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

B.Voc. SEMESTER-I, SEMESTER END EXAMINATION – WINTER 2025

SUBJECT CODE: 1AVFX102   **DATE: 17-12-2025**
SUBJECT NAME: FUNDAMENTALS OF COMPUTER
                                PROGRAMMING
TIME: 11:00 AM to 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 - Cognitive Level (As per Revised Bloom's Taxonomy) (R-Remember, U-Understanding, A –Application, N –Analyze, E – Evaluate, C -Create), CO - Course Outcomes.

			Marks	BL	CO
Q.1	**(a)**	Define algorithm and flowchart. Why are they important in programming?	**05**	**R**	**1**
	(b)	Write an algorithm and draw a flowchart to find the maximum number among three numbers.	**05**	**A**	**1**
Q.2	**(a)**	Explain the difference between nested if and else-if ladder with a simple example.	**05**	**U**	**2**
	(b)	Write a program using switch statement to create a simple calculator that performs basic arithmetic operations.	**05**	**A**	**2**

OR

			Marks	BL	CO
Q.2	**(a)**	Differentiate between while and do...while loops using an easy example.	**05**	**U**	**2**
	(b)	Apply looping to display the multiplication table of a number entered by the user.	**05**	**A**	**2**
Q.3	**(a)**	Explain how to declare a one-dimensional array in C with an example.	**05**	**U**	**3**
	(b)	Write a C program to input and display a 3×3 matrix using a two-dimensional array.	**05**	**A**	**3**

OR

			Marks	BL	CO
Q.3	**(a)**	Explain an array with its features and advantages in C.	**05**	**U**	**3**
	(b)	Write a C program to find the length of a string, copy it, and join it with another string using strlen(), strcpy(), and strcat().	**05**	**A**	**3**

Q.4	(a)	Explain the difference between actual and formal parameters in C with an example.	05	U	4
	(b)	Write a C program to swap two numbers using Call by Value.	05	A	4

OR

Q.4	(a)	Describe how to declare and initialize structure variables in C.	05	U	4
	(b)	Write a C program to swap two numbers using Call by Reference.	05	A	4

Q.5	(a)	Explain what a pointer is in C and how to declare and initialize it with an example.	05	U	5
	(b)	Write a C program using malloc() or calloc() to store marks of 5 students and calculate their average.	05	A	5

OR

Q.5	(a)	Describe the purpose of file management functions in C with a simple example.	05	U	5
	(b)	Write a C program using a pointer to change the value of a variable.	05	A	5

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