CHAPTER-10

STANDARD LIBRARY FUNCTIONS

TYPE A : VERY SHORT ANSWER QUESTIONS

1.	**What is standard library?**
Ans.	A standard library is a collection of subprograms used to develop other program and software.
2.	**Why is C++ standard library needed?**
Ans.	So that users can use their desiered functions (available through standard library) at their wish.
3.	**What are the functions of these header files?** **iomanip.h, string.h, ctype.h, math.h**
Ans.	**iomanip.h** – This file declares the C++ streams I/O manipulators and contains macros for creating parameterized manipulators. **string.h –** This header file declares several string manipulations and memory manipulation routines. **ctype.h** – This header file declares several character manipulations functions and the argument type of these functions is int. **math.h -** This header file declares prototypes for the math functions and math error handlers.
4.	**Which of the following functions appends a string to another string?** **strcpy(), strcmp(), strcat(), toupper()**
Ans.	strcat()
5.	**Distinguish between the following functions:** **(i) islower() and tolower() (ii) isupper() and toupper()**
Ans.	**(i) islower() and tolower():** The islower() function checks whether the given character is in lower case or not, whereas tolower() functions converts the given character in to lower case. **(ii) isupper() and toupper():** The isupper() function checks whether the given character is in upper case or not, whereas toupper() functions converts the given character in to upper case.
6.	**Name the header file, to which following built-in functions belong to:** **(i) cos (ii) setw() (ii) toupper() (iv) strcpy()**
Ans.	**(i) cos** – math.h **(ii) setw()** – iomanip.h **(ii) toupper()** – ctype.h **(iv) strcpy()** – string.h
7.	**Name the header file, to which following built-in functions belong:** **(i) isalnum (ii) gets() (iii) fabs (iv) strlen**
Ans.	**(i) isalnum** – ctype.h **(ii) gets()** – stdio.h **(iii) fabs** – math.h **(iv) strlen** – string.h

TYPE B : SHORT ANSWER QUESTIONS

1.	**Write a C++ program that converts lower case letters in a given string to corresponding upper case letters, and vice versa.**
| Ans. | ```cpp
#include<iostream.h>
#include<conio.h>
#include<string.h>
void main()
{
      clrscr();
      char str[50];
      int i=0;
      cout<<"Enter string: ";
      gets(str);
      while(i<strlen(str))
      {
            if(str[i]>=65 && str[i]<=90)
            {
                  str[i]=tolower(str[i]);
            }
            else if(str[i]>=97 && str[i]<=122)
            {
``` |

```
                        str[i]=toupper(str[i]);
                }
                i++;
        }
        puts(str);
        getch();
}
```

2.	Write a C++ program that reads three strings and prints the longest and smallest string.
| Ans. | ```
#include<iostream.h>
#include<conio.h>
#include<string.h>
void main()
{
        clrscr();
        char str1[50],str2[50],str3[50];
        int i=0,a,b,c;
        cout<<"Enter string1: ";
        gets(str1);
        cout<<"Enter string2: ";
        gets(str2);
        cout<<"Enter string3: ";
        gets(str3);
        a=strlen(str1);
        b=strlen(str2);
        c=strlen(str3);
        if((a>b) && (a>c))
                cout<<"Largest string: "<<str1;
        else if((b>a) && (b>c))
                cout<<"Largest string: "<<str2;
        else
                cout<<"Largest string: "<<str3;
        if((a<b) && (a<c))
                cout<<endl<<"Smallest string: "<<str1;
        else if((b<a) && (b<c))
                cout<<endl<<"Smallest string: "<<str2;
        else
                cout<<endl<<"Smallest string: "<<str3;
        getch();
}
``` |
| 3. | Write a program that reads a string and a character. Each occurrence of the given character (regardless of its case) is converted to opposite case. For example, if the string entered is:
AabrAcadabrA and the character as A or a then the output string should be aAbracAdAbra. See each a or A is converted to opposite case i.e., upper to lower or vice-versa. |
| Ans. | ```
#include<stdio.h>
#include<iostream.h>
#include<conio.h>
#include<ctype.h>
void main()
{
    clrscr();
    char str[50],ch;
    int i=0,l;
    int result=0,result1=0;
    cout<<"Enter strings: ";
    gets(str);
``` |

```
        cout<<"Enter charcter: ";
        cin>>ch;
        while(str[i]!='\0')
        {
            if(toupper(ch)== str[i])
            {
                str[i]=tolower(str[i]);
            }
          else if(tolower(ch)== str[i])
            {
                str[i]=toupper(str[i]);
            }
            i++;
        }
puts(str);
getch();
}
```