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Previous Year Paper

Computer and Communication Technology - 2015

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Short Answer Type

1. Find the correct identifiers out of the following, which can be used for naming variables, constants or functions in a C++ program:

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

Answer

2. Observe the following program very carefully and write the names of those header files (s), which are essentially needed to compile and execute the following program successfully :

```
typedef char TEXT[80];  
void main()  
{  
    TEXT Str[] = 'Peace is supreme';  
    int Index=0;  
    while (Str[Index]!='\0'){  
        if (isupper(Str[Index])){  
            Str[Index++]='#';  
        }  
        else{  
            Str[Index++]='*';  
        }  
    }  
    puts(Str);  
}
```

Answer

3. Observe the following C++ code very carefully and rewrite it after removing any/all syntactical errors with each correction underlined.

Note: Assume all required header files are already being included in the program.

```
#Define float Max=70.0;  
Void main()  
{
```

```
    int Speed
```

```
    char Stop='N';
```

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Answer

4. Write the output of the following C++ program code:

Note: Assume all required header files are already being included in the program.

```
void Position(int & C1,int C2=3)
{
    C1+=2;
    C2+=Y;
}
void main()
{
    int P1=20, P2=4;
    Position(P1);
    cout<<P1<<','<<P2<<endl;
    Position(P2,P1);
    cout<<P1<<','<<P2<<endl;
}
```

Answer

5. Write the output of the following C++ program code:

Note: Assume all required header files are already being included in the program.

```
class Calc
{
    char Grade;
    int Bonus;
public:
    Calc() {Grade='E';Bonus=0;}
    void Down(int G)
    {
        Grade-=G;
    }
    Void Up(int G)
    {
```

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```
cout<<Grade<<'# '<<Bonus<<endl;
```

```
    }  
};  
void main()  
{  
    Calc c;  
    C.Down(2);  
    C.Show();  
    C.Up(7);  
    C.Show();  
    C.Down(2);  
    C.Show();  
}
```

Answer

6. Study the following program and select the possible output(s) from the options (i) to (iv) following it. Also, write the maximum and the minimum values that can be assigned to the variable NUM.

Note :

- Assume all required header files are already being included in the program.
- random(n) function generates an integer between 0 and n - 1.

```
void main()  
{  
    randomize();  
    int NUM;  
    NUM=random(3)+2;  
    char TEXT[]='ABCDEFGHIIJK';  
    for (int I=1;I<=NUM; I++)  
    {  
        for(int J=NUM; J<=7;J++){  
            cout<<TEXT[J];  
        }  
        cout<<endl;  
    }  
}
```

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(i) FGHI FGHI FGHI FGHI	(ii) BCDEFGH BCDEFGH EFGH EFGH		(iii) EFGH EFGH EFGH EFGH	(iv)	

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7. What is a copy constructor ? Give a suitable example in C++ to illustrate with its definition within a class and a declaration of an object with the help of it.

[Answer](#)

8. Observe the following C++ code and answer the question.

```
class Traveller
{
    long PNR;
    char TName[20];
public :
    Traveller() //Function 1
    {
        cout<<'Ready'<<endl;
    }
    void Book(long P,char N[])//Function 2
    {
        PNR = P; strcpy(TName, N);
    }
    void Print() //Function 3
    {
        cout<
```

Fill in the blank statements in Line 1 and Line 2 to execute Function 2 and Function 3 respectively in the following code:

```
void main()
{
    Traveller T;
    _____ //Line 1
    _____ //Line 2
} //Stops here
```

[Answer](#)

9. Observe the following C++ code and answer the question.

```
class Traveller
{
```

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Study, Traveller(), //Function 1
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```
{
    cout<<'Ready'<<endl;
}
void Book(long P,char N[])//Function 2
{
    PNR = P; strcpy(TName, N);
}
void Print() //Function 3
{
    cout<<PNR << TName <<endl;
}
~Traveller() //Function 4
{
    cout<<'Booking cancelled!'endl;
}
};
```

Which function will be executed at }//Stops here? What is this function referred as?

[Answer](#)

10. Write the definition of a class PIC in C++ with the following description :

Private Members

- Pno //Data member for Picture Number (an integer)
- Category //Data member for Picture Category (a string)
- Location //Data member for Exhibition Location (a string)
- FixLocation //A member function to assign
//Exhibition Location as per category
//as shown in the following table

Category	Location
Classic	Amina
Modern	Jim Plaq
Antique	Ustad Khan

11. Answer the questions (i) to (iv) based on the following:

```

class Exterior
{
    int OrderId;
    char Address[20];
protected:
    float Advance;
public:
    Exterior();
    void Book();
    void View();
};
class Paint:public Exterior
{
    int WallArea,ColorCode;
protected:
    char Type;
public:
    Paint();
    void PBook();
    void PView();
};
class Bill : public Paint
{
    float Charges;
    void Calculate();
    public :
    Bill();
    void Billing();
    void Print();
};
  
```

(i) Which type of Inheritance out of the following is illustrated in the above example?

- Single Level Inheritance

(ii) Write the names of all the data members, which are directly accessible from the member functions of class Paint.

(iii) Write the names of all the member functions, which are directly accessible from an object of class Bill

(iv) What will be the order of execution of the constructors, when an object of class Bill is declared?

Answer

12. Write the definition of a function Alter(int A[], int N) in C++, which should change all the multiples of 5 in the array to 5 and rest of the elements as 0. For example, if an array of 10 integers is as follows:

ARR	ARR	ARR	ARR	ARR	ARR	ARR	ARR	ARR	ARR
15	30	25	35	20	30	40	25	45	25

After executing the function, the array content should be changed as follows:

ARR	ARR	ARR	ARR	ARR	ARR	ARR	ARR	ARR	ARR
5	0	5	0	0	5	0	0	0	0

Answer

13. A two-dimensional array P[20] [50] is stored in the memory along the row with each of its element occupying 4 bytes, find the address of the element [10] [30], if the element P[5] [5] is stored at the memory location 15000.

Answer

14. Write the definition of a member function Pop() in C++, to delete a book from a dynamic stack of TEXTBOOKS considering the following code is already included in the program.

```
struct TEXTBOOKS
{
    char ISBN[20]; char TITLE[80];
    TEXTBOOKS *Link;
};
class STACK
{
    TEXTBOOKS *Top;
public:
    STACK(){Top=NULL;}
    void Push();
    void Pop();
    ~STACK();
};
```

Answer

15. Write a function REVCOL (int P[] [5], int N, int M) in C++ to display the content of a two-Like. Share. Bookmark. Download. Make Notes. Print - Your Favourite Questions. Join www.zigya.com

15	12	56	45	51
13	91	92	87	63
11	23	61	46	81

The function should display output as:

11	23	61	46	81
13	91	92	87	63
15	12	56	45	51

Answer

16. Convert the following infix expression to its equivalent postfix expression, showing the stack contents for each step of conversion.

$X / Y + U * (VW)$

Answer

17. Write function definition for *SUCCESS()* in C++ to read the content of a text file *STORY.TXT*, count the presence of word *STORY* and display the number of occurrence of this word.

Note :

- The word *STORY* should be an independent word
- Ignore type cases (i.e. lower/upper case)

Example :

If the content of the file *STORY.TXT* is as follows:

Success shows others that we can do it. It is possible to achieve success with hard work. Lot of money does not mean SUCCESS.

The function *SUCCESS()* should display the following:

3

Answer

18. Write a definition for function *Economic()* in C++ to read each record of a binary file *ITEMS.DAT*, find and display those items, which costs less than 2500. Assume that the file *ITEMS.DAT* is created with the help of objects of class *ITEMS*, which is defined below:

```
class ITEMS
{
    int ID; char GIFT[20]; float Cost;
public:
    void Get()
```

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cin>>CODE;gets(GIFT);cin>>Cost;

void See()
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```
{
    cout<<ID<<':'<<GIFT<<':'<<Cost<<endl;
}
float GetCost()
{
    return Cost;
}

};
```

Answer

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

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

void main()
{
    fstream CF;
    CF.open("CLIENTS.DAT",ios:: binary| ios::in) ;
    CLIENTS C;
    CF.read((char*)&C,sizeof(C));
    CF.read((char*)&C,sizeof(C));
    CF.read((char*)&C,sizeof(C));
    int POS=CF.tellg()/sizeof(C);
    cout<<"PRESENT RECORD:"<<POS<<endl;
    CF.close()
}
```

Answer