Seat No.:		Q. Paper Code: FTC-A-030	SET	P

Fabtech Technical Campus, College of Engineering & Research, Sangola

(An Autonomous Institute)

Electronics & Telecommunication Engineering, Electrical Engineering

Academic Year: -2025-26, Semester-I

Foundations of Programming and Problem Solving (25UCS11011)

Regular End Semester Examination 2025-26 [Dec./Jan.]

Class:	F. Y. B. Tech.	**Day & Date:**	Saturday, 17/01/2026
Duration:	03 Hrs.	**Max. Marks:**	60 Marks
Time:	10:00 AM TO 01:00 PM		

Instructions:

1) Q. No. 1 is compulsory. It should be solved in the first 30 minutes in the Page No.3 of answersheet.
2) Don't forget to mention the question paper set (P/Q/R) on the top of the page 3.

Q. 1	Multiple Choice Questions (MCQs) Each question carries 1 mark	Marks: 10 CO	BL
1	Which of the following is a basic data type in C? A. array B. structure C. int D. union	1	1
2	Which function is used to display output in C? A. input() B. print() C. printf() D. output()	1	1
3	Which statement is used to execute a block of code only when a condition is true? A. for B. if C. switch D. goto	2	1
4	Which loop is called an entry-controlled loop? A. do-while B. while C. for D. if	2	1
5	An array is a collection of: A. Different data types B. Similar data types C. Functions D. Pointers	3	1
6	Which of the following represents a 2-D array? A. int a[10]; B. int a[3][3]; C. int a(3,3); D. int a{3}{3};	3	1
7	Which strategy divides a problem into smaller sub-problems? A. Trial and Error B. Greedy approach C. Divide and Conquer D. Brute force	4	1
8	Trial and Error method means: A. Solving problem in parts B. Trying different solutions until correct one is found C. Always choosing best option D. Writing algorithm	4	1
9	Which keyword is used to define a structure? A. struct B. structure C. typedef D. union	5	1

10	Which function is used to open a file? A. fopen() B. open() C. create() D. fileopen()	5	1

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4) Make suitable assumptions if necessary and state it clearly.
5) Use of non-programmable calculator is allowed.

Q. No.	Questions	Marks	CO	BL
Q. 2	**Attempt any two of the following**	**10**		
1	Describe the structure of a C program with the function of each section	**5**	1	2
2	Explain different data types available in C with examples.	**5**	1	2
3	Write a C program to read two integers and display their sum using scanf() and printf().	**5**	1	3
Q. 3	**Attempt any two of the following**	**10**		
1	Explain the use of break and continue statements in C programs.	**5**	2	2
2	Write a note on if and if–else statements with suitable examples.	**5**	2	2
3	Write a C program to find the factorial of a given number using a while loop.	5	2	3
Q. 4	**Attempt any two of the following**	**10**		
1	Explain the concept of one-dimensional arrays in C. How are array elements stored in memory?	**5**	3	2
2	Describe the string functions strlen(), strcpy(), and strcmp(),strcat().	**5**	3	2
3	Write a C program to read and display elements of a one-dimensional array.	**5**	3	3
Q. 5	**Attempt any two of the following**	**10**		

1	Explain the Trial and Error method of problem solving with a suitable example.	**5**	4	2
2	Describe the Greedy approach and state its advantages and limitations.	**5**	4	2
3	Apply the Bottom-Up approach to develop a solution for a calculator program.	**5**	4	3
Q. 6	**Attempt any two of the following**	**10**		
1	Define a structure in C. Explain its syntax and advantages over variables.	**5**	5	2
2	Describe the functions fopen(), fclose(), fprintf(), and fscanf().	**5**	5	2
3	Write a C program to define a structure Student containing roll number, name, and marks, and display the details of one student.	**5**	5	3

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3	Trial and Error method means: A. Solving problem in parts B. Trying different solutions until correct one is found C. Always choosing best option D. Writing algorithm	4	1
4	Which keyword is used to define a structure? A. struct B. structure C. typedef D. union	5	1
5	Which function is used to open a file? A. fopen() B. open() C. create() D. fileopen()	5	1
6	Which of the following is a basic data type in C? A. array B. structure C. int D. union	1	1
7	Which function is used to display output in C? A. input() B. print() C. printf() D. output()	1	1
8	Which statement is used to execute a block of code only when a condition is true? A. for B. if C. switch D. goto	2	1
9	Which loop is called an entry-controlled loop? A. do-while B. while C. for D. if	2	1

10	An array is a collection of: A. Different data types C. Functions	 B. Similar data types D. Pointers	3	1

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3	Write a C program to read two integers and display their sum using scanf() and printf().	**5**	1	3
Q. 3	**Attempt any two of the following**	**10**		
1	Explain the use of break and continue statements in C programs.	**5**	2	2
2	Write a note on if and if–else statements with suitable examples.	**5**	2	2
3	Write a C program to find the factorial of a given number using a while loop.	5	2	3
Q. 4	**Attempt any two of the following**	**10**		
1	Explain the concept of one-dimensional arrays in C. How are array elements stored in memory?	**5**	3	2
2	Describe the string functions strlen(), strcpy(), and strcmp(),strcat().	**5**	3	2
3	Write a C program to read and display elements of a one-dimensional array.	**5**	3	3
Q. 5	**Attempt any two of the following**	**10**		

1	Explain the Trial and Error method of problem solving with a suitable example.	**5**	4	2
2	Describe the Greedy approach and state its advantages and limitations.	**5**	4	2
3	Apply the Bottom-Up approach to develop a solution for a calculator program.	**5**	4	3
Q. 6	**Attempt any two of the following**	**10**		
1	Define a structure in C. Explain its syntax and advantages over variables.	**5**	5	2
2	Describe the functions fopen(), fclose(), fprintf(), and fscanf().	**5**	5	2
3	Write a C program to define a structure Student containing roll number, name, and marks, and display the details of one student.	**5**	5	3

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8	An array is a collection of: A. Different data types B. Similar data types C. Functions D. Pointers	3	1
9	Which of the following represents a 2-D array? A. int a[10]; B. int a[3][3]; C. int a(3,3); D. int a{3}{3};	3	1

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3	Write a C program to define a structure Student containing roll number, name, and marks, and display the details of one student.	**5**	5	3