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A



INDIAN SCHOOL MUSCAT FIRST PERIODIC ASSESSMENT

COMPUTER SCIENCE

CLASS: XII
09.04.2019

Sub. Code: 083

Time Allotted: 50 mts
Max. Marks: 20

GENERAL INSTRUCTIONS:

- Answer all questions.
- Programming language is C++.
- Write programs neatly and clearly.

1. What is the difference between Local Variable and Global Variable? Also, give a suitable C++ code to illustrate both. 2

2. Which C++ header file(s) are essentially required to be included to run/execute the following C++ source code? (Note: Do not include any header file, which is/are not required) 1

```
void main()  
{ char STRING[ ]="Something";  
  cout<<"Balance Characters:"<<160-strlen(STRING)<<endl; }
```

3. Observe the following C++ code very carefully and rewrite it after removing any/all syntactical errors with each correction underlined. 2

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

```
#Define MaxSpeed 60.5  
void main()  
{ int MySpeed , char Alert= 'N' ; cin>>MySpeed;  
  if MySpeed>MaxSpeed  
  Alert='Y' ; cout<<Alert<<endl; }  
}
```

4. Observe the following C++ code and find out , which out of the given options (i) to (iv) are the expected correct output. Also, write the maximum and minimum value that can be assigned to the variable 'Go'. 2

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

```
void main()  
{ randomize();  
  int X [4] ={100,75,10,125};  
  int Go = random(2)+2;  
  for (int i = Go; i< 4; i++)  
  cout<<X[i]<< "$$"; }
```

- (i) 100\$\$75 (ii) 75\$\$10\$\$125\$\$ (iii) 75\$\$10\$\$ (iv) 10\$\$125\$

5. What is Polymorphism? Give an example. 2
6. Define an object and a class. 2
7. Find the output of the following program: 2
- ```
#include<iostream.h>
#include<ctype.h>
void change(char Text[], char C)
{ for(int K = 0 ; Text[K] != '\0' ; K++)
 { if (Text[K] >= 'R' && Text[K] <= 'S')
 Text[K] = tolower(Text[K]) ;
 else if (Text[K] == 'a' || Text[K] == 'A')
 Text[K] = C ;
 else if(K%2 == 0)
 Text[K] = toupper(Text[K]) ;
 else
 Text[K] = Text[K - 1];
 }
}
void main()
{ char OldText[] = "ArabSagar" ;
 change(OldText, '@') ;
 cout<< "New Text :" <<OldText<<endl ;
}
```
8. Define Inheritance and Data encapsulation. 2
9. Find the output of the following program: 3
- ```
#include<iostream.h>
void main()
{ int *Point, Score[ ]={100,95,150,75,65,120};
  Point = Score;
  for(int L = 0; L<6; L++)
  { if((*Point)%10 == 0)
    *Point /= 2;
    else
    *Point -= 2;
    if((*Point)%5 == 0)
    *Point /= 5;
    Point++;
  }
  for(int L = 5; L>=0; L--)
  cout<<Score[L]<<"*";
}
```
10. How does a class enforce data hiding and data abstraction? 2

End of the Question Paper

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B



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GENERAL INSTRUCTIONS:

- Answer all questions.
- Programming language is C++.
- Write programs neatly and clearly.

1. What is the difference between actual parameters and formal parameters of a function? Give suitable example. 2

2. Define Inheritance and Data encapsulation. 2

3. Which C++ header file(s) are essentially required to be included to run/execute the following C++ source code? (Note: Do not include any header file, which is/are not required) 1
void main()
{ char STRING[]="Hello";
 cout<<setw(20)<<(STRING); }

4. Define an object and a class. 2

5. Find the output of the following program: 2

```
#include<iostream.h>
#include<ctype.h>
void change(char Text[ ], char C)
{ for(int K = 0 ; Text[K] != '\0' ; K++)
  { if (Text[K] >= 'F' && Text[K] <= 'L')
    Text[K] = tolower(Text[K]);
    else if (Text[K] == 'E' || Text[K] == 'e')
      Text[K] = C ;
    else if( K%2 == 0)
      Text[K] = toupper(Text[K]);
    else
      Text[K] = Text[K - 1];
  }
}
void main()
{ char OldText[ ] = "pOwERALone" ;
  change(OldText, '%') ;
  cout<< "New Text :." <<OldText<<endl ;
}
```

6. 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. 2

```
#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

7. Find the output of the following program: 3

```
#include <iostream.h>
void main()
{
    int A[ ] = {10, 15, 20, 25, 30};
    int *p = A;
    while (*p < 30)
    {
        if (*p%3 != 0)
            *p = *p + 2 ;
        else
            *p = *p + 1;
        p++;
    }
    for (int J = 0; J<=4; J++)
    {
        cout << A[J] << "*" ;
        if ( J%3 == 0) cout<<endl;
    }
    cout<<A[4]*3<<endl;
}
```

8. How does a class enforce data hiding and data abstraction? 2
9. Rewrite the following program after removing the syntactical errors(if any). Underline each correction. (Assume all required header files are already being included in the program.) 2

```
typedef char String(80) ;
void main()
{
    String T= "Indian";
    Count = strlen(T) ;
    cout<< T << "has" <<Count<< 'characters' << endl ;
}
```

10. What is Polymorphism? Give an example. 2

End of the Question Paper

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C



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GENERAL INSTRUCTIONS:

- Answer all questions.
- Programming language is C++.
- Write programs neatly and clearly.

1. Name the Header file(s) that shall be needed to run/execute the following C++ code: 1

```
void main()  
{ char CH,word[ ]= "test";  
  CH=toupper(word[0]);  
  cout<<word<<"starts with"<<CH; }
```

2. Rewrite the following C++ code after removing any/all syntactical errors with each correction underlined. 2

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

```
#define Equation(p,q) = p+2*q  
void main()  
{ float A=3.2; B=4.1;  
  C=Equation(A,B);  
  cout<<'Output='<<C<<endl; }
```

3. Find the output of the following program: 2

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

```
void change(char Text[ ], char C)  
{ for(int K = 0 ; Text[K] != '\0' ; K++)  
  { if (Text[K] >= 'B' && Text[K] <= 'G')  
    Text[K] = tolower(Text[K]);  
    else if (Text[K] == 'A' || Text[K] == 'a')  
      Text[K] = C ;  
    else if( K%2 == 0)  
      Text[K] = toupper(Text[K]);  
    else  
      Text[K] = Text[K - 1];  
  }  
}  
void main()  
{ char OldText[ ] = "ApEACeDriVE" ;  
  change(OldText, '%') ;  
  cout<< "New Text :." <<OldText<<endl ; }
```

4. Define Inheritance and Data encapsulation. 2
5. How does a class enforce data hiding and data abstraction? 2
6. Find the output of the following program: 3
- ```
#include<iostream.h>
void main()
{ int X[] = {20,35,40,65,110};
 int *pt = X;
 while (*pt < 110)
 {
 if (*pt%3 != 0)
 *pt = *pt + 1;
 else
 *pt = *pt + 2;
 pt++;
 }
 for(int I = 4; I>=0 ; I--)
 {
 cout << X[I] << " ";
 if (I%3 == 0) cout<<endl;
 }
 cout<<X[0] * 3<<endl;
}
```
7. What is Polymorphism? Give an example. 2
8. 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. 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*
9. What do you mean by type casting (Explicit type conversion)? Explain with an example. 2
10. Define an object and a class. 2

End of the Question Paper