

Reg No.: _____

Name: _____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

B.Tech Degree S1 (S, FE) S2 (S, FE) Examination December 2023 (2015 Scheme)



Course Code: CS100

Course Name: COMPUTER PROGRAMMING (CS, IT)

Max. Marks: 100

Duration: 3 Hours

PART A

Answer all Questions.

Marks

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|----|---|-----|
| 1 | What are the rules to be followed while forming an identifier? | (3) |
| 2 | What do you mean by header file? Give any two examples. | (3) |
| 3 | Explain the syntax of scanf () function? Give the statement to read a floating point number and an integer number through keyboard. | (3) |
| 4 | Explain the use of structures with an example. | (3) |
| 5 | Write a C program to find the sum and average of n elements in an array. | (3) |
| 6 | What will be the output of the following C code segment?
include <stdio.h>
int main()
{
int A[]={12,34,45,67,90};
int *p =A;
printf ("%d",*p);
printf ("%d",*p+1);
printf ("%d",*(p+1));
} | (3) |
| 7 | What do you mean by type of a pointer variable? How does a data member in structure can be accessed through pointer variable? | (3) |
| 8 | What are the advantageous of using functions? | (3) |
| 9 | Write a recursive function to find the factorial of a number. | (3) |
| 10 | Write a C program to implement linear search. | (3) |
| 11 | Write the function to open a FILE and explain the different file accessing modes in that operation. | (3) |
| 12 | Explain any three bitwise operators in C. | (3) |

- 13 Explain local variable and global variable with the help of an example. (2)
- 14 Differentiate text files and binary files. (2)

PART B

Answer any four questions. Each question carries 8 Marks

- 15 a) Write a C program to compute the combination for the given n and r. (4)
The formula for combinations is: $nCr = n! / [r! * (n-r)!]$
- b) Differentiate call by value and call by reference methods. Give examples. (4)
- 16 Explain various categories of operators used in C. Give Example for each. (8)
- 17 a) Write a C program that read two matrices and find the sum of those matrices. (5)
- b) Explain various method to initialize a single dimensional array. (3)
- 18 a) Differentiate between structure and union. (3)
- b) Write a C program to read the rollnumber, name and marks in three subjects of n students using array of structures. It also displays the details of students. (5)
- 19 a) Differentiate while and do .. while statement, with example. (4)
- b) Write a c program to swap two numbers using pointers. (4)

PART C

Answer any two full questions. Each carry 14 Marks

- 20 a) Write a C program to implement Bubble Sort . (6)
- b) Write the C Program to implement Binary Search. Illustrate with an example. (8)
- 21 a) Explain various file operations in C , give syntax and example for each operation. (8)
- b) Write a c program that gets a line of string from a file and count the number of vowels on it. (6)
- 22 a) Write a C program to implement selection sort. Illustrate the method with an example. (8)
- b) Explain various storage classes in C. (6)
