

Reg No.: _____

Name: _____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

B.Tech Degree S1 (S,FE) S2 (S,FE) Examinations May 2026 (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 | Discuss about system software and application software. | (3) |
| 2 | Compare a compiler and an interpreter. | (3) |
| 3 | What is meant by precedence and associativity of operators ? | (3) |
| 4 | What is an identifier ? What are the naming rules for a valid identifier in C. | (3) |
| 5 | With suitable example discuss the use of conditional operator in C. | (3) |
| 6 | Compare a while loop and a do....While loop. | (3) |
| 7 | Declare a pointer to a structure variable and explain how structure members can be accessed using the pointer. | (3) |
| 8 | What is the use of typedef statement in C. | (3) |
| 9 | What is a pointer? Why we need the type specification for a pointer variable. | (3) |
| 10 | Write any two library functions used to access binary files. | (3) |

PART B

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

- | | | |
|----|---|-----|
| 11 | a) Draw a flow chart to display the largest of 3 numbers. | (7) |
| | b) With a block diagram discuss the basic architecture of a digital computer. | (7) |

OR

- | | | |
|----|--|-----|
| 12 | a) Draw a flow chart to perform linear search on a given set of numbers. | (7) |
| | b) Write an algorithm to reverse a number. | (7) |
| 13 | a) Write a C program to check whether a given number is a <i>Neon</i> number (A number where the sum of digits of square of the number is equal to the number eg. 9 is Neon, $9^2 = 81$, $8+1$ is 9). | (9) |
| | b) With suitable examples illustrate the use of break and continue statements in C. | (5) |

OR

- | | | |
|----|--|-----|
| 14 | a) Write a C program to read a string and count the number of each vowel in it using switch statement. | (7) |
|----|--|-----|

- b) Write a C program to display the roots of a quadratic equation. (7)
- 15 a) Write a C program to sort N names using Bubble sort. (10)
- b) Discuss the use of any four built in string functions C. (4)

OR

- 16 a) Write a program to add two matrices. (7)
- b) Create a structure to store the details of a customer such as Name, Account number, Date of birth, account type and balance. Write a C program to read and display the customer details in a neat format. (7)
- 17 a) With suitable examples discuss the two parameter passing mechanisms in C. (7)
- b) Write a function to check whether a given number is prime or not. (7)

OR

- 18 a) Explain different storage classes in C. (6)
- b) Write a recursive function to find the factorial of a number. Use the function to compute the value of $nCr = \frac{n!}{[(n-r)! * r!]}$ (8)
- 19 a) Explain the different file opening modes in C. (6)
- b) Write a C program to create a dynamic array of size N, read and display values from it. (8)

OR

- 20 a) Write a C program to read a text file, convert all upper case letters to lower case and vice versa and write the result to an output file. (7)
- b) Write a function using pointers to return the length of a string. (7)
