 - Bloom's Taxonomy Levels (R-Remember, U-Understanding, A –Application, N –Analyze, E – Evaluate, C -Create), CO - Course Outcomes.

SECTION A

	Marks	BL	CO
Q.1 Multiple-Choice Questions	[05]		
(a) Which of the following correctly declares a one-dimensional array in C?	1	R	3
(i) Int a[];			
(ii) Int a[5];			
(iii) Int a;			
(iv) Int a{};			
(b) Which function is used to find the length of a string?	1	R	3
(i) Strlen();			
(ii) Strcmp();			
(iii) Strcat();			
(iv) Strcpy();			
(c) Which of the following represents a pointer to a pointer correctly?	1	R	3
(i) Int *P;			
(ii) Int **P;			
(iii) Int P**;			
(iv) Int &P;			
(d) What is the size of an array int a[10]; where int = 4 bytes?	1	R	3
(i) 10			
(ii) 4			
(iii) 40			
(iv) 14			

(e) Which keyword is used to define a function in C?	1	R	4
(i) Function	(ii) Def		
(iii) Void / return type	(iv) Fun()		

Q.2 Attempt Any Two	[10]		
(a) Explain the concept of One-dimensional and Two-dimensional arrays with suitable examples.	5	U	3
(b) What is a String in C? Explain how strings are stored and manipulated using built-in string functions.	5	U	3
(c) Write a program in C to read and display 5 student names using an array of strings.	5	A	3
Q.3 Attempt Any Two	[10]		
(a) Explain the concept of a Pointer in C. What is the difference between pointer and pointer-to-pointer?	5	U	3
(b) Write a short note on Pointer to Structure and Array of Pointers with examples.	5	U	3
(c) Write a program in C to demonstrate the use of pointer to array (display elements using pointers).	5	A	3
Q.4 Attempt Any Two	[10]		
(a) What is a User-defined Function? Explain its components: declaration, definition, and call with example.	5	U	4
(b) Differentiate between Call by Value and Call by Reference with suitable example.	5	U	4
(c) Write a program in C to find factorial of a number using function (with argument and return value).	5	A	4

SECTION B

	Marks	BL	CO
Q.5 Multiple-Choice Questions	[05]		
(a) Which of the following symbol is used for decision making in flowchart?	1	R	1
(i) Circle			
(ii) Diamond			
(iii) Oval			
(iv) Arrow			
(b) Which of the following data type is NOT allowed in switch condition?	1	R	1
(i) Int			
(ii) char			
(iii) float			
(iv) short			
(c) Which of the following is/are relational operator(s)?	1	R	1
(i) >			
(ii) <			
(iii) = =			
(iv) All of the mentioned			
(d) Which loop in C guarantees execution of its body at least once, regardless of the condition?	1	N	2
(i) for			
(ii) while			
(iii) do-while			
(iv) if			
(e) Which function is used to read a single character from a file?	1	R	5
(i) readchar()			
(ii) fread()			
(iii) getc()			
(iv) read()			
Q.6 Attempt Any Two	[10]		
(a) What is Programming? Explain concepts of Source code, Object code and Executable code.	5	U	1
(b) Explain Arithmetic and Logical operators with suitable example.	5	U	1
(c) What is type conversion? Explain any 4 output functions.	5	R	1
Q.7 Attempt Any Two	[10]		
(a) What is Loop? Explain entry-controlled loop in detail.	5	U	2
(b) Write difference between If condition and Switch statements.	5	U	2
(c) Write a program to find a given number is even or odd.	5	A	2

Q.8 Attempt Any Two	[10]		
(a) How to open a file in C Language? Discuss different modes used for file opening.	5	R	5
(b) Explain common errors that can occur during file I/O operations and discuss its solution.	5	U	5
(c) Write a program to count number of characters in the file.	5	A	5
