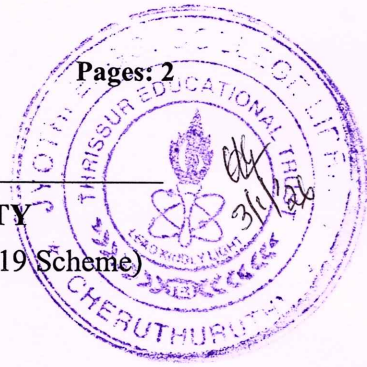Reg No.:_____        Name:_____

# APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

B.Tech Degree S1 (S,FE) S2 (S,FE) Examination December 2025 (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 | Differentiate between compiled and interpreted languages with suitable example. | (3) |
| 2 | Draw a flowchart to find if a number is even or odd. | (3) |
| 3 | What are pre-processor directives? | (3) |
| 4 | What is an identifier? Write the rules for forming valid identifiers in C. | (3) |
| 5 | What is an array? Illustrate using an example, how a single dimensional array is initialized? | (3) |
| 6 | Explain any three string handling functions with examples. | (3) |
| 7 | Distinguish between formal parameter and actual parameter with examples. | (3) |
| 8 | What are the advantages of using functions in a program? | (3) |
| 9 | Differentiate between address operator and indirection operator. | (3) |
| 10 | With an example, explain the different modes of opening a file. | (3) |

### PART B
*Answer any one full Question from each module. Each question carries 14 Marks*

| | | |
|---|---|---|
| 11 | Explain bubble sort with an example? Draw a flowchart and write pseudo code to perform bubble sort on an array of numbers. | (14) |

**OR**

| | | | |
|---|---|---|---|
| 12 | a) | Explain the use and significance of processor and memory in a computer | (8) |
| | b) | Write an algorithm to find the largest of three numbers. | (6) |
| 13 | a) | With suitable examples, Explain various operators in C. | (10) |
| | b) | Differentiate between break and continue statement with suitable examples | (4) |

**OR**

| | | | |
|---|---|---|---|
| 14 | a) | Write a C program to read an English alphabet through keyboard and display whether the alphabet is in upper case or lower case. | (8) |
| | b) | Describe the basic structure of a C program with suitable example. | (6) |
| 15 | a) | Write a C program to perform the addition of two matrices. | (7) |
| | b) | Write a C program to print number of vowels and consonants in a string. | (7) |

**OR**

| 16 | a) | Write a C program to perform linear search on an array of numbers. | (7) |
| | b) | Write a C program to find the length of the string without using string handling functions. | (7) |
| 17 | a) | What is recursion? Write a C program to display Fibonacci series using recursive function. | (10) |
| | b) | Differentiate between structure and union. | (4) |

**OR**

| 18 | a) | Write a C program to calculate the average of 5 numbers using functions. | (7) |
| | b) | What is the purpose of function declaration, function definition and function call ? Illustrate their syntax with examples. | (7) |
| 19 | a) | Differentiate between sequential files and random access files? | (4) |
| | b) | Using the prototypes explain the functionality provided by the following functions. i. rewind() ii.fseek() iii. ftell() iv. fread() v. fwrite() | (10) |

**OR**

| 20 | a) | With suitable example, explain the concept of pass by reference. | (10) |
| | b) | Write a C program to find the largest of two numbers using pointers? | (4) |

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