

# GUJARAT TECHNOLOGICAL UNIVERSITY

BE- SEMESTER-I & II EXAMINATION – WINTER 2024

Subject Code:BE01000121

Date:13-01-2025

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
<b>Q.1</b>	(a) Write an algorithm to check whether the entered number is Even or Odd.	<b>03</b>
	(b) Describe various symbols used for preparing flow chart.	<b>04</b>
	(c) Explain different type of operators used in c language with their precedence and associativity.	<b>07</b>
<b>Q.2</b>	(a) Differentiate: Exit controlled Loop and Entry controlled Loop	<b>03</b>
	(b) Explain: a) break statement b) continue statement	<b>04</b>
	(c) Write a C program to find factorial of a number.	<b>07</b>
	<b>OR</b>	
	(c) Construct a C program to swap the values of two integers with use of only two variables.	<b>07</b>
<b>Q.3</b>	(a) Demonstrate the use of conditional operator statement with an example.	<b>03</b>
	(b) Explain the structure of switch case statement.	<b>04</b>
	(c) Write a program to print the triangle shown below. 1 1 0 1 0 1 1 0 1 0 1 0 1 0 1	<b>07</b>
	<b>OR</b>	
<b>Q.3</b>	(a) Write a program to check whether entered character is vowel or not?	<b>03</b>
	(b) Explain getch(), getchar(), gets(), puts() .	<b>04</b>
	(c) Write a program to add all the elements of an array.	<b>07</b>
<b>Q.4</b>	(a) What is structure? Explain with example how to declare a structure and how to initialize it.	<b>03</b>
	(b) Explain following string manipulation function. strcat( ), strcpy( ), strcmp( ) and strlen( )	<b>04</b>

- (c) Define a Structures which contains details of a Cricketer: 07
- Name of Player:
  - Team name:
  - Total run scored:
  - Batting average:

**OR**

- Q.4** (a) Debug the following codes and show the output for this: 03
- ```
For ( i=0 ; i<=50 ; i++ );  
{  
printf( "\n %d" , i )  
}
```
- \*consider header files and declaration of variable is done.
- (b) Summarize the methods for initialization of One-Dimensional array. 04
- (c) Construct a C program to add 3X3 matrix. 07
- Q.5** (a) Differentiate between structure and union. 03
- (b) Explain fopen() and its mode with example. 04
- (c) Briefly explain any two file handling functions with an example. 07

**OR**

- Q.5** (a) Write True / False against following statements: 03
- 1) Pointer is a variable which holds address of location where value of other variable is stored.
  - 2) Pointer holds the address in form of float or integer.
  - 3) The address of a variable can be stored in two or more pointers.
- (b) Write a C program to copy content of one file to other with the help of file handling functions. 04
- (c) Develop a program in C to check the entered number is prime or not by creating a user-defined function named check\_prime(). 07

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