

Reg No.: _____

Name: _____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

B.Tech S1 (S,FE) S2 (S,FE) Exam May 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

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|----|--|-----|
| 1 | List any three input and output devices. | (3) |
| 2 | Differentiate system software and application software. Give one example for each. | (3) |
| 3 | What are the rules to be followed while creating an identifier in C? Give one example for legal and one for illegal identifiers. | (3) |
| 4 | Write the syntax of scanf () function in C. Explain with an example. | (3) |
| 5 | Write a C program to count the number of vowels in a given string. | (3) |
| 6 | What are the various methods to initialize an array? | (3) |
| 7 | Differentiate formal parameter and actual parameter with the help of an example. | (3) |
| 8 | Differentiate structure and union. | (3) |
| 9 | What do you mean by a pointer variable? How it is declared? | (3) |
| 10 | Write the syntax of fopen() function and explain it. Give an example to open a file in append mode. | (3) |

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

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| 11 | a | Explain the basics of computer architecture with the help of a neat diagram. | (7) |
| | b | Explain different types of programming languages and types of translators used. | (7) |

OR

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|----|---|--|------|
| 12 | a | Explain Linear search with the help of a flow chart. | (7) |
| | b | Write an algorithm/pseudocode for bubble sort. Illustrate with an example. | (7) |
| 13 | a | Explain various categories of operators with example. | (10) |
| | b | Write a C Program to check whether the given number is prime or not. | (4) |

OR

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|----|---|---|------|
| 14 | a | Write the syntax of switch... case statement. Explain its working with the help of a C program to implement a simple calculator, including default cases. | (10) |
| | b | Differentiate break and continue statement with the help of an example. | (4) |
| 15 | a | Write a C program to find the product of two matrices. | (7) |

- b Explain various string handling functions in C with example. (7)

OR

- 16 a Write a C program that concatenates two strings without using library functions. (7)
- b Write a C program to find the location of a given element in an array of elements. (7)
- 17 a What do you mean by a recursive function? Explain the importance of base condition in recursive function with an example. (5)
- b Write a C function that accept two integers n , r and compute function $nCr = n! / (r! * (n-r)!)$. This function uses another function to compute the factorial. Also write a main program to read the value of parameters n , r and display the computed result. (9)

OR

- 18 a Write a C function that checks the given parameter is Armstrong number or not. Write a main program that reads a set of numbers and check whether they are Armstrong number or not, using the above function. (A number is Armstrong if the sum of the cubes of the digits equals to the number). (8)
- b Explain various storage classes used in C with example. (6)
- 19 a What do you mean by call by reference? How does a pointer variable help to implement this call by reference method? Explain with a C program. (7)
- b Explain various arithmetic operations possible with pointer variables. Illustrate it with the help of accessing array element using pointers. (7)

OR

- 20 a Explain any five file operations in C with example. (10)
- b Differentiate between sequential files and random access files. (4)
