

**Q4. Based on File Handling****6-8 Marks****File Pointers tellg() tellp() seekp()seekg() 1-2 Marks Binary File 4 Marks Text file 2 Marks**

1. (a) Observe the program segment given below carefully and the questions that follow:

```
class Inventory
{
    int Ano, Qty; char Article[20];
    public:
    void Input() { cin>>Ano; gets(Article); cin>>Qty; }
    void Issue(int Q) { Qty -= Q; }
    void Procure(int Q) { Qty += Q; }
    int GetAno() { return Ano; }
};
```

```
void ProcureArticle ( int TAno, int TQty )
{
```

```
    fstream File;
    File.open("STOCK.DAT", ios::binary|ios::in|ios::out);
    Inventory I;
    int Found=0;
    while(Found==0 && File.read((char*)&I, sizeof(I)))
    {
        if ( TAno == S.GetAno())
        {
            I.Procure(TQty);
            _____ // Statement 1
            _____ // Statement 2
            Found++;
        }
    }
```

```
    if( Found == 1 )
        cout<<"Procurement Updated"<<endl;
    else
        cout<<"Wrong Article No"<<endl;
    File.close();
}
```

- Write statement 1 to position the file pointer to the appropriate place, so that the data updation is done for the required Article.
- Write statement 2 to perform the write operation so that the updation is done in the binary file.

- b) Write a function in C++ to read the content of a text file "PLACES.TXT" and display all those lines on the screen, which are either starting with "P" or starting with "S".
- c) Write function in C++ to search for the details (Number and Calls) of those Mobile Phones, which have more than 1000 calls from a binary file "mobile.dat". Assuming that this binary file contains records/objects of class Mobile, which is defined below:

```
class Mobile
{
    char Number[10]; int Calls;
public:
    void Enter() { gets(Number); cin>Calls; }
    void Billing() { cout<<Number<<"#"<<Calls<<endl; }
    int GetCalls() { return Calls; }
};
```

2. (a) Observe the program segment given below carefully and fill the blanks marked as Statement 1 and Statement 2 using seekg(), seekp(), tellp(), tellg() functions for performing the required task.

```
#include<fstream.h>
class PRODUCT
{
    int Pno; char Pname[20]; int Qty;
public:
    void ModifyQty(); // The function is to modify quantity of a PRODUCT
};
void PRODUCT :: ModifyQty()
{
    fstream File;
    File.open("PRODUCT.DAT", ios::binary | ios::in | ios::out);
    int MPno;
    cout<<"Product No to modify quantity : "; cin>>MPno;
    while(File.read((char*)this, sizeof(PRODUCT)))
    {
        if(MPno == Pno)
        {
            cout<<"Present Quantity: "<<Qty<<endl;
            cout<<"Changed Quantity: "; cin>>Qty;
            int Position = _____; // Statement 1
            _____; // Statement 2
            File.write((char*)this, sizeof(PRODUCT));
        }
    }
    File.close();
}
```

- b) Write a function in C++ to count the no. of "Me" or "My" words present in a text file "DIARY.TXT". If the file "DIARY.TXT" content is as follows :

My first book was Me and My family. It gave me change to be known to the world.
The output of the function should be

Count of Me/My in file : 4

- c) Write a function in C++ to search for a laptop from a binary file "LAPTOP.DAT" containing the objects of class LAPTOP (as defined below). The user should enter the Model No and the function should search and display the details of the laptop.

```

class LAPTOP
{
    long ModelNo;
    float RAM, HDD;
    char Details[120];
public:
    void StockEnter() { cin>>ModelNo>>RAM>>HDD; gets(Details); }
    void StockDisplay() { cout<<ModelNo<<RAM<<HDD<<Details<<endl; }
    long ReturnModelNo() { return ModelNo; }
};

```

3. (a) Observe the program segment given below carefully and blanks marked as Statement 1 and Statement 2 using tellg() and seekg() functions for performing the required task. [1]

```

#include<fstream.h>
class Client
{
    long Cno; char Name[20], Email[30];
public:
    void Enter(); // Function to allow user to enter the Cno, Name, Email
    void Modify(); // Function to allow user to enter (modify) email
    long ReturnCno() { return Cno; }
};
void ChangeEmail()
{
    Client C;
    fstream F;
    F.open("INFO.DAT", ios::binary | ios::in | ios::out);
    long Conc; // Client's no whose Email needs to be changed
    cin>>Cnoc;
    while( F.read((char*)&C, sizeof(C)))
    {
        If( Cnoc == C.ReturnCno())
        {
            C.Modify();
            // Statement 1 : To find the current position of file pointer
            int Pos = _____
            // Statement 2 : To move the file pointer to write the modified record back
            // onto the file for the desired Conc
            _____
            F.write((char*) &C, sizeof(C));
        }
    }
    F.close();
}

```

- (b) Write a function in C++ to count the words "this" and "these" present in a text file "ARTICLE.TXT".
(c) Write a function in C++ to search and display details of all flights, whose destination is "Mumbai" from a binary file "FLIGHT.DAT". Assuming the binary file is containing the objects of the following class.

```

class FLIGHT
{
    int Fno;
    char From[20];
    char To[20];
public:
    char* GetFrom() { return From; }
    char* GetTo() { return To; }
    void Enter() { cin>>Fno; gets(From); gets(To); }
    void Display() { cout<<Fno<<": "<<From<<": "<<To<<endl; }
};

```

4. (a) Observe the program segment given below carefully, and fill in the blanks marked as Line 1 and Line 2 using fstream function for performing the required task.

```
#include<fstream.h>
class Stock
{
    long Ino;           // Item Number
    char Item[20];      // Item Name
    int Qty;           // Quantity
public:
    void Get(int);     // Function to enter the content
    void Show();      // Function to display the content
    void Purchase(int Tqty)
    {
        Qty += Tqty; } // Function to increment in Qty
    long KnowIno() { return Ino; }
};
void Purchase Item (long PIno, int PQty)
{
    // PIno -> Ino of the item purchased PQty -> Number of item purchased
    fstream File;
    File.open("ITEMS.DAT",ios::binary | ios::in | ios::out);
    int Pos = -1;
    Stock S;
    while( Pos == -1 && File.read((char*)&S, sizeof(S)))
    {
        If(S.KnowIno() == PIno)
        { S.Purchase(PQty);
          Pos = File.tellg() – sizeof (S);
          // Line 1: To place the file pointer to the required position
          _____;
          // Line 2: To write the object S on to the binary file
          _____;
        }
    }
    If(pos == -1)
        cout<< "No updation done as required Ino not found ... ";
    File.close();
}
```

(b) Write a function COUNT_DO () in C++ to count the presence of a word 'do' in a text file "MEMO.TXT".

Example:

If the content of the file "MEMO.TXT" is as follows:

```
I will do it, if you
Request me to do it.
It would have been done which earlier.
```

The function COUNT_DO() will display the following message:

```
Count of -do- in file : 2
```

Note: In the above example, 'do' occurring as a part of word done is not considered.

(c) Write a function in C++ to read and display the detail of all the users whose status is 'A' (i.e., Active) from a binary file "USER.DAT". Assuming the binary "USER.DAT" is containing objects of class USER, which is defined as follows:

```
class USER
{
    int Uid;           // User Id
    char Uname[20];   // User name;
```

```

    char Status;           // User Type : A Active I Inactive
public:
    void Register ();      // Function to enter the content
    void Show ();         // Function to display all data members
    char Getstatus () { return Status; }
};

```

5. (a) Observe the program segment given below carefully, and answer the question that follows:

```

class Applicant
{
    long Aid;           // Applicant's ID
    char Name[20];     // Applicant's Name
    float Score;       // Applicant's Score
public:
    void Enroll ();
    void Disp ();
    void MarksScore(); // Function to change score
    long R_Aid() { return Aid; }
};

void Score_Update(long ID)
{
    fstream File;
    File.open("APPLI.DAT", ios::binary | ios::in | ios::out);
    Applicant A;
    int Record = 0, Found = 0;
    while (!Found && File.read((char*) &A, sizeof(A)))
    {
        if( ID == A.R_Aid())
        {
            cout<< "Enter new Score ";
            A.MarksScore();
            _____ // Statement 1
            _____ // Statement 2
            Found = 1;
        }
        Record++;
    }
    if(found == 1) cout<<"Record Updated";
    File.close();
};

```

Write the statement 1 to position the File Pointer at the beginning of the Record for which the Applicant's Id matches with argument passed, and Statement 2 to write the updated Record at that position.

(b) Write a function in C++ to count number of lowercase alphabets present in a text file "BOOK.TXT".

(c) Given a binary file PHONE.DAT, containing records of the following:

```

class Phonenumber {
    char Name[20], Address[30], AreaCode[5], PnoneNo[15];
public:
    void Register();
    void Show();
    int CheckCode (char AC[] )
    {
        return strcmp (AreaCode, AC);
    }
};

```

Write a function TRANSFER () in C++, that would copy all those records which are having AreaCode as "DEL" from PHONE.DAT to PHONBACK.DAT.

6. (a) Observe the program segment given below carefully, and answer the question that follows:
class PracFile

```

{
    int Pracno;
    char PracName[20];
    int TimeTaken, Marks;
public:
    // Function to enter PracFile details
    void EnterPrac ();
    // Function to display PracFile details
    void ShowPrac ();
    // Function to return TimeTaken
    int RTime () { return TimeTaken; }
    // Function to assign marks
    void Assignmarks (int M)
    { Marks = M; }
};
void AllocateMarks ()
{
    fstream File;
    File.open ("MARKS.DAT", ios::binary | ios::in | ios::out);
    PracFile P;
    int Record = 0;
    while( File.read((char*) &P, sizeof(P)))
    {
        if(P.RTime() > 50 )
            P.Assignmarks(0);
        else
            P.Assignmarks(10);
        _____ // Statement 1
        _____ // Statement 2
        Record++;
    }
    File.close();
}

```

If the function AllocateMarks() is supposed to Allocate Marks for the records in the file MARKS.DAT based on their values of the member TimeTaken. Write C++ statements for the statement 1 and statement 2, where statement 1 is required to position the file write pointer to an appropriate place in the file and statement 2 is to perform the write operation with the modified record.

(b) Write a function in C++ to print the count of the word "is" as an independent word in a text file "DIALOGUE.TXT".

For example, if the content of the file DIALOGUE.TXT is

This is his book. Is this book good?

Then output of the program should be 2.

(c) Given a binary file GAME.DAT, containing records of the following structure type:

```

struct Game
{
    char GameName[20];
    char Participant[10][30];
};

```

Write a function in C++ that would read contents from the file GAME.DAT and creates a file named BASKET.DAT copying only those records from GAME.DAT where game name is "Basket Ball".

7. (a) Write a function to count the number of words present in a text file named "PARA.TXT". Assume that each word is separated by a single blank space character and no blank spaces in the beginning and end of the file.

(b) Following is the structure of each record in a data file named "COLONY.DAT".

```
struct COLONY
{
    char Colony_Code[10];
    char Colony_Name[10];
    int No_of_People;
};
```

Write functions in C++ to update the file with a new value of No_of_People are read during the execution of the program.

8. (a) Observe the program segment given below carefully, and answer the question that follows:

```
class Book
{
    int Book_no;
    char Book_name[20];
public:
    void enterdetails(); // Function to enter Book Details
    void showdetails(); // Function to display book details
    int RBook_No() { return Book_no; } // Function to return Book_no
};
void Modify (Book NEW)
{
    fstream File;
    File.open ("Book.DAT", ios::binary | ios::in | ios::out);
    Book OB;
    int Recordsread = 0, Found = 0;
    while (! Found && File.read((char *) &OB, sizeof (OB)))
    {
        Recordsread++;
        If (NEW.RBook_No() == OB.RBook_No())
        {
            _____ // Missing Statement
            File.wirte ((char *)&NEW, sizeof(NEW));
            Found = 1;
        }
        else
            File.write((char *)&OB, sizeof(OB));
    }
    if(!Found)
        cout<< " Record for modification does not exist";
    File.close();
}
```

If the function Modify() is supposed to modify a record in file BOOK.DAT with the values of Book NEW passed to its argument, write the appropriate statement for Missing Statement using seekp () and seekg(), whichever needed, in the above code that would write the modified record at its proper place.

(b) Write a function in C++ to count and display the number of lines starting with alphabet 'A' present in a text file "LINES.TXT".

Example: If the file "LINES.TXT" contains the following lines,
 A boy is playing there.
 There is a playground.
 An aero plane is in the sky.
 Alphabets and numbers are allowed in the password.
 The function should display the output as 3

(c) Given a binary file STUDENT.DAT, containing records of the following class Student type [3]

```
class Student
{
    char S_Admno[10];
    char S_Name[30];
    int Percentage;
public:
    void EnterData() { gets(S_Admno); gets(S_Name); cin>>Percentage; }
    void DisplayData()
    { cout<<setw(12)<<S_Admno<<setw(32)<<S_Name<<setw(3)<<Percentage; }
    int ReturnPercentage() { return Percentage; }
};
```

9 (a) Write a function in C++, that would read contents of file STUDENT.DAT and display the details of those Students whose Percentage is above 75.

Write a definition for function COSTLY() in C++ to read each record of a binary file GIFTS.DAT, find and display those items, which are priced more than 2000. Assume that the file GIFTS.DAT is created with the help of objects of class GIFTS, which is defined below :

```
class GIFTS
{
    int CODE;char ITEM[20]; float PRICE;
public:
    void Procure()
    { cin>>CODE; gets (ITEM);cin>>PRICE;
    }
    void View()
    { cout<<CODE<<":":<<ITEM<<":":<<PRICE<<endl;
    }
    float GetPrice(){return PRICE;}.
};
```

C

Find the output of the following C++ code considering that the binary file MEMBER.DAT exists on the hard disk with records of 100 members :

1

```
class MEMBER
{
    int Mno; char Name[20];
public:
    void In();void Out();
};

void main()
{
    ifstream MF; MF.open("MEMBER.DAT",ios::binary | ios::in);
    MEMBER M;
    MF.read((char*)&M, sizeof(M));
    MF.read((char*)&M, sizeof(M));
    MF.read((char*)&M, sizeof(M));
    int POSITION= MF.tellg()/sizeof(M); cout<<"PRESENT RECORD:"<<POSITION<<endl; MF.close();
}
```


10. Fill in the blanks marked as Statement 1 and Statement 2, in the program segment given below with appropriate functions for the required task.

```
class Agency
```

```
{
    int ANo;           //Agent Code
    char AName[20];   //Agent Name
    char Mobile[12];  //Agent Mobile
public:
    void Enter();     //Function to enter details of agent
    void Disp();      //Function to display details of agent
    int RAno() { return ANo; }
    void UpdateMobile() //Function to update Mobile
        { cout<<"Updated Mobile";
          gets(Mobile);
        }
};
```

```
void AgentUpdate()
```

```
{
    fstream F;
    F.open("AGENT.DAT",ios::binary|ios::in|ios::out);
    int Updt=0;
    int UAno;
    cout<<"Ano (Agent No - to update mobile):";
    cin>>UAno;
    Agency A;
    while(!Updt && F.read((char*)&A,sizeof(A)))
    { if(A.RAno()==UAno)
      { //Statement 1 : To call the function to update Mobile No.
        _____;
        //Statement 2: To reposition file pointer to re-write the updated object back in the file
        _____;
      }
      F.write((char*)&A, sizeof(A));
      Updt++;
    }
    if (Updt)
        cout<<"Mobile Updated for Agent"<<UAno<<endl;
    else
        cout<<"Agent not in the Agency"<<endl;
    F.close();
}
```

b) Write a function AECOUNT in C++, which should read each character of a text file NOTES.TXT, should count and display the occurrence of alphabets A and E (including small cases a and e too).

Example:

If the file content is as follows:

CBSE enhanced its CCE guideline further.

The AECOUNT() function should display the output as

A:1 E:7

c) TOYS.DAT and display those details of those TOYS, which are meant for children of AgeRange "5 to 8".

```
class TOYS
{
    int ToyCode;
    char ToyName[10];
    char AgeRange;
public:
    void Enter()
    {
        cin>>ToyCode;
        gets(ToyName);
        gets(AgeRange);
    }
    void Display()
    {
        cout<<ToyCode<<":"<<ToyName<<endl;
        cout<<AgeRange<<endl;
    }
    char* WhatAge()
    {
        return AgeRange;
    }
};
```