APEEJAY COMMON ANNUAL EXAMINATION, 2013
CLASS-XI
COMPUTER SCIENCE

TIME ALLOWED: 3 Hrs.  MAXIMUM MARKS: 70

1. (a) How is Interpreter different from compiler?  (1)
    (b) Write a short note on : 1. USB Port  2. Cache Memory  (2)
    (c) What is the difference between copying and moving files and folders.  (1)
    (d) Name two commonly used Operating Systems.  (1)
    (e) Expand the following: ASCII, ISCI, CISC, RISC  (2)
    (f) Convert:
        1.  \((\text{DEAD})_{16} = (\_\_)_2\)
        2.  Express -99 in one's complement form  (2)
    (g) What is microprocessor?  (1)

2. (a) What are tokens? Give one example.  (1)
    (b) Give any two examples of data type modifiers?  (1)
    (c) Find out the errors, if any, in the following:
        (i) char return=5*2;  (ii) cin<<"nexam";  (1)
    (d) Explain the following escape sequence characters with example
        (a) \n  (b) \t  (2)
    (e) What is the result of the following expression?
        \(\text{ans}=(\text{val}<500)?150:50); \quad \text{if} \quad \text{val}=55\)  (1)
    (f) Evaluate the following expression where \(a, b, c\) are integers having values:
        (a) \(d=a-(b++)*(-c); // \text{if} \ a=25, \ b=3, \ c=5\)
        (b) \(d=15\%42\)
        (c) \((2*5==12) \&\& (10>5)\)

P.T.O.
(d) \( t = 19\% 5 + 20 / 5 \)  

(g) Write the corresponding expression for the following:  
(1) \( \sqrt{a + b + c} \)  
(2) \( (a+b)^2 / (c+d)^3 \)  

3.  
(a) Explain 4 kinds of program maintenance.  
(b) State the stages of program development process.  
(c) What do you mean by syntax errors and semantic errors?  
(d) What is the role of comments and indentation in a program?  
(e) Explain testing and debugging process of a program.  

4.  
(a) Name the header files for the following functions.  
    \text{toupper}, \text{pow}, \text{get}, \text{clrscr}  
(b) Rewrite the following program after removing all syntactical error(s), if any.  
   Underline each correction.  
   \[ 
   \text{#include<iostr}\text{m.h>}
   \text{int main()}
   \{ 
   \text{structure student} 
   \{ 
   \text{int rno, mark;}
   \} 
   \text{stu;}
   \text{student stuA = (1001,49);}  
   \text{student stuB = stuA;}
   \text{if (stuA!= stuB)}
   \text{stuA.mark = 55;}
   \text{else}
   \text{stuB.mark = 25;}
   \text{cout<<stuA.mark<<stuB.mark;}
   \} 
   \]  
(c) Rewrite the following expression using switch...case:  
\[ 
\text{#include<iostr}\text{m.h>}
\text{void main()}
\]
{  
    int ch;
    int acount, ecount, icount, ocoun, ucoun;
    cout<<"enter a day";
    cin>>ch;
    if(ch == 1)
        cout<<"MONDAY";
    if(ch == 2)
        cout<<"TUESDAY";
    if(ch == 3)
        cout<<"WEDNESDAY";
    if(ch == 4)
        cout<<"THURSDAY";
    if(ch == 5)
        cout<<"FRIDAY";
    if(ch == 6)
        cout<<"SATURDAY";
    if(ch == 7)
        cout<<"SUNDAY";
}
(d) Rewrite the program using for loop:
#include<iostream.h>
void main()
{
    int count=5;
    while(count>=0)
    {
        cout<<count;
        count--;
    }
(e) struct date
    

int dd, mm, yy;
}

struct donor
{
    char name[20];
    date dob;
};

void main()
{
    donor person;

    // Accessing fields

    // How will you access the fields: name and yy of the above structure?
}

(f) Write the output of the following code.

struct Alpha
{
    int x,y;
};

void display(Alpha A)
{
    cout<>"X="<<A.x<<"Y="<<A.y<<endl;
}

void main()
{
    Alpha B={50,60},C,D;
    D=B;
    B.x+=10;
    C=D;
    C.x+=10;
    C.y+=20;
    D.x+=15;

    // Output
}
(g) Predict the output from the given output list.

```cpp
#include<iostream.h>
#include<stdlib.h>

void main()
{
    int find, num;
    randomize();
    num = 1;
    find = random(num) + 7;
    for (int pos = 1; pos <= find; pos++)
    {
        cout << pos;
    }
}
```

Output:

(i) 1234567
(ii) 12345678910111213141516171819
(iii) none of the above

(h) Consider the following array declaration and give the number of elements and total number of bytes required to store each array:

(i) double item[5]
(ii) char name[3][30];

(3)

(i) What are the two methods of calling functions? Explain and give example.

(j) Differentiate between Actual parameters and formal parameter.

(3)

(k) Give output

```cpp
void Recode ( char Text[ ], int Num );

void main ()
{
    char Note[ ] = "helloapj";
}
```

P.T.O.
clrscr();
Recode(Note,2);
cout<<endl;
cout << Note << endl;
getch();
}
void Recode(char Text [], int Num)
{
    for ( int K = 0 ; Text[K] !='0' ; K++)
        if ( K % 2 == 0)
        else if ( islower (Text[K]))
            Text[K] = toupper ( Text[K] ) ;
        else
}

5. (a) Declare a structure named ITEM to store item_code, item_name, rate, quantity. Create two objects. Input all the elements of structure and calculate total price=rate*quantity and then display the details.  
(b) Write a program to input a character and print whether a given character is an alphabet, digit or any other character.  
(c) Write a program to find the sum of series: 
   \[ 2! + 3! + 4! + \ldots + n! \]  
(d) Write a program to enter a string. Reverse the string and display the original and reversed string.  
(e) Write a program to store numbers in two dim. array of 3 rows and 5 columns. Replace each element according to the given criteria. If the value is greater than 10 then replace it by multiplying it with 5 otherwise replace it by multiplying it with 2.