Latest CISCO Placement Papers and Answers

1.

```
char a =0xAA ;
int b ;
b = (int) a ;
b = b >> 4 ;
printf("%x",b);
```

What is the output of the above program segment ?

a is of 8 byte,a's binary representation = 1010 1010
since MSB is 1 ,it will be considered as -ve number.
say int is of 32 bytes so to get the actual take out a 's 2 complement..

which will be
1111 1111 1111 1111 1111 1111 0101 0101

when you right shift it by 4 it will become 1111 1111 1111 1111 1111 1111 1111 0101
left most side of 1111 will not be 0 because it is a -ve number so sign bit will be extended..
hence o/p will be fffffff5(64 bit PC)

2. **Output?**

```
int main()
{
char *ptr = " Cisco Systems";
*ptr++;
printf("%sn",ptr);
ptr++;
printf("%sn",ptr);
getchar()
return 0;
}

int main()
{
// Initialization
char *ptr = " Cisco Systems";

// Binding *(ptr++) due to right to left associativity
// The pointer incremented by one and then dereferenced
// The r-value is not caught in any l-value expression
// So the result is discarded, yet the pointer incremented
// Now, ptr points one character past the initial base
// i.e. "Cisco Systems" (there is space)
*ptr++;
printf("%s\n",ptr);
// One more increment
// Now ptr pointing "isco Systems"
```

```
ptr++;
printf("%s\n", ptr);
return 0;
}
```
Result:
Cisco Systems
isco Systems

3. what is a super block?

The superblock is an area in a storage device of a Linux computer, which stores various bits of information about a file system, such as a pointer to the free blocks structure, the number of free inodes, etc. In case the superblock is damaged and cannot be read, an error message is generated by the system. In this case, the E2FSCK utility is used to troubleshoot the issue by passing the superblock parameter manually.

Cisco Placement Interview 2010

Institute: IIT Guwahati

Date of test: 4/12/2010

Paper Submitted By: Sameer Biswas

Package: 9Lakh

Paper Type: CSE B Tech/M Tech

Written questions

1. Apti questions (20)

2. Mainly signal processing and electronics based.

i. NAND and AND gates questions(2)

ii. 7 bit to represent a digital pulse. Then if you have 10 Khz frequency. What Bandwidth will be availble to you.

iii. Hamming Distance based questions

iv. Half substractor is comprised of which option:
Options arte given:
Ans
S=AB'+A'B B=A'B

v. Modulations based question maths

vi. What is rectifier?

3. CS based question only 5-6.

OS /Networking Question:
i. What is internal fragmentation?

ii. Page Replacements policy which shows best performance options given?

iii. External fragmentation maths like some bolcks to place such that given two block will not fit?

iv. Which one is connection oriented protocol
TCP
IP
ICMP
UDP

Coing Part:
i. Find the output:

```
enum a{
sunday=-1,
monday,
...
saturday
}

Printf("%d",a.wednesday);
Printf("%d",sizeof(a));
```

ii. Pointer based one question

Some questions were repeated from the earlier papers..

Interview:

This all questions asked in all candidates: I have collected from all candidates attended in the interview.

1. Link list and ary dif,

2. Must study the basic unix commmads like:
i. ls and how to remove(rm) to files in Unix
ii. How to create directory (mkdir)
iii. what this sudo does ?
iv. Chmode and aces rights

Writing the codes of the folllowing:

3. How to check xpown.

4. Tree to remve duplicates from an array?

5. and how to do one's complement of a number.

6. An no of power two checking with constant time.

7. Fibonacci series printing with iteration only

Other questions:

8. Who is the person u inspired most?

9. Speed of earth?

10. Why moon and sun løok same size. ,

11. web page visiting need what steps in term of networks. How your requests goes to the server and reply comes to u? Describe in Brief.

CISCO Placement Paper Part 1

The written test had two parts.
Test Date : 21 August 2010
20 questions from aptitude and 30 technical, no negative marking.
Aptitude was quite a lot tricky and technical was Electronics + CS.

Three C programs
1) main()
{
int const a=100;
int *p;
p=&a;
(*p)++;
printf("%d%d",a,*p);
}
Ans: 101 101

Explanation: Pointer can modify an object it pointing to but the variable can't change it when the variable defined as const.

2) ARP is used for?

The Address Resolution Protocol (ARP) is used for determining a network host's Link Layer or hardware address (MAC Address) when only its Internet Layer (IP) or Network Layer address is known. You have written it reversely..

3. End to End delivery is responsibility of which layer?

Transport Layer

4. If virtual address is[0,514] then if page table contains an entry (032) then physical address is:
Ans append binary form of 32 with binary form of 514

5. Floating point representation: Simple one
If 23 bits are used for IEEE representation then whats the range of normalized nos. which can be represented?

Ans.

Smallest Number can be : +/- 2^(-126) to
Highest number +/- (2-2^23)*2^127.
This table will be helpful to identify the range of normalized numbers

Type	Exponent	Fraction
Zeroes	0	0
Denormalized numbers	0	non zero
Normalized numbers	1 to 2e – 2	any
Infinities	2e – 1	0
NaNs	2e – 1	non zero

One semaphores.

Generally 2 technical interviews and one HR. But for some 3 technical and one HR.
Technical interview contained questions like:

1. Full form of SQL
Ans. Structured Query Language

2. Various functions in SQL
Ans. All SQL functions return a single value that is either a number or a string.
a. Standard: These return a value from an expression.
example:
ABS Returns the absolute value of the numeric expression.
num = ABS(expression)

ALL Tests against the values in the value_list. Returns 1 (true) if matches every item. Equivalent to individual tests against each item in the list joined by AND operators. ALL is used particularly to test against sets of values returned by subqueries.
value = ALL (value_list | subquery)

ANY Tests against the values in the value_list. Returns 1 (true) if matches any item. Equivalent to individual tests against each item in the list joined by OR operators. ANY is used particularly to test against sets of values returned by subqueries.
value = ANY (value_list | subquery)

INT Returns the truncated integer value for the numeric expression.
num = INT (expression)

LEN Returns the number of characters (including trailing blanks) in the string expression.
num = LEN(string)

LOWER Returns the string with all uppercase letters converted to their lowercase equivalent.
str = LOWER(string)

b. Aggregation: These compute a value from a number of rows and thus alter the number of rows produced in the output table.
example:
AVG ([UNIQUE] numeric_col) Returns the average or mean value of the non-missing values for numeric columns. If UNIQUE is specified then only unique values are used to calculate the mean.

COUNT ([UNIQUE] col | *) Returns the number of non-missing values encountered. If UNIQUE is specified, then only the unique values add to the count. An asterisk as the argument returns the number of all rows selected regardless of whether the values are valid, missing or undefined.

MAX (col) Returns the maximum non-missing value encountered. The type of variable returned corresponds to the type of the variable being referenced.

MIN (col) Returns the minimum value of the non-missing values. The type of variable returned corresponds to the type of the variable being referenced.

Decode, ltrim, rtrim, lpad, rpad, truncate etc..

3. Java...
Object oriented analysis and design: usecases, collaboration and sequential diagrams, difference purpose class diagram.

5. Data warehousing?

6. Networking client server basic concepts.

7. C program to count the no. of elements which are repeating more than size/2 times in an array.

8. Derive a mathematical equation to calculate the angle between two hand of clock.

Ans
Angel= 1/2(6H+M) - 6M

H is an integer in the range 0–11 and M is the minute

9. What are different segments in a program.
Ans:

The computer program memory is organized into the following:

1. Data Segment (Data + BSS + Heap)
The data area contains global and static variables used by the program that are initialized.
BSS(Block Started by Symbol): uninitialized data starts at the end of the data segment and contains all uninitialized global variables and static variables that are initialized to zero

```
by default.
            The Heap area is managed by malloc, realloc, and free,
  2. Stack
            he stack is a LIFO structure, typically located
in the higher parts of memory. It usually "grows down" with
every register, immediate value or stack frame being added
to it. A stack frame consists at minimum of a return address.
  3.Code segment
```

When we malloc sm size where does it reside.
Where is a.out stored

Stack increses in which direction ?
Ans:
Sack starts from highe memory locations and it increases in lower memory locations

Representation of stack and queue using linked list and then perform insertion and deletion

Models in software Eng?.Explain extreme programming
Ans:
Waterfall Model
Iterative Model
Spiral Model

What are triggers?example
Ans:
A Trigger is a named database object which defines some action that the database should take when some databases related event occurs. Triggers are executed when you issues a data manipulation command like INSERT, DELETE, UPDATE on a table for which the trigger has been created. They are automatically executed and also transparent to the user. But for creating the trigger the user must have the CREATE TRIGGER privilege.

3 properties of object oriented analysis and design
Ans:
Data Abstraction
Re usability
Polymorphism

Normal forms in dbms?
Ans:
1 NF
2 NF
3 NF
BCNF
4 NF
and 5 NF

1. **In the command scanf, h is used for**
   Ans. Short int

   2. A process is defined as
   Ans. Program in execution

3. A thread is
Ans. Detachable unit of executable code)

4. What is the advantage of Win NT over Win 95
Ans. Robust and secure

5. How is memory management done in Win95
Ans. Through paging and segmentation

6. What is meant by polymorphism
Ans. Redfinition of a base class method in a derived class

7. What is the essential feature of inheritance
Ans. All properties of existing class are derived

8.What does the protocol FTP do
Ans. Transfer a file b/w stations with user authentification

9.In the transport layer ,TCP is what type of protocol
Ans. Connection oriented

10.Why is a gateway used
Ans. To connect incompatible networks

11.How is linked list implemented
Ans. By referential structures

12.What method is used in Win95 in multitasking
Ans. Non preemptive check

13.What is meant by functional dependency

14.What is a semaphore
Ans. A method synchronization of multiple processes

15.What is the precedence order from high to low ,of the symbols ( ) ++ /
Ans.( ) , ++, /

16.Preorder of A*(B+C)/D-G Ans.*+ABC/-DG

18. B-tree (failure nodes at same level)

19. Dense index (index record appers for every search -key in file)

20.What is the efficiency of merge sort
Ans. O(n log n)

21.A program on swaping (10,5)was given (candidate cannot recollect)

22.In which layer are routers used
Ans.In network layer 23.In which layer are packets formed (in network layer)

24. heap (priority queue)

25. Copy constructor (constant reference)

26.Which of the following sorting algorithem has average sorting behavior, Bubble sort, merge sort, heap sort, exchange sort
Ans. Heap sort

27.In binary search tree which traversal is used for getting ascending order values Inorder, post order, preorder Ans. Inorder

28.What are device drivers used for
Ans.To provide software for enabling the hardware

29. Irrevalent to unix command (getty)

30.What is fork command in unix
Ans. System call used to create process

31.What is make command in unix
Ans. Used forcreation of more than one file

32.In unix .profile contains
Ans. Start up program

33.In unix echo is used for
(answer C)

34.In unix 'ls 'stores contents in
Ans.inode block QUANTITATIVE SECTION

1. In a class composed of x girls and y boys what part of the class is composed of girls A.y/(x + y) B.x/xy C.x/(x + y) D.y/xy
Ans.C

2.What is the maximum number of half-pint bottles of cream that can be filled with a 4-gallon can of cream(2 pt.=1 qt. and 4 qt.=1 gal) A.16 B.24 C.30 D.64
Ans.D

3. If the operation,^ is defined by the equation x ^ y = 2x + y,what is the value of a in 2 ^ a = a ^ 3 A.0 B.1 C.-1 D.4
Ans.B

4. A coffee shop blends 2 kinds of coffee,putting in 2 parts of a 33p. a gm. grade to 1 part of a 24p. a gm. If the mixture is changed to 1 part of the 33p. a gm. to 2 parts of the less expensive grade,how much will the shop save in blending 100 gms. A.Rs.90 B.Rs.1.00 C.Rs.3.00 D.Rs.8.00

Ans.C

5. There are 200 questions on a 3 hr examination. Among these questions are 50 mathematics problems. It is suggested that twice as much time be spent on each maths problem as for each other question. How many minutes should be spent on mathematics problems A.36 B.72 C.60 D.100
Ans.B

6. In a group of 15,7 have studied Latin, 8 have studied Greek, and 3 have not studied either. How many of these studied both Latin and Greek A.0 B.3 C.4 D.5
Ans.B

7. If 13 = 13w/(1-w) ,then (2w)2 = A.1/4 B.1/2 C.1 D.2
Ans.C

8. If a and b are positive integers and (a-b)/3.5 = 4/7, then (A) b < a (B) b > a

(C) b = a

(D) b >= a

Ans. A

9. In june a baseball team that played 60 games had won 30% of its game played. After a phenomenal winning streak this team raised its average to 50% .How many games must the team have won in a row to attain this average?
A. 12
B. 20
C. 24
D. 30

Ans. C

10. M men agree to purchase a gift for Rs. D. If three men drop out how much more will each have to contribute towards the purchase of the gift/
A. D/(M-3)
B. MD/3
C. M/(D-3)
D. 3D/(M2-3M)
Ans. D

11. A company contracts to paint 3 houses. Mr.Brown can paint a house in 6 days while Mr.Black would take 8 days and Mr.Blue 12 days. After 8 days Mr.Brown goes on vacation and Mr. Black begins to work for a period of 6 days. How many days will it take Mr.Blue to complete the contract?

A. 7
B. 8
C. 11
D. 12
Ans.C

12. 2 hours after a freight train leaves Delhi a passenger train leaves the same station travelling in the same direction at an average speed of 16 km/hr. After travelling 4 hrs the passenger train overtakes the freight train. The average speed of the freight train was?
A. 30
B. 40
C.58
D. 60
Ans. B

13. If 9x-3y=12 and 3x-5y=7 then 6x-2y = ?
A.-5
B. 4
C. 2
D. 8
Ans. D

CISCO Placement Paper And Answer : Chennai Part 3

Analytical Ability

1. The office staff of XYZ corporation presently consists of three bookeepers A, B, C and 5 secretaries D, E, F, G, H. The management is planning to open a new office in another city using 2 bookeepers and 3 secretaries of the present staff. To do so they plan to seperate certain individuals who don't function well together. The following guidelines were established to set up the new office

I. Bookeepers A and C are constantly finding fault with one another and should not be sent together to the new office as a team

II. C and E function well alone but not as a team, they should be seperated

III. D and G have not been on speaking terms and shouldn't go together

IV Since D and F have been competing for promotion they shouldn't be a team

1. If A is to be moved as one of the bookeepers, which of the following cannot be a possible working unit.

A. ABDEH
B. ABDGH
C. ABEFH
D. ABEGH
Ans.B
2. If C and F are moved to the new office, how many combinations are possible
A.1
B.2
C.3
D.4
Ans.A

3. If C is sent to the new office,which member of the staff cannot go with C

A.B
B.D
C.F
D.G
Ans.B

4. Under the guidelines developed, which of the following must go to the new office
A.B
B.D
C.E
D.G
Ans.A

5. If D goes to the new office, which of the following is/are true
I. C cannot go
II. A cannot go
III. H must also go

A.I only

B.II only

C.I and II only

D.I and III only

Ans.D
2. After months of talent searching for an administrative assistant to the president of the college the field of applicants has been narrowed down to 5--A, B, C, D, E .It was announced that the finalist would be chosen after a series of all-day group personal interviews were held.The examining committee agreed upon the following procedure
I.The interviews will be held once a week
II.3 candidates will appear at any all-day interview session
III.Each candidate will appear at least once
IV.If it becomes necessary to call applicants for additonal interviews, no more 1 such applicant should be asked to appear the next week
V.Because of a detail in the written applications,it was agreed that whenever candidate B appears, A should also be present.
VI.Because of travel difficulties it was agreed that C will appear for only 1 interview.

1.At the first interview the following candidates appear A,B,D.Which of the follwing combinations can be called for the interview to be held next week.
A.BCD
B.CDE
C.ABE
D.ABC

Ans.B
2.Which of the following is a possible sequence of combinations for interviews in 2 successive weeks

A.ABC;BDE
B.ABD;ABE
C.ADE;ABC
D.BDE;ACD
Ans.C

3.If A ,B and D appear for the interview and D is called for additional interview the following week,which 2 candidates may be asked to appear with D?
I. A
II B
III.C
IV.E

A.I and II
B.I and III only
C.II and III only
D.III and IV only

Ans.D

4.Which of the following correctly state(s) the procedure followed by the search committee
I.After the second interview all applicants have appeared at least once
II.The committee sees each applicant a second time
III.If a third session,it is possible for all applicants to appear at least twice

A.I only
B.II only
C.III only
D.Both I and II

Ans.A

3. A certain city is served by subway lines A,B and C and numbers 1 2 and 3
When it snows , morning service on B is delayed
When it rains or snows , service on A, 2 and 3 are delayed both in the morning and afternoon
When temp. falls below 30 degrees farenheit afternoon service is cancelled in either the A line or the 3 line,but not both.

When the temperature rises over 90 degrees farenheit, the afternoon service is cancelled in either the line C or the

3 line but not both.

When the service on the A line is delayed or cancelled, service on the C line which connects the A line, is delayed.

When service on the 3 line is cancelled, service on the B line which connects the 3 line is delayed.

Q1. On Jan 10th, with the temperature at 15 degree farenheit, it snows all day. On how many lines will service be

affected, including both morning and afternoon.

(A) 2

(B) 3

(C) 4

(D) 5

Ans. D

Q2. On Aug 15th with the temperature at 97 degrees farenheit it begins to rain at 1 PM. What is the minimum number

of lines on which service will be affected?

(A) 2

(B) 3

(C) 4

(D) 5

Ans. C

Q3. On which of the following occasions would service be on the greatest number of lines disrupted.

(A) A snowy afternoon with the temperature at 45 degree farenheit

(B) A snowy morning with the temperature at 45 degree farenheit

(C) A rainy afternoon with the temperature at 45 degree farenheit

(D) A rainy afternoon with the temperature at 95 degree farenheit

Ans. B

4. In a certain society, there are two marriage groups, red and brown. No marriage is permitted within a group. On marriage, males become part of their wives groups; women remain in their own group. Children belong to the same group as their parents. Widowers and divorced males revert to the group of their birth. Marriage to more than one person at the same time and marriage to a direct descendant are forbidden

Q1. A brown female could have had

I. A grandfather born Red

II. A grandmother born Red

III Two grandfathers born Brown

(A) I only

(B) III only

(C) I, II and III

(D) I and II only

Ans. D

Q2. A male born into the brown group may have

(A) An uncle in either group

(B) A brown daughter

(C) A brown son

(D) A son-in-law born into red group

Ans. A

Q3. Which of the following is not permitted under the rules as stated.

(A) A brown male marrying his father's sister

(B) A red female marrying her mother's brother

(C) A widower marrying his wife's sister

(D) A widow marrying her divorced daughter's ex-husband

Ans. B

Q4. If widowers and divorced males retained their group they had upon marrying which of the following would be permissible (Assume that no previous marriage occurred)

(A) A woman marrying her dead sister's husband

(B) A woman marrying her divorced daughter's ex-husband

(C) A widower marrying his brother's daughter

(D) A woman marrying her mother's brother who is a widower.

Ans. D

5. I. All G's are H's

II. All G's are J's or K's

III All J's and K's are G's

IV All L's are K's

V All N's are M's

VI No M's are G's

Q1. If no P's are K's which of the following must be true

(A) No P is a G
(B) No P is an H
(C) If any P is an H it is a G
(D) If any P is a G it is a J
Ans. D

Q2. Which of the following can be logically deduced from the stated conditions
(A) No M's are H's

(B) No H's are M's

(C) Some M's are H's

(D) No N's are G's

Ans. D

Q3. Which of the following is inconsistent with one or more conditions
(A) All H's are G's
(B) All H's are M's
(C) Some H's are both M's and G's
(D) No M's are H's
Ans. C

Q4. The statement "No L's are J's" is

I. Logically deducible from the conditions stated

II Consistent with but not deducible from the conditions stated

III. Deducible from the stated conditions together with the additional statements "No J's are K's"

(A) I only
(B) II only
(C) III only
(D) II and III only
Ans. D

Here are some questions from cisco(m.tech.) tech.--24, apti.--20

1. On cmos power(formula- P=CV*Vf

2. Lowest noise margin in which logic family--

a) TTL b) CMOS c) biCMOS d) all have same

3. If CMOS has tr(rise time)=tf.find Wp/Wn. given beta(n)=2*beta(p)

4. gm of a transistor is proportional to

a)Ic b)Vt c)1/Vt d)none

5. If A and B are given in 2's complement find A-B in decimal.

6. Set up time,hold time ,clock to Q delay time (very important)

7. 3 questions on opamp (transfer function)(2 marks each)

8. 2 questions on sequence detector (2 marks each)

9. Logic function boolean expressions(true/false) (3 question-1 mark each)probabily all false

10. In I/O mapped how do you represent memory(1 mark)

11. The design of FSM(finite state machine) will--

a) increase time of design

b) increase delay

c) increase power

d) all of the above

12. K-map minimization

13. Phase locked loop(PLL) 1 question.