

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

B.VOC. SEMESTER – I, SEMESTER END EXAMINATION – SUMMER 2025

Subject Code: 1SD103**Date: 02-06-2025****Subject Name: FUNDAMENTALS OF COMPUTER****PROGRAMMING****Time: 11:00 AM - 01:00 PM****Total Marks: 50****Instructions**

1. It is **compulsory** for students to write **Enrolment No. /Seat No.** on the question paper.
2. Attempt all questions in the question paper.
3. The figures to the right of each question indicate full marks. Make suitable assumptions with proper justification wherever required.
4. Simple, non-programmable scientific calculators are permitted.
5. BL - Bloom's Taxonomy Levels (R-Remember, U-Understanding, A-Application, N-Analyze, E-Evaluate, C-Create), CO - Course Outcomes.

Marks BL CO**Q.1 Multiple-Choice Questions****[05]****(a) Which of the following is a correct declaration of a variable in C?****1 R 1****(i)** int number = "10";**(ii)** int = number 10;**(iii)** int number = 10;**(iv)** number int = 10;**(b) What will be the output of the following code snippet?****1 U 2**

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

(i) 1 2 3**(ii)** 0 1 2**(iii)** 0 1 2 3**(iv)** Infinite loop**(c) Which of the following correctly declares a 2D array of size 3x3 in C?****1 A 3****(i)** int arr(3,3);**(ii)** int arr[3][3];**(iii)** int arr[3,3];**(iv)** array int[3][3];**(d) What is the correct way to pass a variable to a function by value in C?****1 U 4****(i)** By using a pointer**(ii)** By assigning the address**(iii)** By passing the actual value as an argument**(iv)** By using global variables

(e) Which function is used to dynamically allocate memory in C?	1	A	5
(i) calloc()	(ii) scanf()		
(iii) fopen()	(iv) malloc()		

Q.2 Attempt Any Three	[15]		
(a) Recall the purpose of scanf() and printf() functions.	5	R	1
(b) Differentiate between variables and constants with suitable examples.	5	U	1
(c) Write a C program that calculates the area of a rectangle using user input.	5	A	1
(d) Mention the difference between continue and break statements.	5	R	2
Q.3 Attempt Any Three	[15]		
(a) Illustrate the use of continue within a loop with an example.	5	U	2
(b) Develop a program that uses a for loop to print a multiplication table for a given number.	5	A	2
(c) Explain how a nested if...else structure works with an example.	5	U	3
(d) How does a switch statement differ from a ladder if...else?	5	U	3
Q.4 Attempt Any Three	[15]		
(a) Differentiate between call by value and call by reference with examples.	5	U	4
(b) Develop a program to swap two variables using call by reference.	5	A	4
(c) Compare malloc() and calloc() in terms of their functionality and usage.	5	U	5
(d) Write a C program to create a text file and write user input into it.	5	A	5
