DHARMSINH DESAI UNIVERSITY, NADIAD
FACULTY OF TECHNOLOGY
B.TECH SEMESTER I [CE/EC/IT]
SUBJECT : (ESC 201) PROGRAMMING FOR PROBLEM SOLVING - I

Examination	: **First Sessional**	**Seat No.**	:
Date	: **10-11-2022**	**Day**	: **Thursday**
Time	: **9.00 am - 10.15 am**	**Max. Marks**	: **36**

INSTRUCTIONS:

1. Figures to the right indicate maximum marks for that question.
2. The symbols used carry their usual meanings.
3. Assume suitable data, if required & mention them clearly.
4. Draw neat sketches wherever necessary.

Q.1 Do as directed. [12]

CO1 U (a) Find the errors in the following code [2]

```
#include <stdio.h>
/* this is first/* code */ in C language*/
void main() {
   printf("test//comment");
          }
void main(){
   printf("test\\comment");
          }
```

CO1 E (b) Predict the output of the following code. [2]

```
#include <stdio.h>
void main(){
   printf("\nt 45 %% 55 %d",45 % 55);
   printf("\nt (45,55) %d",(45,55));
   printf("\nt (45/55) %d",(45/55));
}
```

CO1 U (c) Arrange the following operators in descending order of their priority. [2]
I. ( ) II. * III. ++ IV. =

CO1 R (d) Which of the following are invalid C Constants? Why ? [2]
I. 100e-2.2 II. -500 III. "23.45" IV. 58769U V. 96,789

CO1 E (e) What will the output of the following codes? [2]

```
#include <stdio.h>
void main()
{  int i = -5;
   while (i <= 5)
   {
     printf("PPS - I\n");
     if (i >= 0){
        break;}
     else
     {     i++;  continue;  }
     printf("PPS - II\n");
   }
}
```

CO1 U (f) Find out the errors in following declarations: [2]
I. int a=+b, b; II. #Define amount$ 200

Q.2 Attempt ***Any TWO*** from the following questions. [12]

CO4 A (a) I. Write a program to accept **3 digit number** and to determine whether enter number is palindrome or not using operators only. [3]
Hint : If a 1st digit and 3rd digit are same then number is palindrome otherwise it is not palindrome number. For example,123 is not palindrome number and 323 is palindrome number.

II. Predict the output of following code [3]

```
#include <stdio.h>
void main( )
{
  float t=9;   float b=4;
  (t=b)?printf("\none"):printf("\ntwo");
  (t=-4%20)?printf("\nthree"):printf("\nfour");
  if(b+=3)
     printf("\nfive");
  else
     printf("\n six");
}
```

CO4 A (b) I. Explain structure of different types of **if statements**. [6]
II. Write a program, using **the nested if statement**, to check eligibility of a person for donating blood. The conditions to check eligibility are as under.
a) Age should be above 18 years but not more than 55 years.
b) Weight should be more than 45Kg.

CO4 A (c) Read the following code

```
#include <stdio.h>
int main ()
{
   int a ;    int b = 200;
   scanf("%d",&a);
   switch(a)
   {
   case 100:          printf("case 100: This is part of outer switch\n", a );
                      switch(b)
                      {
                           case 200:  printf("This is part of inner switch\n");
                           default:   printf("This is default case in inner
switch\n");
                      }
   case 100+100 :  printf("Case 100+100 This is part of outer switch\n");
                   break;
   default:        printf("This is default case in outer switch\n");
   }
}
```

Predict the output in following cases [3]
I. if user type 100 as a input [2]
II. if user type 200 as a input [1]
III. if user type 3.5 as a input

Q.3 Attempt the following questions. [12]

CO4 C (a) Write a C program to print the following output: [6]

```
1
01
101
0101
10101
```

CO4 R (b) Explain difference between Entry controlled and Exit Controlled loop with example. [4]

CO2 A (c) Write the output of following print statement. [2]
printf("%06d %-8.4f", 2244,75.67);

OR

Q.3 Attempt the following questions. [12]

CO4 C (a) Write a C program to evaluate the equation. [6]
$Y=1^2+1^2+2^2+1^2+2^2+3^2+1^2+2^2+3^2+4^2+\ldots\ldots+1^2+2^2+3^2+\ldots..N^2$ (N>0)

CO4 R (b) Explain the data types of C language. [4]

CO2 A (c) What is the value of in, fl, and ch variable if input is 67894 77.21 P [2]
scanf("%4d %f %c", &in , &fl, &ch);
Where *in* is integer, *fl* is float and *ch* is character

Blooms Taxonomy levels : R-Remembering, U- Understanding, A-Applying, N-Analyzing, E- Evaluating, C-Creating