Note: Answer 4 questions taking any two from each group. Figures at right margin show marks.

Group – A

a) Determine which of the followings are valid identifiers. If invalid state the reason. 2.5
   Record 1, 123abc, tax$, Roll_No, name and roll, x+y, 12x, return

b) State the names of four basic data types in C along with the typical memory requirements. 4

c) A C program contains the following statements: 3

```
//include<stdio.h>
    short a;
    long b;
    char d;
```

   Write the appropriate scanf() and printf() functions to enter the values and print them.

d) A C program contains the following declarations and initial assignments: 3

```
int k = 8, j = 5;
float x = 0.005, y = -0.01;
char c ='c', d = 'd';
```

   Determine the value of each of the following expressions.
   i) $2 * ((k/5) + (4 * (j-3)) \% (k+j-2))$
   ii) c == 99
   iii) (j<5) !! (x > y) && (k>10)

a) Distinguish between the operators % and / with example. 1

b) Write the output of the following program: 3

```
main() {
    int i, j;
    i = 5; j = 7;
    j *= (i - 3);
    printf("%d", j);
}
```

c) What are the commonly used input/ output functions in C? How are they accessed? 3

d) Write the output of the following program: 3

```
main() {
    int i, j;
    i = 1; j = 2;
    if(i > 0 && j > 0) printf("Hello");
    else if (i = 1 && j == 2) printf("How are you?");
    else printf("Nothing");
}
```

e) What is the purpose of break statement? Show with an example. 2.5

a) What will be the output of the programs? 3

```
i . main() {                          ii. main() {
    int i, sum=0;                         int i;
    for (i=0; i<10;                       for (i=10; i>10; i++)
        sum = sum + i;                        printf("CSE");
    printf("%d", sum);                   }
}
```

b) Write the following program by using if-else structure: 2.5

```
#include<stdio.h>
void main()
{
    int a,b,c;
    printf("Enter two numbers:");
    scanf("%d%d",&a,&b);
    c = a > b ? a : b;
    printf("%d",c);
}
```

c) Give the output of problem 3(b) for a=15,b=20 and c=25,b=10

d) Read the program carefully and then answer following questions: 2

```
1.   //include<stdio.h>
2.   //include<conio.h>
3.   void main() {
4.       int a,b;
5.       int c,d;
6.       printf("Enter values of a and b");
7.       scanf("%d%d",&a&b);
```