Set B

Sub: Programming in C

1. a) Draw a block diagram of a digital computer and explain each component in brief. [7]
    b) Define the role of flowchart in efficient program maintenance with its character.
    Develop a flowchart to print prime numbers from 50 to 150.   [8]
2. a) What are the rules that need to be considered while declaring a variable. What
    suitable data types need to be declared for the following: mobile phone numbers,
    address, temperature, salary, gender. Also explain each memory occupancy.   [7]
    b) An electricity board charges according to the following rates.   [8]
    For the first 100 units ……………………….. Rs 40 per unit.
    For the next 200 units ……………………… Rs 50 per unit.
    Beyond 300 units ……………………………. Rs 60 per unit.
    All users are also charged 'meter charge' which is equal to Rs.50. Write a C program to
    read the number of units and print the total charges.
3. a) Why do you use break and continue statements? Explain with suitable examples. [8]
    b) What are arrays? How can you initialize an array at compile time and at run time?
    Explain with example   [7]
4. a) Write a C program to generate Fibonacci series using recursion.   [7]
    b) Define string. Explain the string landing function with suitable example   [8]
5. a) What do you mean by storage class? Define its type with suitable example   [7]
    b) Write a program to add two 3x4 matrix using a user defined function.   [8]
6. a) What is a nested structure? Create a nested structure for the following data.   [7]

Emp_id	Emp_name	Address	Department	Date of birth
				mm | dd | yr

    And also write a program to input 100 employee records and display whose Department
    is "Sales".
    b) Why is file handling necessary in C programming? Write a program to input name,
    address, faculty, program, and GPA(in max 4.0) of 500 students and store them in
    'Result.dat' data file and display the records of those students whose faculty is
    Engineering and GPA>3.5.   [8]
7. Write short notes on:(Any two)   (2x5=10)
        a. Union   b) Preprocessor Directives   c) call by value and call by reference