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

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

Subject Code: 1CS101	**Date: 20-05-2025**
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) In C, if a function does not return a value, which keyword is used?	**1**	**U**	**4**

    (i) int   **(ii)** float

    (iii) void   **(iv)** double

	Marks	BL	CO
(b) Which of the following is true about recursion?	**1**	**R**	**4**

    (i) A function calling itself   **(ii)** A function that never terminates

    (iii) A function called by the operating system   **(iv)** A function calling another function

	Marks	BL	CO
(c) What keyword is used to define a structure in C?	**1**	**U**	**4**

    (i) struct   **(ii)** structure

    (iii) record   **(iv)** object

	Marks	BL	CO
(d) Which operator is used to get the address of a variable?	**1**	**A**	**5**

    (i) * (asterisk)   **(ii)** & (ampersand)

    (iii) -> (arrow)   **(iv)** . (dot)

	Marks	BL	CO
(e) What is the correct mode to open a file for reading only?	**1**	**U**	**5**

    (i) "r"   **(ii)** "w"

    (iii) "a"   **(iv)** "r+"

Q.2   Attempt Any Two   **[10]**

    (a) Describe the Basic structure of 'C' program with proper diagram.   **5**   **U**   **1**

    (b) Give difference between the algorithm and flowchart with appropriate   **5**   **U**   **1**
        example.

    (c) Enlist types of operators in C and explain any two operators with an   **5**   **A**   **1**
        example.

Q.3   Attempt Any Two   **[10]**

    (a) Define: Union. Give the comparison between structure and union.   **5**   **U**   **4**

    (b) Enlist and explain the elements of function with an example.   **5**   **A**   **4**

    (c) Define a structure type employee that would contain person name, date of   **5**   **A**   **4**
        joining and salary. Using this structure, write a program to read this
        information for one employee and display on screen.

Q.4   Attempt Any Two   **[10]**

    (a) Enlist various file management function in C and explain any four   **5**   **U**   **5**
        functions in detail.

    (b) Write a note on Dynamic memory allocation.   **5**   **U**   **5**

    (c) Define Pointer. Explain the concept of pointer using example to store and   **5**   **A**   **5**
        print the address of variable.

SECTION B

	Marks	BL	CO

Q.5 **Multiple-Choice Questions** [05]

(a) What will be the output? — **1 E 1**

```
int i;
for (i = 0; i < 3; i++)
{
    if (i == 1)
        break;
    Printf("%d",i);
}
```

(i) 0   **(ii)** 0 1

(iii) 0 1 2   **(iv)** 1

(b) Which of the following is equivalent to if...else using the conditional operator? — **1 N 1**

(i) if (a > b) ? a : b;   **(ii)** (a > b) ? a : b;

(iii) if (a > b) then a else b;   **(iv)** a > b ? : a;

(c) Which of the following is the correct way to declare a string in C? — **1 R 2**

(i) char str = "Hello";   **(ii)** char str[] = {'H', 'e', 'l', 'l', 'o', '\0'};

(iii) char str[] = (Hello);   **(iv)** string str = "Hello";

(d) Which of the following best describes an array in C? — **1 R 2**

(i) A collection of variables of different types   **(ii)** A data structure that can store integers only

(iii) A group of consecutive memory locations with the same data type   **(iv)** A structure for dynamic memory allocation

(e) What is the index of the last element in an array of size n? — **1 N 2**

(i) n   **(ii)** n+1

(iii) n-1   **(iv)** n-2

Q.6 **Attempt Any Two** [10]

(a) What is Array? Explain one-dimensional and two-dimensional arrays in C. Show declaration, initialization, and access with examples. — **5 U 2**

(b) Explain any two loops with proper syntax and example. — **5 R 2**

(c) Write a C program to print following patterns :

```
*
**
***
****
```

	5	E	1

Q.7 **Attempt Any Two** **[10]**

(a) Construct a C program to multiply 3X3 matrix.   5   A   2

(b) Explain Switch statement with example.   5   U   1

(c) Write a C program which takes marks (between 0 to 100) of a student for 3   5   E   1
subjects. It should print grade of a student based on Percentage of Student's
marks. "A" for >=85%,"B" between >=70% and <85%,"C" between >=50%
and <70%,"PASS" between >=35% and <50%, "FAIL", if any one subject
marks are <35.

Q.8 **Attempt Any Two** **[10]**

(a) Explain Break and Continue statement with example.   5   U,R   1

(b) Explain nested if else statement with proper syntax and example.   5   U,R   1

(c) Explain significance of following string functions with example.   5   N   2
     1. strcat()
     2. strlen()
     3. Strrev()
     4. strcpy()
     5. strcmp()

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