Enrolment No./Seat No_____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE- SEMESTER–I&II EXAMINATION – SUMMER 2025

Subject Code:BE01000121 Date:12-06-2025

Subject Name:Programming for Problem Solving

Time:10:30 AM TO 01:00 PM Total Marks:70

Instructions:

1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**
4. **Simple and non-programmable scientific calculators are allowed.**

			Marks
Q.1	**(a)**	Draw block diagram of computer and explain functionalities of various components of computer.	**03**
	(b)	Brief about computer hardware and software.	**04**
	(c)	Write algorithm or flowchart for finding maximum out of three numbers entered by user.	**07**
Q.2	**(a)**	Explain the structure of for loop with proper example.	**03**
	(b)	Explain nested if-else statement with suitable example.	**04**
	(c)	Explain different bit-wise operators with the example.	**07**
		OR	
	(c)	Explain different string functions with example.	**07**
Q.3	**(a)**	Discuss the need of break and continue statements with example.	**03**
	(b)	Explain recursion with example.	**04**
	(c)	Explain Declaration, initialization and Printing on screen of a String using suitable program.	**07**
		OR	
Q.3	**(a)**	Explain while loop and do-while loop with example	**03**
	(b)	What are header files? List any three with its usage.	**04**
	(c)	Explain one dimensional array, two-dimensional array and multi-dimensional array with their syntax and example.	**07**
Q.4	**(a)**	What is pointer? Which arithmetic operations are valid on pointers?	**03**
	(b)	What is structure? How it is different from union? Explain nested structure with example.	**04**
	(c)	Write a C program to find the largest number amongst three numbers entered by user.	**07**
		OR	
Q.4	**(a)**	What is pointer to pointer? Write suitable example to demonstrate the concept.	**03**
	(b)	Define Union in ‘C’ with suitable example.	**04**
	(c)	Write a C program to check if entered integer is a prime number or note.	**07**
Q.5	**(a)**	Explain various file management function in C.	**03**
	(b)	Show the use of Malloc, Calloc, Free and Realloc in context of Dynamic memory allocation.	**04**
	(c)	Explain error handling in file system with example.	**07**

OR

Q.5	**(a)**	Explain debugging techniques.	**03**
	(b)	Differentiate call by value and call by reference.	**04**
	(c)	Explain the following File Handling functions: 1. fseek( ) 2. ftell( ) 3. fread( ). 4. fwrite( ) 5. fscanf( ) 6. fprintf( ) 7.rewind( )	**07**

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