

Reg No.: \_\_\_\_\_

Name: \_\_\_\_\_

**APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY**  
Second Semester B.Tech Degree Examination June 2022 (2019 scheme)

**Course Code: EST102**

**Course Name: PROGRAMMING IN C (Common to all programs)**

Max. Marks: 100

Duration: 3 Hours

**PART A**

*Answer all Questions. Each question carries 3 Marks*

Marks

- |    |   |     |
|----|---|-----|
| 1  | What are the functions of ALU and CU?   | (3) |
| 2  | Draw a flowchart to find the sum of first N numbers.                                    | (3) |
| 3  | Differentiate between while and do-while loops using an example.                        | (3) |
| 4  | Why is the use of <i>goto</i> statement discouraged in C programs?                      | (3) |
| 5  | Write a C program to compare any two strings using string handling functions.           | (3) |
| 6  | Write a C program to find the largest element in an array.                              | (3) |
| 7  | Name the different types of parameter passing. Illustrate each of them with an example. | (3) |
| 8  | What are the advantages of modular programming?   | (3) |
| 9  | Distinguish between text mode and binary mode operation of a file.                      | (3) |
| 10 | What do you mean by a pointer variable? How is it initialised?                          | (3) |

**PART B**

*Answer any one Question from each module. Each question carries 14 Marks*

- 11 a) Explain linear search with an example. Draw a flowchart and write pseudo code to perform linear search on an array of numbers (14)

**OR**

- 12 a) List five important registers in CPU. Also state the purpose of each register. (6)  
b) Write an algorithm to find sum of digits of a number. (8)
- 13 a) Explain different data types supported by C language with their memory requirements. (7)  
b) Write down a C program to check if a number is present in a given list of numbers. If present give location of the number otherwise insert the number in the list at the end. (7)

**OR**

- 14 a) Explain formatted and Unformatted I/O functions of C language with syntax and example. (7)
- b) Write a C program to read a character from the user and check whether it is a vowel or consonant. (7)
- 15 a) Write a C program to find the transpose of a matrix. (7)
- b) Explain any 4 string handling functions in C programming. (7)

**OR**

- 16 a) Write a C program to reverse a string without using string handling functions. (7)
- b) Write a C program to sort an array of numbers using bubble sort. (7)
- 17 a) Write a C program to : (7)
- (i) Create a structure containing the fields: Name, Price, Quantity, Total Amount.
- (ii) Use separate functions to read and print the data.
- b) What are different storage classes in C? Give examples for each. (7)

**OR**

- 18 a) What are the main differences between structures and unions? Which is preferred in what situation? Give examples. (7)
- b) What is recursion? Write a C program to display Fibonacci series using recursive function. (7)
- 19 a) Write a C program to replace vowels in a text file with character 'x'. (7)
- b) Explain how pointers can be passed to functions in C. (7)

**OR**

- 20 a) Explain any 5 file handling functions in C? (7)
- b) Write a C program to print the elements of an array in reverse order using pointers. (7)

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