HCL Aptitude Test Nov 26th 2006

1) a) NMI
 b) Software interrupts
 c) Hardware interrupts
 d) Software and hardware interrupt
    Ans: b

2) Which of the following is error correction and deduction?

   a) Hamming code
    b) CRC
    c) VRC
    d) None
  Ans: b

3) When you switch on your computer, which of the following component affect first?
    a) Mother board
    b) SMPS
    c) Peripherals
    d) None

    Ans : a

4) Which of the following function transports the data?
 a) TCP/IP
  b) Transport layer
  c) TCP
  d) None
      Ans: c

5) Which of the following does not consists address?

  a) IP
   b) TCP/IP
   c) Network
   d) Transport
   Ans:a

6) They given like this…….   And some conditions?
    a) pre order
    b) post order
    c) In order
    d) None
    Ans:c

7) Authentication means….

   a) Verifying authority
    b) Source
    c) Destination
    d) Request

Ans: a

8) Symorphous is used for

   a) Analysis
   b) Synchournization
   c) Asynchrouns
   d) None
        Ans: b

9) There are five nodes. With that how many trees we can make?

   a) 27
    b) 28
    c) 30
    d) 29
        Ans: c (Check the ans not sure)

10) Traverse the given tree using in order, Preorder and Post order traversals.
A
B
C
D
E
F
G
H
I
Given tree:
Ø Inorder :   D H B E A F C I G J
Ø Preorder: A B D H E C F G I J
Ø Postorder: H D E B F I J G C A
And some more questions….. I dint remember those questions

Given tree:
Ø Inorder :   D H B E A F C I G J
Ø Preorder: A B D H E C F G I J
Ø Postorder: H D E B F I J G C A
And some more questions….. I dint remember those questions

SECTION –II (C language Basics and programming) this section consists of 20 Questions…….. All are programs only…

1.   main()
     {
         printf("%x",-1<<4);
     }

                                             a) fff0

                                             b) fffb

c) ff0

d) none

Ans: a

Explanation:
-1 is internally represented as all 1's. When left shifted four times the least significant 4 bits are filled with   0's.The   %x   format specifier specifies that the integer value be printed as a hexadecimal value.

2. main()
```
{
char *p;
p="Hello";
printf("%c\n",*&*p);
}
```

a) e

b) H

c) some   address

d) ome garbage value

Ans: b

Explanation:
* is a dereference operator & is a reference operator. They can be   applied any number of times provided   it   is   meaningful.   Here
 p points to the first character in the string "Hello". *p dereferences it and so its value is H. Again & references it to an address and * dereferences it to the value H.

3. void main()
```
{
        int i=5;
        printf("%d",i++ + ++i);
}
```
a) 11
b) 12
c) 10
d) output cant be predicted
Ans: d

Explanation: Side effects are involved in the evaluation of i

4. main( )
```
{
 int a[2][3][2] = {{{2,4},{7,8},{3,4}},{{2,2},{2,3},{3,4}}};
 printf("%u %u %u %d \n",a+1,*a+1,**a+1,***a+1);
}
```
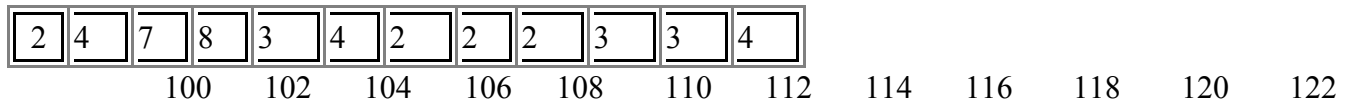a) 100, 100, 100, 2

b) 101,101,101,2
c) 114,104,102,3
d) none

<div align="center">Ans: c</div>

Explanation: The given array is a 3-D one. It can also be viewed as a 1-D array.

2	4	7	8	3	4	2	2	2	3	3	4
100		102		104		106	108	110	112	114	116	118	120	122

100   102   104   106   108   110   112   114   116   118   120   122

thus, for the first printf statement a, *a, **a give address of first element . since the indirection ***a gives the value. Hence, the first line of the output.for the second printf a+1 increases in the third dimension thus points to value at 114, *a+1 increments in second dimension thus points to 104, **a +1 increments the first dimension thus points to 102 and ***a+1 first gets the value at first location and then increments it by 1. Hence, the output is C is correct answer…

5. main( )
```
 {
    static int  a[ ]   = {0,1,2,3,4};
    int  *p[ ] = {a,a+1,a+2,a+3,a+4};
    int  **ptr =  p;
    ptr++;
    printf("\n %d  %d  %d", ptr-p, *ptr-a, **ptr);
    *ptr++;
    printf("\n %d  %d  %d", ptr-p, *ptr-a, **ptr);
    *++ptr;
    printf("\n %d  %d  %d", ptr-p, *ptr-a, **ptr);
    ++*ptr;
    printf("\n %d  %d  %d", ptr-p, *ptr-a, **ptr);
       }
```
a) 111
   222
   332
   443
b) 111
   222
   333
   344
c) 111
   222
   333
    444
 d) None

Ans: b

6. #include

```
main()
{
  const int i=4;
  float j;
  j = ++i;
  printf("%d  %f", i,++j);
}
```

a) 8
b) 5
c) compile error
d) syntax error
   Ans: c

7. main()
```
{
  char *p;
  int *q;
  long *r;
  p=q=r=0;
  p++;
  q++;
  r++;
  printf("%p...%p...%p",p,q,r);
}
```

a) 001… 100…0002
b) 0001...0002...0004
c) 001… 002…004
d) none
  ans: b

8. main()
```
{
  unsigned int i;
  for(i=1;i>-2;i--)
  printf("HCL Technologies");
}
```
a) HCL
b) Technologies
c) HCL Technologies
d) None

    Ans: None(Plz Check the answer)

9. main()
```
{
        int a[10];
        printf("%d",*a+1-*a+3);
}
```

a) 4
b) 5
c) 6
d) None
Ans : a

10. main()
```
{
    float f=5,g=10;
    enum{i=10,j=20,k=50};
    printf("%d\n",++k);
    printf("%f\n",f<<2);
    printf("%lf\n",f%g);
    printf("%lf\n",fmod(f,g));
}
```

a) Line no 5: Error: Lvalue required
b) Line no 5: Error: Link error
c) Compile error
d) None

Ans: a

11. int swap(int *a,int *b)
```
{
    *a=*a+*b;*b=*a-*b;*a=*a-*b;
}
    main()
    {
    int x=10,y=20;
    swap(&x,&y);
    printf("x= %d y = %d\n",x,y)
}
```

a) x=10 y=20
b) x=20 y=10
c) x=30 y=20
d) none
Ans: b

12. main()
```
{
    int i=300;
    char *ptr = &i;
    *++ptr=2;
    printf("%d",i);
}
```

a) 665
b) 565

c) 556
    d) none
     Ans: c

13.main()

{

float me=1.1;
double you=1.1;
if(me==you)
printf("IloveU");

else
printf("I Hate U")
}

a) I love u
  b) I hate u
  c) floating point error
  d) Compile error

  Ans: b
  14.
     enum colors {BLACK,BLUE,GREEN}

main()

{
  printf("%d..%d..%d",BLACK,BLUE,GREEN);

  return(1);

}

  a) 1..2..3
  b) 0..1..2
  c) 2..3..4
  d) none

  Ans: b
Some more questions given.. I dint remember…. Be prepare all basic concept in C… so that you can
answer very easily…

SECTION –III (Data structures and C++) this section consists of 10 Questions… Each question carry
2 marks… so they deduct ½ mark for wrong answer…..

1) #include

```
main()
{
 char s[]={'a','b','c','\n','c','\0'};
 char *p,*str,*str1;
 p=&s[3];
 str=p;
 str1=s;
 printf("%d",++*p + ++*str1-32);
}
```

a)97
b) M
c)76
d) none
Ans: b

2) main( )
```
{
 int a[ ] = {10,20,30,40,50},j,*p;
 for(j=0; j<5; j++)
   {
        printf("%d" ,*a);
        a++;
   }
   p = a;
   for(j=0; j<5; j++)
   {
        printf("%d " ,*p);
        p++;
   }
}
```

a)   address of array
b)   Compile error
c)   Lvalue required
d)   none

Ans: c

3) struct aaa{
            struct aaa *prev;
            int i;
            struct aaa *next;
            };
    main()
    {
     struct aaa abc,def,ghi,jkl;
     int x=100;
```

```
    abc.i=0;abc.prev=&jkl;
    abc.next=&def;
    def.i=1;def.prev=&abc;def.next=&ghi;
    ghi.i=2;ghi.prev=&def;
    ghi.next=&jkl;
    jkl.i=3;jkl.prev=&ghi;jkl.next=&abc;
    x=abc.next->next->prev->next->i;
    printf("%d",x);
   }
```

a) 3
b) 2
c) 4
d) 5

Ans: b

4) main(int argc, char **argv)
```
    {
    printf("enter the character");
    getchar();
    sum(argv[1],argv[2]);
    }
    sum(num1,num2)
    int num1,num2;
    {
    return num1+num2;
    }
```

a) compile error
b) L value required
c) Syntax error
d) None

Ans: a

5)
```
class Sample
    {
    public:
        int *ptr;
        Sample(int i)
        {
        ptr = new int(i);
        }
        ~Sample()
        {
        delete ptr;
        }
```

```
        void PrintVal()
        {
        cout << "The value is " << *ptr;
        }
    };
    void SomeFunc(Sample x)
    {
    cout << "Say i am in someFunc " << endl;
    }
    int main()
    {
    Sample s1= 10;
    SomeFunc(s1);
    s1.PrintVal();
    }
```

a)   say I am in someFunc
b)   say I am in someFunc and runtime error
c)   say I am in someFunc and null value
d)   none

ans: b

and some questions given in DATASTURES… those are based on linked lists only also very big programs… so you have to do it very careful

SECTION-III (General aptitude+1 passage+Logical**)** this section consists of 20 questions.. Each question carry 1 mark…

1) Sandhya and Bhagya is having the total amount of 12000. In that amount bhagya has deducted 3600 as less as sandhya. So what is their shared amount?
   a)   2800
   b)   3600
   c)   4800
   d)   9600

   Ans : c

2) Six persons have to present at certain meeting. The conditions are,
   A present P should present
   M present T should present
   K present P should present

   If A and P present I should be there in meeting
   If M and T present D should be absent
   If K and P present P should present
   Based on this they given some questions… Those are easy only.. you can do it easily…

3) Here they given passage following some questions.. Poetry explaining her experience with HINDI latest songs… and comparing with old songs… also she is a good singer. Like this they given a big

passage… so read it carefully at a time.. so that u can save your time

4) Dhana and Lavanya started running at same point… But dhana started in anti clock wise direction, Lavanya started in clockwise direction.. Dhana met lavanya at 900 m . where as lavanya met dhana at 800 m… so how much distance they covered each other?

    a) 1700
    b) 900
    c) 1800
    d) data is insufficient
      Ans: d

5) This question is base on Arithmetic mean like algebra… a $n+2 = (7+an)/5$…. Initially a0= 0…… so what is the value of a2?

  a) 5/2
  b) 7/2
  c) 7/5
  d) none

  Ans : c

6) Here they given two statements, based on that they gave some questions

  Statement I : I is enough to answer

  Statement II: I and II is enough to answer

i) Raja can do a piece of work in 9 days… and govardhan can do a piece of work in 8 days. In how many days they will complete the work alternatively..

    Statement I: They both do in 72/17 days

    Statement II : A alone can do 1/9 days
a) I   b) I and II   c) II   d) none