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Reg No.:_____   Name:_____

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

Course Code: CS100

Course Name: COMPUTER PROGRAMMING (CS, IT)

Max. Marks: 100   Duration: 3 Hours

PART A
Answer all questions.   Marks

1   Explain switch construct with an example.   (3)

2   Describe the precedence and the associativity of the logical bitwise operators.   (3)

3   Differentiate between keywords and identifiers.   (3)

4   Explain register storage class with an example.   (3)

5   Write a C program to concatenate two strings without using built in function.   (3)

6   A C program contains the following declaration   (3)
    static int x[8] = {11, 22,33,44,55,66,77,88};
    Assume that the array begins at location 2000.
      (i)   What is the value of (x + 2)?
      (ii)   What is the value of * (x+ 2)?
      (iii)   What is the value of (*x + 2)?

7   Write the syntax for :   (3)
      i)   Declare a pointer to a function that accepts three integer arguments and returns a floating point quantity.
      ii)   Declare a function that accepts two integer arguments and returns a pointer to a long integer.

8   Write a C program to print the Fibonacci series using recursion.   (3)

9   Discuss the concept of binary file in C.   (2)

10   What are escape sequences? What is its purpose?   (2)

11   What is the purpose of getw( ) and putw( ) function?   (2)

12   List out any two arithmetic operations that can be carried out on pointers. Give examples.   (2)

13   Differentiate between linear and binary search techniques in C.   (2)

14   What is the purpose of fopen( ) and fclose( ) functions in C.   (2)

15   What is the output of the following program?   (2)

```
int main()
{
   int i;
   int arr[5] = {0};
   for (i = 0; i < 5; i++)
```

```
        printf("%d ", arr[i]);
     return 0;
   }
```

16   When a program is terminated, all the files used by it are automatically closed.   (2)
      Why is it then necessary to close a file during execution of the program?

PART B
Answer any four full questions, each carries 8 marks.

17 a) Describe about the fundamental data-types in C.   (5)

    b) Write a C program to print the factors of a given number.   (3)

18 a) Write a C program to create a structure student with details roll no, name,   (6)
        marks and grade. Read the details of 'n' students and display the details of the
        student if student name is given as input.

    b) How does an array differ from a structure?   (2)

19 a) Write a C program to find the largest and smallest element in an integer array   (5)
        using function.

    b) What do you mean by a void pointer? Is it possible to dereference a void   (3)
        pointer? Justify your answer.

20   Write a C program to sort names in an array in lexicographical order.   (8)

21 a) Write a C program to find the sum of digits of a number using recursion.   (3)

    b) How is memory management performed dynamically in C?   (3)

    c) How is the declaration int * a [10] different from int (*a)[10]?   (2)

PART C
Answer any two full questions, each carries 14 marks.

22 a) Write a C program to find the second largest element of an unsorted array.   (6)

    b) With suitable examples explain the various storage classes in C   (8)

23 a) Write a C program to create a file and store information about a person, in   (10)
        terms of his name, age and salary.

    b) Write any two file handling functions used to write data into text files.   (4)

24 a) Describe bitwise operations in C.   (6)

    b) Given a set of n items, write a C program to find the kth largest item in the list.   (8)

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