Set A

Sub: Programming in C

1. a) Why is C called a structural programming language? Differentiate between high level language and low level language. [7]
    b) Differentiate between algorithm and flowchart. Write an algorithm and flowchart to check whether a number is palindrome or not. [8]

2. a) What are data types and operator? Explain the arithmetic, relational, logical and assignment operators in C programming language. [8]
    b) Differentiate between exit controlled loop and entry controlled loop with a suitable example. [7]

3. a) Print the following pattern: [7]

            10101
             0101
              101
               01
                1

    b) Why are arrays used in C? Write a C program to sort the n elements of an array in decreasing order. [8]

4. a) Define recursion? Write a C program to find the factorial of a given number using recursion. [7]
    b) Explain different ways to initialize an array. Write a C program to find the multiplication of 3x3 matrix. [8]

5. a) What is DMA? Explain in brief how we can dynamically allocate memory in C? [7]
    b) Differentiate between structure and union. Explain how can we access the member of a structure with examples. [8]

6. a) Create a structure for a cricket game that includes members (country name, player name, number of matches played by player and salary). Save the information for 50 players in a file named "cricket.txt" and display the information of those players who had played more than 10 matches. [8]
    b) Explain pass by reference with examples. Print the output. [7]

```
void func(int *p);
void main()
{
        int x=4;
        printf("%d\n",x);
        func(&x);
        printf("%d",x);
}
func(int *p)
{
        *p= *p/2 +13;
}
```

7. Write short note on: (Any two) [10]
    a. Storage Class in C   b. String handling functions   c. Switch case