

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

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| 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

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| 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)
