Placement Paper of CISCO

CISCO
    (October, 2004)

1. In order to find out stack fault of a three input nand gate how many necessary input vectors are needed ?

2. What is parity generation ?

3. A nand gate becomes ___ gate when used with negative logic ?

4. What is the advantage of cmos over nmos ?

5. What is the advantage of synchronous circuits over asynchronous circuits ?

6. What is the function of ALE in 8085 ?

7. A voice signal sample is stored as one byte. Frequency range is 16 Hz to 20 Hz. What is the memory size required to store 4 minutes voice signal?

8. What will the controller do before interrupting CPU?

9. In a normalized floating point representation, mantissa is represented using 24 bits and exponent with 8 bits using signed representation. What is range ?

10. The stack uses which policy out of the following-- LIFO, FIFO, Round Robin or none of these ?

11. Where will be the actual address of the subroutine is placed for vectored interrupts?

12. Give the equivalent Gray code representation of AC2H.

13.What is the memory space required if two unsigned 8 bit numbers are multiplied ?

14. The vector address of RST 7.5 in 8085 processor is _____.
Ans. 003C (multiply 7.5 by 8 and convert to hex)

15. Subtract the following hexadecimal numbers--- 8416 - 2A16

16. Add the following BCD numbers--- 1001 and 0100

17. How much time does a serial link of 64 Kbps take to transmit a picture with 540 pixels.

18. Give the output when the input of a D-flip flop is tied to the output through the XOR gate.

19. Simplify the ex-pression AB + A(B + C) + B (B + C)

20. Determine the logic gate to implement the following terms--ABC, A+B+C

21. Implement the NOR gate as an inverter.

22. What is the effect of temperature on the Icb in a transistor

23. What is the bit storage capacity of a ROM with a 512*4 organization?

24. What is the reason of the refresh operation in dynamic RAM's ?

25. Suppose that the D input of a flip flop changes from low to high in the middle of a clock pulse. Describe what happens if the flip flop is a positive edge triggered type?

26. How many flip flops are required to produce a divide by 32 device ?

27. An active HIGH input S-R latch has a 1 on the S input and a 0 on the R input. What state is the latch in?

28. Implement the logic equation Y = C^BA^ + CB^A + CBA with a multiplexer.
(where C^ stands for C complement)

29. Equivalent Gray code representation of AC2H.

30. What does a PLL consist of?

We advice you to know the design of PLL as questions pertaining to this may be asked

II - Software Section

1. The starting location of an array is 1000. If the array[1..5/...4] is stored in row major order, what is the location of element [4,3]. Each word occupies 4 bytes.

2. In a tertiary tree, which has three childs for every node, if the number of internal nodes are N, then the total number of leaf nodes are

3. Explain the term locality of reference ?

4. What is the language used for Artificial Intelligence
Ans: lisp

5. What is the character set used in JAVA 2.0 ?
Ans: Unicode
6. char a =0xAA ;
int b ;
b = (int) a ;
b = b >> 4 ;
printf(%x,b);
What is the output of the above program segment ?

7. struct s1 { struct { struct { int x; } s2 } s3 }y; How does one access x in the above given structure definition ?

8. Why there is no recursion in Fortran ?
Ans. There is no dynamic allocation.

9. What is the worst case complexity of Quick sort?
Ans. O(n2)

10. What will be sequence of operating system activities when an interrupt occurs ?

11. In a sequential search, what is the average number of comparisons it takes to search through n elements ?
Ans: (n+1)/2.

12. What is the size of the array declared as double * X[5] ?
Ans. 5 * sizeof (double *)

13. A binary search tree with node information as 1,2,3,4,5,6,7,8 is given. Write the result obtained on preorder traversal of the binary search tree ?
Ans : 53124768

14. If size of the physical memory is 232-1, then what is the size of the virtual memory ?

15. S -> A0B A-> BB|0 B-> AA|1
How many strings of length 5 are possible with the above productions?

16. (3*4096+15*256+3*16+3). How many 1's are there in the binary representation of the result ?
Ans. 10

17. In memory mapped I/O how is I/O is accessed ?

18. What is the use of ALE in 8085 ?
Ans. To latch the lower byte of the address.

19. If the logical memory of 8 X 1024 is mapped into 32 frames, then the number of bits for the logical address are_____ ?
Ans. 13

20. Context free grammar is useful for which purpose ?

21. In ternary number representation, numbers are represented as 0,1,-1.(Here -1 is represented as 1 bar.) How is 352/9 represented in ternary number representation?

22. There are processes which take 4,1,8,1 machine cycles respectively. If these are executed in round robin fashion with a time quantum of 1, what is the time it take for process 4 to complete ?
Ans. 9

23. The minimum frequency of operation is specified for every processor because......
a) for interfacing slow peripherals
b) dynamic memory refreshing.
c) to make compatible with other processor.

24. For linked list implementation , which search is not applicable ?
Ans: Binary search.

25. Each character is represented by 7 bits, 1 bit is used to represent error bit and another bit for parity. If total number of bits transmitted is 1200 bits, then what is the number of symbols that can be transmitted ?
Ans: 133

26. Explain set associatively of cache ?

27. Write the postfix form of the following ex-pression : A+[[(B+C)+(D+E)*F]/G]

28. What is the function of the linker?

29. void f(int y)
{
struct s *ptr;
ptr = malloc (sizeof(struct)+99*sizeof(int));
}
struct s
{
int i;
float p;
};
when free (ptr) is executed, what will happen?

30. To concatenate two linked lists strings, the order is O(1) is obtained for what kind of list