Enrolment No/Seat No.: _____

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

(An Autonomous Institute U/s UGC Act 1956)

B.Tech. SEMESTER-II, SEMESTER END EXAMINATION – WINTER 2025

SUBJECT CODE: 1CS101 **DATE: 07-01-2026**

SUBJECT NAME: FUNDAMENTAL OF COMPUTER 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 symbol is used in flowcharts to represent input/output operations?	**1**	**U**	**1**
	(i) Rectangle **(ii)** Diamond			
	(iii) Parallelogram **(iv)** Oval			
	(b) Which formatted input function is used to read data from the keyboard in C?	**1**	**U**	**1**
	(i) `printf()` **(ii)** `getchar()`			
	(iii) `scanf()` **(iv)** `puts()`			
	(c) What is recursion in C?	**1**	**R**	**4**
	(i) Calling one function inside another **(ii)** Defining multiple functions			
	(iii) A function calling itself **(iv)** Using global variables			
	(d) How are structure members accessed in C?	**1**	**R**	**4**
	(i) Using -> operator **(ii)** Using : operator			

(iii) Using . operator **(iv)** Using & operator

(e) What does a pointer in C store?		**1**	**R**	**5**

(i) A variable value **(ii)** A memory address

(iii) A function name **(iv)** A file name

Q.2	**Attempt Any Two**	**[10]**		
(a)	Explain operator precedence and associativity in C programming. How do they affect the evaluation of expressions? Illustrate with suitable examples.	**5**	**A**	**1**
(b)	Explain increment and decrement operators with examples.	**5**	**A**	**1**
(c)	Explain an algorithm and a flowchart. Explain the symbols used in a flowchart and illustrate with a flowchart to find the sum of two numbers.	**5**	**A**	**1**
Q.3	**Attempt Any Two**	**[10]**		
(a)	Explain the syntax and importance of a function declaration in C.	**5**	**U**	**4**
(b)	Write a C program to call a user-defined function named sum () to add two numbers.	**5**	**A**	**4**
(c)	Explain variable visibility with respect to local, global, and static variables.	**5**	**U**	**4**
Q.4	**Attempt Any Two**	**[10]**		
(a)	What is a pointer in C? Explain its importance and basic usage.	**5**	**U**	**5**
(b)	Explain any three file functions with suitable example.	**5**	**A**	**5**
(c)	Explain the difference between an array of pointers and a pointer to an array, with examples.	**5**	**A**	**5**

SECTION B

		Marks	BL	CO
Q.5	**Multiple-Choice Questions**	**[05]**		
(a)	Which statement is used to execute a block of code only when a condition is true?	**1**	**R**	**2**
	(i) if statement **(ii)** switch statement			
	(iii) goto statement **(iv)** break statement			
(b)	The conditional operator ?: is also known as:	**1**	**R**	**2**
	(i) Binary operator **(ii)** Unary operator			
	(iii) Ternary operator **(iv)** Logical operator			
(c)	Which statement is used as an alternative to a long if-else ladder?	**1**	**R**	**2**
	(i) while **(ii)** continue			
	(iii) goto **(iv)** switch			
(d)	What is the output of the following code?	**1**	**N**	**2**

```
int i = 0;
while (++i <= 3)
   printf("%d ", i);
```

(i) 0 1 2 **(ii)** 1 2 3

(iii) 1 2 **(iv)** Infinite loop

(e) What is the output of the following code? **1** **N** **2**

```
int x = 5;
if (x > 10)
   printf("A1");
else if (x > 3)
   printf("B2");
else
   printf("C3");
```

(i) A1 **(ii)** B2

(iii) C3 **(iv)** No output

Q.6	**Attempt Any Two**	**[10]**		
	(a) Describe the ternary operator. Explain its syntax and usage with an example.	**5**	**A**	**2**
	(b) Explain the switch statement. Discuss the role of case, break, and default.	**5**	**U**	**2**
	(c) Write a program using looping and decision-making statements to check whether a given number is prime or not.	**5**	**A**	**2**
Q.7	**Attempt Any Two**	**[10]**		
	(a) Explain the concept of an array. Mention the advantages of using arrays in programming.	**5**	**U**	**3**
	(b) Explain the difference between character arrays and strings in C.	**5**	**U**	**3**
	(c) Explain the concept of variable length arrays. How do they differ from static arrays?	**5**	**U**	**3**
Q.8	**Attempt Any Two**	**[10]**		
	(a) Write a program to find the largest element in an array.	**5**	**A**	**3**
	(b) Write a program to read a string and find its length without using library functions.	**5**	**A**	**3**
	(c) Write a program to count the number of vowels in a given string.	**5**	**A**	**3**

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