The figure in the right hand margin indicates marks

(Answer all the questions)

1. a) Write the features of 'C' language. Name the C language tokens. [7

   b) How switch control statement works? Write an example of nested switch. Can we use continue keyword in switch?   [7

                                OR

   c) Write short notes of a unary operator. Give appropriate example of it.   [5

   d) Write a program to compare two variables using nested-if.   [5

   e) i) What is the return type of printf() function and why this return type?   [1

   i) #include <stdio.h>   [1

   ```
   int mani()
   {
   int R;
   R = -3 + 5 - 7 * 6/4 % 10;
   printf(" R = %d", R);
   return 0;
   }
   ```
   What is the output?

2. a) What is the use of Loop? What is sentinel controlled Loop? Write a program to print 10th place digit of a given number. Check this digit is divisible by 3 or not.   [7

b) What is the difference between an array and pointer? Write a program to find sum of digits of a number till it is reduced to a single digit. [7

OR

b) Write a program to perform set intersection operation. [7

c) Can two pointers be compared? Justify your answer with an example. [5

d) Can we write the for loop like this? [1

     for (; condition ;)

d) Define continue statement. [1

3. a) What is the syntax of function declaration. Write a program to find area of a circle, triangle and square using function. [7

b) What is storage class specifier? Write a program to find prime numbers within a range using recursion. [7

OR

a) Can a function return multiple values? Justify your answer with an example. [7

b) Name the library function used to compare two strings. Write a program to print the middle name of your name. [7

4. a) What is dynamic memory allocation? Write a program to illustrate the use of realloc(). [7

b) Write a program to count and return no. of vowels present in a text using call by reference. [7

OR

a) Write a program to illustrate a function returning a structure type.
[7

b) What is a structure pointer? Write the functional block to sort the student records according to key field. [7

5. a) Explain the syntax of fopen() function. Discuss various file opening modes. [7

b) Write a program to perform record I/O. [7

OR

a) Explain the concept of command line arguments. Using command line argument input set of lines in a file. Print the lines containing more than 5 words. [10

b) Differentiate between text mode and binary mode. [4