

1. In the following C++ program what is the expected value of Myscore from Options (i) to (iv) given below. Justify your answer. Delhi 2007

```
#include<stdlib.h>
#include<iostream.h>
void main( )
{
    randomize();
    int Score[] = {25,20,34,56, 72, 63}, Myscore;
    Myscore = Score[2 + random(2)];
    cout<<Myscore<<endl;
}
```

(i) 25 (ii) 34 (iii) 20 (iv) None of the above

2. In the following C++ program what is the expected value of MyMarks from Options (i) to (iv) given below. Justify answer. OD 2007

```
#include<stdlib.h >
# include<iostream.h>
void main ( )
{ randomize ( );
  int Marks [ ]= {99, 92, 94, 96, 93, 95}, MyMarks;
  MyMarks = Marks [1 + random (2) ];
  cout<<MyMarks<<endl;
}
```

(i) 99 (ii) 94 (iii) 96 (iv) None of the above

3. In the following program, find the correct possible output(s) from the options: Delhi 2008

```
#include<stdlib.h>
#include<iostream.h>
void main ( )
{ randomize ( ) ;
  char City [ ] [10] = {"DEL", "CHN", "KOL", "BOM", "BNG"};
  int Fly;
  for (int l=0;l<3;l++)
  { Fly=random (2)+ 1;
    cout<<City[Fly]<<" : " ;
  }
}
```

(i) DEL:CHN:KOL: (ii) CHN:KOL:CHN:
(iii) KOL:BOM:BNG: (iv) KOL:CHN :KOL:

4. In the following program, find the correct possible output(s) from the options: OD 2008

```
#include<stdlib.h>
#include<iostream.h>
void main ( )
{ randomize( ) ;
  char Area [ ] [10] = {"NORTH", "SOUTH", "EAST", "WEST"};
  int ToGo;
  for (int l=0; l<3; l++)
  { ToGo = random(2) +1;
    cout<<Area [ToGo]<<" : " ;
  }
}
```

(i) SOUTH:EAST:SOUTH: (ii) NORTH:SOUTH:EAST:
(iii) SOUTH:EAST:WEST: (iv) SOUTH:EAST:EAST:

5. Study the following program and select the possible output from it : Delhi 2009

```
#include <iostream.h>
#include <stdlib.h>
const int LIMIT = 4 ;
void main ( )
{ randomize ( ) ;
  int Points;
  Points = 100 + random(LIMIT) ;
  for (int P=Points ; P>=100 ; P-- )
  { cout<<P<<"# " ; }
  cout<<endl;
}
```

(i) 103#102#101#100# (ii) 100#101#102#103#
(iii) 100#101#102#103#104# (iv) 104#103#102#101#100#

6. Study the following program and select the possible output from it : OD 2009

```
#include <iostream.h>
#include <stdlib.h>
const int MAX=3 ;
void main ( )
{
  randomize( ) ;
  int Number ;
  Number = 50 + random{MAX} ;
  for (int P=Number; P>=50; P-- )
  cout<<p<<" # " ;
  cout<<endl;
}
```

(i) 53#52#51#50# (ii) 50#51#52# (iii) 50#51# (iv) 51#50#

7. The following code is from a game, which generates a set of 4 random numbers. Yallav is playing this game, help him to identify the correct option(s) out of the four choices given below as the possible set of such numbers generated from the program code so that he wins the game. Justify your answer. Delhi 2010

```
#include <iostream.h>
#include <stdlib.h>
const int LOW=15;
void main ( )
{
  randomize( ) ;
  int POINT=5, Number;
  for (int 1=1;l<=4;l++)
  {
    Number=LOW+random(POINT) ;
    cout<<Number<<" : " ;
    POINT--;
  }
}
```

(i) 19:16:15:18:
(ii) 14:18:15:16:
(iii) 19:16:14:18:
(iv) 19:16:15:16:

8. The following code is from a game, which generates a set of 4 random numbers. Praful is playing this game, help him to identify the correct option(s) out of the four choices given below as the possible set of such numbers generated from the program code so that he wins the game. Justify your answer.

OD2010 2

```
#include <iostream.h>
#include <stdlib.h>
const int LOW=25;
void main ()
{
    randomize();
    int POINT=5,Number;
    for (int l=1;l<=4;l++)
    {
        Number=LOW+random(POINT);
        cout<<Number<<“:.”;
        POINT--;
    }
}
```

- (i) 29:26:25:28: (ii) 24:28:25:26: (iii) 29:26:24:28:
 (iv) 29:26:25:26:

9. Go through the C++ code shown below, and find out the possible output or outputs from the suggested Output Options (i) to (iv). Also, write the least value and highest value, which can be assigned to the variable Guess. Delhi 2011 2

```
#include <iostream.h>
#include <stdlib.h>
void main ()
{
    randomize ();
    int Guess, High=4;
    for{int C=Guess ; C<=55 ; C++}
    cout<<C<<“#” ;
}
```

- (i) 50 # 51 # 52 # 53 # 54 # 55 # (ii) 52 # 53 # 54 # 55
 (iii) 53 # 54 # (iv) 51 # 52 # 53 # 54 # 55

10. Go through the C++ code shown below, and find out the possible output or outputs from the suggested Output Options (i) to (iv). Also, write the minimum and maximum values, which can be assigned to the variable MyNum. OD 2011 2

```
#include<iostream.h>
#include <stdlib.h>
void main ()
{
    randomize ();
    int MyNum, Max=5;
    MyNum = 20 + random (Max) ;
    for (int N=MyNum; N<=25;N++)
    cout<N<“*”;
}
```

- (i) 20*21*22*23*24*25 (ii) 22*23*24*25*
 (iii) 23*24* (iv) 21*22*23*24*25

11. In the following program, if the value of N given by the user is 15, what maximum and minimum values the program could possibly display? SAMPLE PAPER 2009 SET I

2

```
#include <iostream.h>
#include <stdlib.h>
void main()
{
    int N,Guessme;
    randomize();
    cin>>N;
    Guessme=random(N)+10;
    cout<<Guessme<<endl;
}
```

12. In the following program, if the value of N given by the user is 20, what maximum and minimum values the program could possibly display? SAMPLE PAPER 2009 SET II 2

```
#include <iostream.h>
#include <stdlib.h>
void main()
{
    int N,Guessnum;
    randomize();
    cin>>N;
    Guessnum=random(N-10)+10;
    cout<<Guessnum<<endl;
}
```

13. In the following program, if the value of Guess entered by the user is 65, what will be the expected output(s) from the following options (i), (ii), (iii) and (iv)?

SAMPLE PAPER 2010 SET I 2

```
#include <iostream.h>
#include <stdlib.h>
void main()
{
    int Guess;
    randomize();
    cin>>Guess;
    for (int l=1;l<=4;l++)
    {
        New=Guess+random(l);
        cout<<(char)New;
    }
}
```

- (i) ABBC (ii) ACBA (iii) BCDA (iv) CABD

14. In the following program, if the value of N given by the user is 20, what maximum and minimum values the program could possibly display? SAMPLE PAPER 2010 SET II

```
#include <iostream.h>
#include <stdlib.h>
void main()
{
    int N,Guessnum;
    randomize();
    cin>>N;
    Guessnum=random(N-10)+10;
    cout<<Guessnum<<endl;
}
```

15. Go through the C++ code shown below, and find out the possible output or outputs from the suggested Output Options (i) to (iv). Also, write the least value and highest value, which can be assigned to the variable **Guess**. AI 2012

```
#include <iostream.h>
#include <stdlib.h>
void main ( )
{  randomize ( ) ;
   int Guess, High=4;
   Guess=random{High)+ 50 ;
   for{int C=Guess ; C<=55 ; C++}
     cout<<C<<"#" ;
}
```

- (i) 50 # 51 # 52 # 53 # 54 # 55 # (ii) 52 # 53 # 54 # 55
 (iii) 53 # 54 # (iv) 51 # 52 # 53 # 54 # 55

16. AI 2013

Based on the following C++ code, find out the expected correct output(s) from the options (i) to (iv). Also, find out the minimum and the maximum value that can be assigned to the variable **Trick** used in the code at the time when value of **Count** is 3 :

```
void main()
{
  char Status[] [10]={"EXCEL", "GOOD", "OK"};
  int Turn=10,Trick;
  for(int Count=1;Count<4;Count++)
  {
    Trick=random(Count);
    cout<<Turn-Trick<<Status [Trick] <<"#";
  }
}
```

- (i) 10EXCEL#10EXCEL#8OK#
 (ii) 10EXCEL#8OK#9GOOD#
 (iii) 10EXCEL#9GOOD#10EXCEL#
 (iv) 10EXCEL#10GOOD#8OK#

17. AI-2014

Read the following C++ code carefully and find out, which out of the given options (i) to (iv) are the expected correct output(s) of it. Also, write the maximum and minimum value that can be assigned to the variable **Taker** used in the code :

```
void main()
{
  int GuessMe [4]={100, 50, 200, 20};
  int Taker=random(2)+2;
  for (int Chance=0;Chance<Taker;Chance++)
    cout<<GuessMe [Chance] <<"#";
}
```

- (i) 100#
 (ii) 50#200#
 (iii) 100#50#200#
 (iv) 100#50

18. 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 **VAL**. AI-2015

```
void main()
{  randomize();
   int VAL;
   VAL=random(3)+2;
   char GUESS[]="ABCDEFGHGIJK";
   for (int I=1;I<=VAL; I++)
   {  for(int J=VAL; J<=7;J++)
      {  cout<<GUESS[J]; }
      cout<<endl;
    }
}
```

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

19. Observe the following program carefully and attempt the given questions: AI 2016

```
#include<iostream.h>
#include<conio.h>
#include<stdlib.h>
void main()
{  clrscr();
   randomize();
   char courses[][10]={"M.Tech","MCA","MBA","B.Tech"};
   int ch;
   for(int i=1;i<=3;i++)
   {  ch=random(i)+1;
      cout<<courses[ch]<<"\t";
    }
   getch();
}
```

- I. Out of all the four courses stored in the variable **courses**, which course will never be displayed in the output and which course will always be displayed at first in the output?
 II. Mention the minimum and the maximum value assigned to the variable **ch**?