

GUJARAT TECHNOLOGICAL UNIVERSITY
BCA/ MCA INTEGRATED – SEMESTER I- EXAMINATION –SUMMER-2025

Subject Code: BC01001021**Date: 04/06/2025****Subject Name: Fundamental of Programming****Time:02:30 PM TO 05:00 PM****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make Suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Use of simple calculators and non-programmable scientific calculators are permitted.

	Marks
Q.1 (a) Basic Data types in C	07
(b) State two differences between 1) structure Vs union 2) compiler Vs interpreter.	07
Q.2 (a) What is loop? Explain while loop with example.	07
(b) What is control structure? Explain switch-case with example.	07
OR	
(b) What is nested if? Explain with suitable example.	07
Q.3 (a) What is function prototype? Write UDF (return by value) that implements given number is prime or not.	07
(b) Define term recursion. Using recursion find factorial's of N number.	07
OR	
Q.3 (a) Define array. Write code that finds average of 10 elements of an array.	07
(b) What is the last character of string? Explain with suitable example: strcat function.	07
Q.4 (a) What is pointer? Write code that swaps two integer values using pointer.	07
(b) Design a structure student_record that contains name, branch and total mark obtained. Develop a program to read data for 10 students in a class and print them.	07
OR	
Q.4 (a) Advantages and Disadvantages of pointer	07
(b) Define structure data type called date_struct containing three member's integer year, integer month and integer day. Develop a program that would assign values to the individual number and display the date in the following format: yyyy-mm-dd	07
Q.5 (a) Write a program to accept the contents from the user and store it in the file one line at a time and print the contents of the file.	07
(b) Write syntax and significance of fseek() and ftell() functions	07
OR	
Q.5 (a) Write syntax and significance of fopen() function..	07
(b) Write a code that read a file 'abc.txt' in reverse order.	07

Enrolment No. /Seat No.: _____

GUJARAT TECHNOLOGICAL UNIVERSITY

BCA/MCA INTEGRATED – SEMESTER I- EXAMINATION –WINTER-2024

Subject Code: BC01001021

Date: 01/01/2025

Subject Name: Fundamental of Programming

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. Use of simple calculators and non-programmable scientific calculators are permitted.

- Q.1**
- (a) I. Explain the scanf() and printf() function. **07**
II. Give the difference between WHILE and DO...WHILE loop.
III. Explain any two string functions.
IV. Define syntax Error.
V. What is Algorithm?
VI. Write different ways of writing comments on program.
VII. What is the use of EOF?
- (b) List and describe the basic data types available in C. **07**

- Q.2**
- (a) What is a compiler, and how does it differ from an interpreter? **07**
(b) Define flowchart. Explain the importance of flowchart. Also describe various symbols of flowchart. **07**

OR

- (b) Explain the structure of a C program, including its essential components. **07**

- Q.3**
- (a) Explain the concept of type conversion and typecasting in C with example. **07**
(b) Design a function in C that calculates the factorial of a number using recursion. **07**

OR

- Q.3**
- (a) Create a simple program using conditional execution (if-else statements) to determine if a number is odd or even. **07**
(b) Explain Entry and Exit Loops with Example. **07**

- Q.4**
- (a) Explain four different category of Function based on argument and return type. **07**
(b) Explain Union with proper example. What is the difference between Union & Structure. **07**

OR

- Q.4**
- (a) What is a string? List out all built-in string functions and Write a C Program for comparing two strings **07**
(b) Explain 2-D array with examples. **07**

- Q.5**
- (a) What is a Pointer? Explain array of pointer with suitable example. **07**
(b) Describe how to define and use a structure in C. **07**

OR

- Q.5**
- (a) Explain the process of declaring, opening, and closing a file in C with example **07**
(b) What are the differences between working with text files and binary files in C? **07**

Enrollment No./Seat No.:

GUJARAT TECHNOLOGICAL UNIVERSITY
BCA/MCA INTEGRATED - SEMESTER - I EXAMINATION - WINTER 2025

Subject Code: BC01001021

Date: 10-12-2025

Subject Name: Fundamental of Programming

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. Use of simple calculators and non-programmable scientific calculators are permitted.**

	Marks
Q.1 (a) I. Explain the use of getchar() and putchar() functions. II. Difference between for loop and while loop. III. Explain any two mathematical functions used in C. IV. Define Logical Error with an example. V. What is a Flowchart? VI. Write the rules for naming identifiers in C. VII. What is the purpose of EOF in file handling?	07
(b) List all the operators available in C and explain Logical Operators with suitable examples.	07
Q.2 (a) What is a Flowchart? Explain its importance in programming and draw a flowchart to find the sum and average of five numbers.	07
(b) What is a Linker, and what is its role in program execution? How does it differ from a Loader?	07
OR	
(b) What is the Structure of a C Program? Explain the different sections of a C program with the help of a suitable example.	07
Q.3 (a) Explain the concept of arrays in C. Write a program to find the largest element among three elements.	07
(b) Write a C function to check whether a given number is a palindrome or not using functions.	07
OR	
(a) Write a C program using switch-case to perform a simple calculator that can add, subtract, multiply, and divide two numbers.	07
(b) Write a C program using loop to find the sum of digits of a given number.	07
Q.4 (a) List all types of functions and explain Function with no arguments and no return value.	07
(b) What is a Nested Structure? Explain with an example.	07

OR

- (a) Explain how to access structure members using the dot (.) and arrow (→) operators in C. 07
- (b) What is Pointer Arithmetic? Explain Increment (ptr++), Decrement (ptr--), Addition, and Subtraction in pointers. 07
- Q.5** (a) Explain File Handling in C. How do you declare, open, and close a file? (Use fopen() and fclose() functions) 07
- (b) Explain file modes in C: 07
Read (r), Write (w), Append (a), Read + Write (r+, w+, a+)

OR

- (a) What is End of File (EOF)? Explain the use of the feof() function with an example. 07
- (b) Explain the concept of working with binary files in C with an example. 07
How do you open binary files in "rb" and "wb" modes?
