Hughes Software systems.

The Questions are follows^M
1. Number of null pointers in any binary tree = n+1^M
2. max(t1,t2,..tn) = pipelining^M
3. 50% -DBETXXXXXX - density^M
1) find the probability of getting a number with 7 between 100 and
999 (both inclusive).
ans:

2) There are 10 items in a box, out of which 3 are defective.
2 balls are taken one after the other. what is the probability
that both of them are defective?
Ans: 1/15 or 6/90

3) Context free grammar is accepted by
a) finite automata
b)push down automata
c) two way bounded automata
d) both b and c

4) which is not a memory management scheme?
a) buddy system
b) swapping
c) monitors
d) paging Ans : c

5) qn. on karnaugh map for simplifying boolean expressions

- 1 1 -
1 - - 1
1 - - 1
- 1 1 -
karnaugh map

6) qn. on nand gates .

7) context sensitive grammar

8) An identifier can start with a letter followed by any number of letter or digits .
ans: L.(LUD)*

9) 8MB total memory, 256 k cache , 4k is block size. direct mapping
how many different physical memory blocks can be mapped on to the cache.
a) 64 b) 256 c) 128

10) CSMA/CD is used in
a) token ring
b) FDDI
d) ethernet

Ans : d

11) In TCP/IP header , checksum contains
a) sum of all the words
b) ones complement of the data
c) ones complement of the sum of all the words
d) ones complement of the sum in ones complement
Ans : d

12) Max no of Acknowledgements for a 4 bit sequence number in a sliding window protocol.

13) which is a good way of representing varaibles in recursion
a) local variables
b) static varaibles
c) global variables
d)

14) c programs
```
func() {
static int i = 10;
printf("%d",i);
i++;
}
```

what is the value of i if the function is called twice ?

Ans : 11

15) Qn. on pointers .

16) given page table,page size and offset find the corresponding physical address ?
ans : a (3*1024+576) (pageno*pagesize+offset)

17) In a memory chip 4k size and 16bit words to be stored. No of address and data lines reqd.
Ans) 16 data and 12 address

18) idetify in which pass of the 2 pass compiler
1) literals
2) address resolution
3) listing
4)

19) object code not requires
a) relocation bits
b) external names and place where they are located
c) absolute adress
d) all the object codes

20) ARP
a) MAC to IP

b) IP to MAC
c)
Ans : b

21) Qn on Balanced tree ? A balanced tree is given and a node isddded at the leaf and asked to find the no of unbalanced nodes?

22) order of Hashing time
a) 0(1)
b) 0(n2)

4) parse tree
s -> s + s ; s -> s * s ; s -> a
find the no of parse trees fora+a*a+a
a) 4
b) 5
c) 6
ans: 5

25) order of deleting an node from a linked list. (pointer is to an arbitrary node)
a)0(1)
b)0(n)

26) A choclate of size nXn is given and is to be made intopices of size 1x1. At a time both horizontal and a vertical cut is done. Find the order of complexity
a) 0(n2)
b) o(nlogn)
c) o(logn)
Ans : a

27) A directed graph is represented by adjacency list. To find the complexity of indegree of the node. e - edge n- vertices
a) o(e+n)

28) No of leaf nodes given. find the no of nodes with degree 2.

29) AX = B . A is mXn and B is mX1 and several options given like
a) there is a unique solution if rank of A is same as rank of augumented matrix [A b]
b) there are multiple solutions

30) LXI sp,2099h
LXI b, 2012h
push b
31) Which of the following are false (on complexities)

32) A,B are sets. A's cardinality is m and B's is n where m < n
how many one to one mappings can be obtained.
a) n ^ m
b) npm

c) mpn
d) mcn

33) In scduling algorithnms which are logically executed but suspended
a) preemptive
b) SJF
c)non preemptive
d) all the above
Ans : a

34) I/O redirection is
a) copying programs files through a pipe
b) input files are created
c) input file taken from existing ones
d) none

35) symmetric multiprocessing can be done in
a) snoopy protocols
b) cache coherence

36) dining philospheres problems to avoid deadlocke
a) 1 person will take left one and all other will take right one
b) adjacent persons should not eat concurrently

36
process states ? which is the correct order
a) timeout:ready -> running
b) blocked : ready -> running
c)
d)

37) for converting infix expression to postfix what
do we require
a) operand stack
b) operator stack
c)

38) 0 is reprented as both and negative and positive
a) ones complement
b) twos complement
c) two' s complement has extra negative number

39) Difference between c and c++?
a)In c++ we can define variables in the middle
b)dynamic scoping

40) Which of the following is correct

a) Synchronous tranmission needs more badwidth than Asychronous.
b) Inasychronous transmission , the time is associated with data
itself.....