



INDIAN SCHOOL DARSAIT
SECOND TERM EXAMINATION - DECEMBER, 2017
COMPUTER SCIENCE (083)



Class: XI
Date: 12-12-2017

Max. Marks: 70
Time: 3hr

General Instructions:

(i) *All questions are compulsory.*

1. a) What is the role of comments in C++ program? 1
- b) What is the purpose of header file in a C++ program? Name the header files for the functions 2
(i) getch() (ii) setfill()
- c) Construct Logical expressions to represent the following condition, to check and display if a character 'Ch' is an uppercase letter. Also what is the output of following code fragment? 2
int ch = 20;
cout << ch++ << endl << ++ch;
- d) Give the output for the following expression: 2
(i) 5 >= 6 && 9 = = 9 || 12 - 9 < 8
(ii) True and false or not false
- e) Write a C++ program to accept a number and check if it is even or odd. If even, calculate its square else cube. Display the result. (Use conditional operator.) 3
2. a) What is the difference between entry controlled and exit controlled loop? Explain with an example. 2
- b) Convert the following code snippet to switch case in C++: 2
void main()
{
int ch,x=0;
cin >> ch;
if(ch==1)
cout << "one";
else if(ch==2)
{ cout << "two"; x++;}
else cout << x;
getch();
}
- c) Write a C++ program to check if a given number is palindrome. Accept the number from the user. 3
- d) Write a menu driven program in C++ to perform the following operations: 3
1.Area of circle
2.Area of Rectangle
3.Area of triangle
3. a) Given the following declaration, answer the questions that follow: 2
int a[5]={3,7,4,9,6};
(i) What is the location of element 9?
(ii) Write the C++ code snippet to display the element of the array 'a' in reverse order.

- b) Give the output for the following code snippet: 2
- ```
void main(){
 int i,j,k,a[]={5,10,15,20};
 a[0]=10;
 for(i=0;i<=2;i++)
 a[i]=a[i]+i;
 for(i=3;i>=0;i--)
 cout<<a[i]<<" ";
 getch();
}
```
- c) Write a C++ program to print the sum of all odd and even elements in a 1D array of size M. 3
- d) Write a C++ program to accept a 1D array of size M. Accept a search element from the user. If the search element is present display 'Element found' else 'Element not found'. 3
4. a) What is the size and number of elements for the following array : float MATH[20][5]; 1
- b) Identify the valid declaration of a 2D array from following : 2  
 (i) Int x[2][8]; (ii) int arr[20][3]; (iii) char Add[20][20]; (iv)float per[2.5][2];  
 Also, Declare a 2d array named 'numbers' of integers of size 3x3 and initialize them with values. (i.e. first element 1, second 2, third 3 ...)
- c) Write C++ program to accept a MxN matrix and find the sum of only those elements which are divisible by 10. Also display the result. 3
- d) Write a C++ program to accept two matrices of size MxN and PxQ, multiply both the matrices and display the resultant matrix. 4
5. a) What is the difference between strcmp() and strcmpi()? Explain with an example each. Also mention which header file the function belongs to. 2
- b) Find and write the output of the following C++ program code: 2  
 Note: Assume all required header files are already included in the program.
- ```
void main()
{
char Str[10]="HARMONIOUS";
int C,L;
L=strlen(Str);
for (C=0;C<L;C+=2)
{
if (Str[C]>='M' && Str[C]<='U')
Str[C]='@';
}
cout<<Str<<endl;
}
```
- c) Find and write the output of the following C++ program code: 3
 Note: Assume all required header files are already included in the program.
- ```
void MyCode (char Msg [], char CH)
{
for (int (Cnt=0;Msg[Cnt]!='\0';Cnt++)
```

```

{
if (Msg[Cnt]>='B' && Msg[Cnt]<='G')
Msg[Cnt]=tolower(Msg[Cnt]);
else
if (Msg[Cnt]=='A' || Msg[Cnt]=='a')
Msg[Cnt]=CH;
else
if (Cnt%2==0)
Msg[Cnt]=toupper(Msg[Cnt]);
else
Msg[Cnt]=Msg[Cnt-1];
}
}
void main ()
{
char MyText [] =" ApEACeDrIVE";
MyCode(MyText, '@');
cout<<"NEW TEXT:"<<MyText<<endl;
}

```

- d) Write a C++ program to find the total number of characters, words and uppercase letters in a Paragraph of text. Accept the text from the user. 3
6. a) What is the difference between actual and formal argument? 1
- b) Given the function definition: 1
- ```

int thrice(int x)
{
return(x*3);
}

```
- Write the main() function definition to call the function thrice with value '5' as the argument.
- c) Write a C++ program to accept the principle, amount and rate from the user. Calculate the simple interest, and display to the user (Use User Defined function). 2
- d) Find and write the output of the following C++ program code: 3
- Note: Assume all required header files are already included in the program.
- ```

void Execute(int &B, int C = 100)
{
int temp = B + C;
B += temp;
if (C == 100)
cout << temp << " " << B << " " << C << endl;
}
int main()
{
int M = 90, N = 10;
Execute(M);
cout << M << " " << N << endl;
Execute(M, N);
cout << M << " " << N << endl;
getch();
}

```
- e) Bring out the difference between call by value and call by reference with an example. 3

7. a) Define a structure. 1  
b) Rewrite the following program after removing the syntactical error(s), if any. Underline each correction. 2

```
#include<iostream.h>
struct STUDENT
{ char stu_name[20];
char stu_gender;
int stu_age=17;
};
void main()
{
gets(stu_name);
gets(stu_gender);
getch();
}
```

- c) Find and write the output of the following C++ program code: 3  
Note: Assume all required header files are already included in the program.

```
struct pixel
{
int c,r;
};
void display(pixel p)
{
cout<<"col"<<p.c<<"row"<<p.r<<endl ;
}
int main()
{
pixel x={40,50},y,z;
z=x;
x.c +=10;
y=z;
y.c +=10;
y.r +=20;
z.c -=15;
display(x);
display(y);
display(z);
getch();
}
```

- d) Create a structure Customer with following data members: 4
- customer number(integer)
  - customer name(string)
  - customer address(string)
  - quantity(int)
  - priceperunit(float)
  - NetPrice(float)

Write a C++ program to accept 'N' customer details. Calculate the NetPrice (priceperunit\*quantity) for all N customers. Display only those customers whose NetPrice is more than 2000.