Department of Computer Science & Engineering

2nd Year 2nd Semester Examination, December 2012

Course Name: Introduction to Computer Language

Course No: CSE-203C, Credit: 2

Time: 2 Hours | Full Marks: 50

(Answer any 4 questions taking 2 questions from each group)

Part:A

1. a) Write the definition of statement and expression with example of C programming language. 5
   b) Name 10 keywords 2.5
   c) Explain how character data type ranges the value from -128 to +127? 5

2. a) Convert decimal 1057 to its corresponding binary and octal 3.5+3
   b) Assume a=5, b=7, c=2, d='B'. Find out the value of followings: 2*3
   i) (a<b<c) ii) (a<b) && (c>1)|| (d<'b') iii)x=(b==5 || d==65)?a:c

3. a) Simplify X=(A+ABC)AB And draw the block diagram using gate symbol. 4
   b) Write a program to calculate the 10 prime number from given number. 4.5
   c) Describe the output that will be generated by the following C program. 4

```
#include <stdio.h>
void main()
{  int i=0, y= 0;
   for (i=1 ;i<=10;i++)
   {if(i%2==1)
    y+=i;
    else
   y--;
   printf("%d",y);
   break;}
printf("/n y=%d",y)
}
```

Part:B

3. a) Mention all types of unary operator. Give an example of size of with output. 3+1.5
   b) Find the output of the following C code: 4

```
#include<stdio.h>
main()
{ int i;
for(i=1;i<=10;i++)
  {if(i%6==0)
{ break;}
printf("%d\n",i); }}
```

   c) Write a C program to get the output as below(use iteration logic): 4

```
12
13   14
14   15   16
```

4. a) Subtract 1000011 from 100011 using 1's complement method. 2
   b) Write a program that will calculate odd numbers from 10 mixed numbers. 3
   c) Define the output of the following C code: 3.5

```
#include<stdio.h>
void main()
{
    float i = 5, j=5.5,k;
    k =(int)j*2;
    printf("%.2f", k);
}
```

   d) Write a program for any number whose output is such as (5 is not fixed): 4

```
0+5=5
1+4=5
2+3=5
3+2=5
4+1=5
5+0=5
```

5. a) Write the syntax of the switch statement. 2.5
   b) Write a program to display the binary-weight serie 1+2+4+8+16.....+1024. Also show the sum of this series. 6
   c) Rewrite the following code using while statement. 4

```
for(i = 0; i < 20; i++)
    if(i%3 == 0)
    printf("%d",i);
```

AJOB

c) Given N, write a program to output the following:

1
1 2
1 2 3
1 2 3 4
1 2 3 4 5
1 2 3 4 5 6
1 2 3 4 5 6 7
1 2 3 4 5 6 7 8
1 2 3 4 5 6 7 8 9
1 2 3 4 5 6 7 8 9 10

Group B

Q3 Answer any four questions. 4*2.5= 10

a) Write the purpose of the continue statement. Give proper example.

b) Describe the syntax to define a function in C.

c) Explain the purpose of the return statement.

d) Write the advantages of defining array size in terms of symbolic constant rather than a fixed integer during array declaration in C.

e) Write the syntax of for and do-while statement.

f) List the limitation of switch statement compare to the nested if-else statements.

g) Rewrite the following code using do-while statement.

```
for (i = 2; i<10; i++)
printf("%d");
```

h) Explain the terms 1) called and calling function 2) actual and formal parameters.

Q4 Answer any three questions. 3*5 =15

a) Illustrate the basic differences between the while and do-while statements. Give examples.

b) Write the output of the following program

```
int main()
{
    int i=0, j=1;
    do
    {
        printf("i =%d\t", i);
        for(j=2; j<=6; j=j+2)
        {
            if(j==4) continue;
            printf("i =%d j=%d\n", i, j);
        }
        i=i+1;
    }while(i<=4);
}
```

c) Write a program to display all numbers between 1 to N which are divisible by 2 and 5 using do-while.

d) Consider the two defined functions : *circle(r), square(a)* to calculate the area of circle and square respectively. Write a program to read the user-choice and call the corresponding function to find the area and display the output.

e) Write a program to find the total number of non-zero elements in a two-dimensional array.