

**Shahjalal University of Science & Technology**  
Department of Computer Science & Engineering  
2<sup>nd</sup> Year 1<sup>st</sup> Semester Final Examination – June 2012  
Course No: CSE-203Y  
Course Title: Introduction to Computer Language  
Credits : 2.0 Full Marks : 50 Time : 2 Hours

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**Group A**

**Q1** Answer any four questions.

**4\*2.5=10**

- a) Demonstrate the difference between continue and break statement with example.
- b) What is escape sequence? Write any three commonly used escape sequences.
- c) Declare a variable to store the serial and write the printf statement to display it as 5 digit numbers with leading zeros.
- d) Write the statement to display any number which is divisible by 2 or 4 using conditional operator.
- e) Rewrite the following loop statement to display all even numbers-  

```
int value[5] = {12, 10, 15, 18, 29};  
for (i=0; i<10; )  
{  
    i++;  
    if (value[i]%2==0) printf("%d", value[i]);  
}
```
- f) To read any data to a variable from keyboard we must have to use & before the variable. Explain the reason.

**Q2** Answer any three questions.

**3\*5=15**

- a) Identify all possible (both the compile-time and run-time) errors of the following program code and also specify the reasons.  

```
void main()  
{  
    const float pi = 0.0;  
    float radius, area = 0.0;  
    scanf("%f", radius);  
    pi = 3.514;  
    area = pi * radius * radius  
    printf("Area is ", area);  
}
```
- b) Write a program that will read a character, toggle the case (i.e. convert to upper-case for lower-case input and vice versa) and display the converted character.
- c) Evaluate the following expression:
  - i) `ch = 'A', num = 20;`  
`num%3+30+ch=='a'`
  - ii) `x = 20; y = 32`  
`x += x*(++y)`
- d) Specify any four syntactical rules for naming an identifier. Give examples for each one.

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

1234...(N-1)N

1234...(N-1)

.....

12

1

### Group B

Q3 Answer any four questions.

4\*2.5=10

- Write the purpose of the continue statement. Give proper example.
- Describe the syntax to define a function in C.
- Explain the purpose of the return statement.
- Write the advantages of defining array size in terms of symbolic constant rather than a fixed integer during array declaration in C.
- Write the syntax of for and do-while statement.
- List the limitation of switch statement compare to the nested if-else statements.
- Rewrite the following code using do-while statement.  

```
for (i=2; i<100; i=i*2)
printf("%d");
```
- Define the terms 1) called and calling function 2) actual and formal parameters.

Q4 Answer any three questions.

3\*5=15

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

- Write the output of the following program

```
int main()
{
    int i=0, j=1;
    do
    {
        printf("i=%d\n", 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<2);
}
```

- Write a program to display all numbers between 1 to N which are divisible by 2 and 5 using do-while.
- 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.
- Write a program to find the total number of non-zero elements in a two-dimensional array.