**Assignment No. 1**

**XI : Computer Sc.**

1. What is the relationship between microprocessor and microcomputer?
2. Explain briefly the concept of time – sharing.
3. Convert (24.6)8 to ( )10
4. Convert (0.0101)2 to ( )10
5. Briefly explain the basic architecture of a computer.
6. Define System Software and what are its two main types? Give examples.
7. Briefly discuss the printing mechanism of (i) laser printer (ii) inkjet printer.
8. What do you mean by robustness of a program?
9. What is the difference between semantics error and syntax error? Give an example of each.
10. What is the difference between “while” & “do while” loop?.
11. Write the steps you would follow while writing a program.
12. Explain type conversions and Data type modifiers with examples.
13. What is the relationship between multiprogramming and multitasking os?
14. Explain briefly the concept of Input-Process-Output Cycle.
15. Convert (75.25)10 to ( )2
16. Convert (0.1101)2 to ( )10
17. What are the major strengths and weakness of computer.
18. Define Operating System and what are its types?
19. What is the difference between Ram and ROM?
20. What is the role of comments and indentation in a program?
21. What is the difference between a syntax error and logical error? Give an example of each.
22. What is the difference between “If – else” and “switch case” statement.
23. Why the use of comment is suggested while writing a program and how are meaningful identifiers useful?
24. The operating system is called a resource mgr. List four distinct resources of the computer system. What are the general functions that the OS performs for the resources?

**Assignment No. 2**

**XI : Computer Sc.**

1. What will be the size of following constants?

‘\v’, ”\v”

1. Consider the following two c++ statements. Are they equivalent?

char marks=65;

char marks =’A’;

1. Evaluate the following expressions:
2. x – y < z && y + z ? x || x – z <= y – x + z if x = 4, y = 7 and z = 10?
3. What is data abstraction? Explain the concept with the help of an example.
4. Which of the following are valid identifiers and why/why not:

Data\_rec, \_data, 1data, my.file, asm, switch, goto, break.

1. Why is it important to include iostream.h in C++ programs?
2. What is a variable? In C++, two values are associated with a symbolic variable. What are these?
3. Construct logical expression to represent the following conditions: i) ch is a lowercase character (The ASCII range for lowercase is 97 – 122
4. ii) a is odd but less than 57.
5. Declare following arrays:

(i) figures of 30 char (ii) balance of 26 float

1. What are the functions of these header files?

(i) iomanip.h (ii) ctype.h

1. Name the jump statements provided by C++. Compare break and continue statements.
2. How is call-by-value method of function involving different from call-by-reference method? Give appropriate examples supporting your answer.
3. Differentiate between actual and formal parameters with example?
4. What will be the size of following constants?

‘\n’ , ”\n”

1. Consider the following two c++ statements. Are they equivalent?

char marks=97;

char marks =’a’;

1. Evaluate the following expressions:

(y) && (y-z) || ! (2y + z –x) if x = 13, y = 14 and z = 5?

1. What is encapsulation? Explain the concept with the help of an example.
2. Find the correct identifiers out of the following, which can be used for naming variable, constants or functions in a C++ program :

**While, for, Float, new, 2ndName, A%B, Amount2, \_Counter**

1. Why is it important to include main() in C++ programs?
2. What is a identifier? In C++, how many types of variable initialization give its name?
3. Construct logical expression to represent the following conditions: 2i) ch is a uppercase character (The ASCII range for lowercase is 65 – 90)

ii) a is even but less than 57.

1. Declare following arrays:

(i) Address of 40 char (ii) amount of 26 float

1. What are the functions of these header files?

(i) stdio.h (ii) ctype.h

1. Name the selection statements provided by C++. Compare if-else and switch statements.
2. How is call-by-value method of function involving different from call-by-reference method? Give appropriate examples supporting your answer.
3. What is the difference between local variable and global variable? Also, give a suitable C++ code to illustrate both.

**Assignment No. 3**

**XI : Computer Sc.**

1. Rewrite the corrected code for the following program. Underline each correction (if any).

main()

{

int integer;

char string[20]={“Kalka”};

integer=strlen(string);

strcat(”School”,string);

cout>>integer+integer;<<string;

gatch();

}

1. Rewrite the corrected code for the following program. Underline each correction (if any).

main()

{

int integer;

char string[20]={“Kalka”};

integer=strlen(string);

strcat(”School”,string);

cout>>integer+integer;<<string;

gatch();

}

1. Rewrite the corrected code for the following program. Underline each correction (if any).

main( ) 2

{ int sum(int,int,int)

sum(3,4);

cout<<”answer=7”;

}

int sum(int a, int b, int c);

{ int d;

d=a+b+c;

}

1. Rewrite the corrected code for the following program. Underline each correction (if any).

#include<iostream.h>

M=3;

void main( )

{ const int s110;

int s2=100;

char ch;

getchar(ch);

s1=s2\*M;

s1+M = s2;

cout<<s1<<s2,

}

1. Rewrite the corrected code for the following program. Underline each correction (if any).

#include<iostream.h>

const int Max 10;

void main()

{

int Numbers[Max];

Numbers = {20,50,10,30,40};

for(Loc=Max-1;Loc>=10;Loc--)

cout>>Numbers[Loc];

}

1. Rewrite the corrected code for the following program. Underline each correction (if any).

#include<iostream.h>

#define int M=3;

void main( )

{ const int s1=10;

int s2=100;

char ch;

getchar(ch);

s1=s2\*M;

s1+M = s2;

cout<<s1<<s2 ;

}

1. Find the output of the following program:

#include <iostream.h>

void change(int &N1,int &N2)

{

N1+=N2;

N2+=N1;

}

void main()

{

int Num1=25, Num2=20;

cout<<"Num 1="<<Num1--<< "Num 2 = "<<Num2 + 6<<endl;

change(Num1,Num2);

cout<<"Num 2="<<++Num2<< "Num 1 = "<<Num1 - 5<<endl;

change(Num2,Num1);

cout<<"Num 1="<<--Num2<< "Num 2 = "<<Num2--<<endl;

}

1. Find the output of the following program:

#include<iostream.h>

#include<ctype.h>

void main( )

{

char Text[ ] = “Mind@Work!”;

for(int I=0; Text[I]!=”\0”;I++)

{

if(!isalpha(Text[I]))

Text[I]=”\*”;

else if (isupper(Text[I]))

Text[I]=Text[I]+1;

else

Text[I] = Text[I+1];

}

cout<<Text;

}

1. Find the output of the following program:

#include<iostream.h>

void execute(int &x,int y=200)

{ int temp=x+y;

x+=temp; if(y!=200)

cout<<temp<<” “<<x<<” “<<y;

}

void main( )

{ int a=50, b=20;

execute(b); cout<<a<<b<<”\n”;

execute(a,b); cout<<a<<b<<”\n”;

}

1. Find the output of the following program:

float interest ( float prnc,int time=2,float rate=0.10);

int main( )

{

cout<<interest(6100,1)<<” \n”;

cout<<interest(5000,2)<<” \n”;

cout<<interest(5000,3,0.12)<<” \n”;

cout<<interest(5000)<<” \n”;

}

float interest(float prnc,int time, float rate)

{ return prnc\*time\*rate:}

1. Find the output of the following program:

#include<iostream.h>

#include<ctype.h>

void main( )

{

char Text[ ] = “Hello@Work!”;

for(int I=0; Text[I]!=”\0”;I++)

{

if(!isalpha(Text[I]))

Text[I]=”\*”;

else if (islower(Text[I]))

Text[I]=Text[I]+1;

else

Text[I] = Text[I+1];

}

cout<<Text;

}

1. Explain output of following program

#include<iostream.h>

void execute(int &x,int y=200)

{

int temp=x+y;

x+=temp; if(y!=200)

cout<<temp<<” “<<x<<” “<<y;

}

void main( )

{

int a=50, b=20;

execute(b); cout<<a<<b<<”\n”;

execute(a,b); cout<<a<<b<<”\n”;

}

**Assignment No. 4**

**XI : Computer Sc.**

1. Write a complete program in c++ to check entered number is Avogadro No .
2. Write a complete program in c++ to find the sum of odd numbers of a matrix of order M X N.
3. Write a complete program in c++ to print the sum of the elements of main diagonal of a matrix using function.
4. Write a C++ program that uses a function smallo() (that is passed two int argument by value) to receive reference of the smaller value. Then using this reference the smaller value is set to 0. Write a main() function also to exercise this function.
5. Write a C++ program that uses following functions:
6. (i) sqlarge() that is passed two int argument by reference and then sets the larger of the two umbers to its square.

(ii) sum() that is passed an int argument by value and that returns the sum of the individual digits of the passed number.

(iii) main() that exercise above two functions by getting two integers from the user and by printing the sum of the individual digit of the square of the larger number.

1. Write a complete program in c++ to swap two values.
2. Write a complete program in c++ to find the sum of even numbers of a matrix of order M X N.
3. Write a complete program in c++ to print the sum of rows of a matrix using function.
4. Write a function called zero\_Small( ) that has two integer arguments being passed by reference and sets smaller of the two numbers to 1. Write the main program to access this function.
5. Write a complete C++ program that uses a function called **carea( )** to calculate area of a circle. The function **carea**( ) receives radius of float type and returns area of double type. The function main( ) gets a radius value from the user, calls **carea( )**, and displays the result. The function **carea( )** is local to main().