

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

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

**APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY**  
**SECOND SEMESTER B.TECH DEGREE EXAMINATION, JULY 2018**

**Course Code: CS100**

**Course Name: COMPUTER PROGRAMMING (CS, IT)**

Max. Marks: 100

Duration: 3 Hours

**PART A**

*Answer all questions, each carries 2 or 3 marks*

		Marks
1	Describe the structure of a C program. List out the features of C Language.	(3)
2	Briefly explain basic data types in C.	(2)
3	Write a C program to find the largest among three numbers using conditional expression ((f<g)? f:g).	(3)
4	Give the syntax of four string handling functions in C.	(2)
5	Compare structure and array in C with suitable example.	(2)
6	What does the variable 'a' specifies in the following declarations in C? i) float *a; ii) int *a[10];	(2)
7	How a pointer to a structure is declared in C? Explain how members of a structure are accessed through a pointer variable.	(3)
8	List out the main components which comprise a function definition.	(2)
9	Write a C program to find the factorial of a given number using recursion method.	(3)
10	Describe actual parameter and formal parameter of a function in C program with examples.	(2)
11	Write a note on storage classes in C.	(3)
12	Explain dynamic memory allocation in C. Give in detail two dynamic memory allocation functions in C.	(3)
13	With example explain any three file opening options in C.	(3)
14	Briefly explain unformatted file in C. Give the format of fwrite function in C.	(3)
15	Consider the following function declarations: void display ( int ); int display(int); Differentiate between the two given declarations.	(2)
16	Briefly explain the syntax rules for switch statement.	(2)

**PART B**

*Answer any 4 full questions, each carries 8 marks*

17	a) Write a C program to solve a quadratic equation taken into account all possible roots.	(6)
	b) Compare while loop and do-while loop in C with an example.	(2)
18	a) Write a C program to find the transpose of a given matrix.	(6)
	b) List out the advantages and disadvantages of union over structure in C.	(2)
19	a) Write a C program that reads a string from the keyboard and determines whether	(6)

the string is a palindrome or not.

- b) Explain how string variables are declared and initialised in C program. (2)
- 20 a) Write a function in C to check whether the given number is prime or not. Call the function from main function. (5)
- b) Give the advantages of pointers in C. Is there any relationship between an array name and a pointer? Justify your answer. (3)
- 21 a) Write a C program to read an array of integers, and sort them in ascending order using pointers. (5)
- b) Explain call by value and call by reference in C with an example. (3)

**PART C**

*Answer any two questions each carries 14 marks*

- 22 a) Write a C program to read set of numbers from an input file 'value.dat' and store the sorted numbers in an output file 'sort.res'. (10)
- b) How command line arguments are passed in C program? Explain with an example. (4)
- 23 a) Write a C program to perform selection sort for a given set of numbers and explain how the following set of numbers is sorted using selection sort. (10)  
{1, 5, 3, 9, 12, 4}
- b) Write a C program to sort given set of numbers using Bubble sort. (4)
- 24 a) Write a C program to create a text file and display its content. (7)
- b) Write a C program to search a given number from a set of numbers using linear search method. Explain linear search method with an example. (7)

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