**One mark questions:**

1. **What is standard library?**

**Ans:** It is a collection of pre defined functions and other programming elements which are accessed through header files.

1. **Why C++ standard library required?**

**Ans:** They are used to access the functions present.

1. **What is the function of header file iostream.h?**

**Ans:** iostream.h us used to access i/o routines and c++ streams.

1. **What is the function of header file iomanio.h?**

**Ans:** iomanio.h contains functions and macros for io manipulators.

1. **What is the function of header file string.h?**

**Ans:** string.h declares functions to manipulate strings nd memory

1. **What is the function of header file ctype.h?**

**Ans:** ctype.h contains functions to manipulate characters.

1. **What is the function of header file math.h?**

**Ans:**  math.h contains mathematical functions.

1. **Name the functions that converts lowercase letter into uppercase?**

**Ans:** toupper()

1. **Name the functions that converts an uppercase letters into lowercase?**

**Ans:** tolower()

1. **Name the function that returns the square root of a number?**

**Ans:** sqrt(x) it gives the square root of x value.

1. **Name the header file, to which the function toascii() belong.**

**Ans:** toascii() method belongs to ctype.h header file

1. **Name the header file, to which the function sin() belong.**

**Ans:** sin() method belongs to math.h header file

1. **Name the header file, to which the function setw() belong.**

**Ans:** setw() method belongs to iomanip.h header file

1. **Name the header file, to which the function toupper() belong.**

**Ans:** toascii() method belongs to ctype.h header file

1. **Name the header file, to which the function strcat() belong.**

**Ans:** strcat() method belongs to string.h header file

1. **Name the header file, to which the function fabs() belong.**

**Ans:** fabs() method belongs to math.h header file

1. **Name the header file to perform operations on characters.**

**Ans:** ctype.h header file is used to perform operations on characters.

1. **Name the header file to perform operations on strings.**

**Ans:** string.h header file is used to perform operations on strings.

1. **Name the header file to perform mathematical operations.**

**Ans:** math,h header file is used to perform mathematical operations.

1. **What is a function?**

**Ans:** A function is named as the group of statements developed to solve a sub program or problem.

1. **What are the different types of functions?**

**Ans:** There are two types of functions:

1. Library functions.
2. User defined functions.
3. **What are library functions?**

**Ans:** Fucnctions which are predefined in the C++ languages are called library functions.

1. **Give the syntax of get() function.**

**Ans:** char ch;

cin.get(ch);

1. **Give the syntax of put() function.**

**Ans:** char ch;

cout.put(ch);

1. **Why do we use strcat() function.**

**Ans:** strcat() function is used to concatenate two strings.

1. **Why do we use strcmp() function.**

**Ans:** strcmp() used to compare two stings.

1. **Why do we use pow() function.**

**Ans:** pow() function is used to calculate power of a given number.

1. **Name any one function to generate pseudo-random number.**

**Ans:** rand() and srand()

1. **Name the header file to be included to use the functions for generation of random numbers.**

**Ans:** rand() and srand()

**Two marks:**

1. **What is the need to use functions?**

**Ans:** Functions are used to reduce the number of lines in the program an to use the same set of statements many times inside, and at any point in the program.

1. **Distinguish between isupper() and tolower() functions.**

**Ans:** isupper() it it returns a nonzero value if the character is an upper-case letter. Otehrwise it returns zero.

tolower() it converts an uppercase letter into lowercase.

1. **Distinguish between islower() and toupper() functions.**

**Ans:** islower() function it returns a nonzero value if the character is an lower-case letter. Otehrwise it returns zero.

toupper() it converts a lowercase letter into uppercase.

1. **Distinguish between strcmp() and strcmpi() functions.**

**Ans:** Both strcmp() and strcmpi() are used to compare two strings but strcmpi is not case sensitive but strcmp is case sensitive.

1. **Give the syntax of strcmp() function. Give an example.**

**Ans:**

**Syntax:** str(string1,string2);

1. **What are the different types of values strcmp() function return?**

**Ans:** strcmp returns positive values when two strings are not same and it returns negative value when two strings are same.

1. **Give the syntax of strcat() function. Give an example.**

**Ans:** strcat(str1,str2);

**Example:**

str1=”welcome” ;

str2=”pu college” ;

strcat(str1,str2)

**sample run:**

welcomepu college

1. **Name any two functions to generate the pseudo-random numbers.**

**Ans:** rand() and srand() this two functions generate pseudo-random numbers.

**Three marks questions:**

1. **Explain any four functions of the header file math.h.**

**Ans:** 1. acos(x): cos-1 x where x measured in radians.

2. acos(x): returns the arc tangent of x.

3. cos(x): returns trigonometric cosine of x

4. pow(x,y): returns xy,x is raised to power y.

5. sin(x): returns trigonometric sine of x.

6. sqrt(x): returns the square root of x

1. **Explain any four functions of the header file ctype.h.**

**Ans:** 1. isalpha(x): character classification that returns non zero if x is a letter.

2. isASCII(x): test whether a character x is an ASCII character.

3. isdigit(x): it returns 1 if x is a digit character otherwise 0.

4. toASCII(x): translates character to ASCII value.

5. tolower(x): translates character x to lowercase.

6. toupper(x): translates character to uppercase.

1. **Explain any four functions of the header file string.h.**

**Ans:** 1. strlen(): it finds the length of a string.

2. strcpy(): it copies the one string to another string.

3. strcat(): it combines one string with another.

4. strcmp(): it compares one string to another.

5. strrev(): it gives reverse of the given string.

1. **Write a C++ program to convert a lowercase letter into uppercase and vice-versa.**

**Ans:** #include<iostream.h>

**#**include<conio.h>

**#**include<ctype.h>

void main()

{

char ch;

clrscr();

cout<<”Type in a character: ”;

ch=cin.get();

if(isupper(ch))

{

ch=tolower(ch);

cout<<”The lower-case letter is”<<ch<<endl;

}

else

if(islower(ch))

{

ch=toupper(ch);

cout<<”The lower-case letter is”<<ch<<endl;

}

else

cout<<”It is not an alphabet”<<endl;

getch();

}

**Sample run:** type-in a character: f

The upper-case letter is F

type-in a character: S

The lower-case letter is s

type-in a character: 9

It is not a character

1. **Write C++ program to find the length of string without using library function,**

**Ans:** #include<iostream.h>

**#**include<conio.h>

**#**include<string.h>

void main()

{

char st[100];

int i;

clrscr();

cout<<”Enter the string:”;

cin.getlines(st.100);

for(i=0;st[i]!=’\0’;i++) //for loop is terminated.

cout<<”Length=”<<i<<endl;

getch();

}

**Sample run:** Ener the string : Bjarnestroustrup

Length = 17

1. **Write C++ program to concatenate two strings using library function.**

**Ans:** #include<iostream.h>

**#**include<conio.h>

**#**include<string.h>

void main()

{

char f[100],s[100];

int i;

clrscr();

cout<<”Enter the first string:”;

cin.getlines(f,100);

cout<<”Enter the second string:”;

cin.getlines(s,100);

cout<<”Concatenated string is”<<strcat(f,s)<<endl;

getch();

}

**Sample run:** Ener the first string : win

Ener the second string : dows 10

Concatenated string: windows 10

1. **Explain any four character manipulation functions.**

**Ans:** 1. isalpha(x): character classification that returns non zero if x is a letter.

2. isASCII(x): test whether a character x is an ASCII character.

3. isdigit(x): it returns 1 if x is a digit character otherwise 0.

4. toASCII(x): translates character to ASCII value.

5. tolower(x): translates character x to lowercase.

6. toupper(x): translates character to uppercase.

1. **Explain any four string manipulation functions.**

**Ans:** 1. strlen(): it finds the length of a string.

2. strcpy(): it copies the one string to another string.

3. strcat(): it combines one string with another.

4. strcmp(): it compares one string to another.

5. strrev(): it gives reverse of the given string.

**Five marks Questions:**

1. **Explain any five functions of the header file mth.h**

**Ans: :** 1. acos(x): cos-1 x where x measured in radians.

2. acos(x): returns the arc tangent of x.

3. cos(x): returns trigonometric cosine of x

4. pow(x,y): returns xy,x is raised to power y.

5. sin(x): returns trigonometric sine of x.

6. sqrt(x): returns the square root of x

1. **Explain any five functions of the header file ctype.h**

**Ans:** 1. isalpha(x): character classification that returns non zero if x is a letter.

2. isASCII(x): test whether a character x is an ASCII character.

3. isdigit(x): it returns 1 if x is a digit character otherwise 0.

4. toASCII(x): translates character to ASCII value.

5. tolower(x): translates character x to lowercase.

6. toupper(x): translates character to uppercase.

1. **Explain any five functions of the header file string.h**

**Ans:** 1. strlen(): it finds the length of a string.

2. strcpy(): it copies the one string to another string.

3. strcat(): it combines one string with another.

4. strcmp(): it compares one string to another.

5. strrev(): it gives reverse of the given string.

1. **Write the c++ program to find the length of the string without function.**

**Ans:**

#include<iostream.h>

#include<conio.h>

void main()

{

Char st[100];

Int I;

cout<<”Enter the string”;

cin.getline(st,100);

for(i=0;st[i]!=’\0’;i++)

cout<<”length=”<<i<<endl;

getch();

}

**Sample run:** Enter the string: Bjarnestroustrup

Length = 17

1. **Write the c++ program to concatenate two strings without function.**

**Ans:**

#include<iostream.h>

#include<conio.h>

#include<stdio.h>

void main()

{

clrscr();

char str1[30],str2[20],str3[60];

int i,j;

cout<<”Enter first string:”;

gets(str1);

cout<<”\n Enter second string:”;

gets(str2);

for(i=0;str1[i]!=0’\0;++i)

str3[i]=str1[i];

for(j=0;str2[j]!=’\0’;++j)

str3[i+j]=str2[j];

str3[i+j]=’\0’;

cout<<”\n concatenate string is “<<str3;

getch();

}

**Sample run:** Enter first string: Ada Love

Enter second string: lace

concatenate string is: Ada Lovelace

1. **Write a c++ program to determine whether the given string is palindrome.**

**Ans:**

#include<iostream.h>

#include<conio.h>

void main()

{

clrscr();

int i,j,len,flag=1;

char a[20];

cout<<”Enter a string:”;

cin>>a;

for(len=0;a[len]!=’\0’;++len);

for(i=0,j=len-1;i<len/2;++I,--j)

{

if(a[j]!=a[i])

flag=0;

}

if(flag==1)

cout<<”\n the string is palindrome”;

else

cout<<”\n the string is not palindrome”;

getch();

}

**Sample run:** Enter the string:MADAM

the string is palindrome

Enter the string: Pascal

the string is not palindrome.

1. **Write the C++ rogram to count number of vowels and consonants in a string.**

**Ans:** #include<iostream.h>

**#**include<conio.h>

**#**include<string.h>

**#**include<ctype.h>

void main()

{

char s[100];

int l,i,cons=0,vow=0;

clrscr();

cout<<”Enter the string : ”;

cin.getline(s,100);

l=strlen(s);

for(i=0; i<l; i++)

if(isalpha(s[i]))

switch(toupper(s[i]))

{

case ‘A’:

case ‘E’:

case ‘I’:

case ‘O’:

case ‘U’:

vow++;

break;

default: cons++

}

cout<<”Number of vowels:”<<vow<<endl;

cout<<”Number of consonants:”<<cons<<endl;

getch();

}

**Sample run:**

Enter the string: Dr, A.P J Abdul Kalam

Number of vowels: 5

Number of consonants: 10

1. **Write the C++ program to copy a string into another string without functions.**

**Ans:** #include<iostream.h>

**#**include<conio.h>

**#**include<string.h>

void main()

{

char s[100],d[100];

int l,i;

clrscr();

cout<<”Enter the source string: ”;

cin.getline(s,100);

l=strlen(s); //l is the length of the string.

for(i=0; i < l ;i++)

d[i]=s[i]

d[l]=’\0’;

cout<<”characters are copied to destination string…”<<endl;

cout<<”Copied string :”;

cout.write(d,l);

getch();

}

**Sample run:** Enter the source sting: Charles Babbage

14 characters are copied into destination string...

Copied string: Charles Babbage