

Hughes(FSS) Sample Paper

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Company : Hughes(FSS)
Date :
College :

1. Number of null pointers in any binary tree = $n+1^M$

2. $\max(t_1, t_2, \dots, t_n)$ = 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 variables in recursion

a) local variables

b) static variables

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 : $a (3 \times 1024 + 576) (\text{pageno} \times \text{pagesize} + \text{offset})$

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) identify 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 address
- 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 is added

at the leaf and asked to find the no of unbalanced nodes?

22) order of Hashing time

- a) $O(1)$
- b) $O(n^2)$

4) parse tree

$s - s + s ; s - s * s ; s - a$

find the no of parse trees for $a+a*a+a$

- 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) $O(1)$
- b) $O(n)$

26) A chocolate of size $n \times n$ is given and is to be made into pieces of size

1×1 . At a time both horizontal and a vertical cut is done. Find the order of complexity

- a) $O(n^2)$
- b) $O(n \log n)$
- c) $O(\log n)$

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 $m \times n$ and B is $m \times 1$ and several options given like

- a) there is a unique solution if rank of A is same as rank of augmented 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) n^m
- c) m^n
- d) m^n

33) In scheduling algorithms 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 philosophers problems to avoid dead lock

- 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 represented 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 transmission needs more bandwidth than Asynchronous.
- b) In asynchronous transmission, the time is associated with data itself.....

future (values / variables changed - similar paper)

The Questions are follows

1. Number of null pointers in any binary tree = $n+1$

2. $\max(t_1, t_2, \dots, t_n)$ = pipelining

3. 50% -DBETXXXXXX - density
4. print (Head(T))
Traverse(left(T))
print (Head(T))
Traverse(right(T)) - ans: none of the above
5. Boolean expn Evalvate
6. Common subexpn : - ans : a + e
7. LRU : 1, 2, 3.
8. Tr. Delay - 10000 bits ans. 10.01
9. Grammar of Number of shift / reduce operator : ans. 4
10. CPU scheduling 9,8 ?
11. if even $x/2$
else $p(p(3x+1))$

 $2^k + 1: 3 \cdot 2^{(k-1)}$ clarify this with sans
12. allocation ans: (ii) only
13. swapping : ans: reference only
14. Compiler - related Qn.
15. LAN frames - ? related Qn.
16. parameter passing (35,20)
17. sliding window protocol
- BUFFER SIZE large
18. kernel mode - deallocate resource
19. logic circuit
ans . Minimum OR = 3
20. Combinatorics related
21. priority scheduling
22. cobegin

```
begin x = y; x= x+1; y= x
begin x =y; z= z+1; y= z
coend
```

ans. Number of values possi = 2

23. 2 bits flip / 2 bits exchange

ans : the word with one '1'

24. any addr

$$K^a + v(a) + 2l - 2a$$

You try to prepare all subject questions in all the papers being sent so that it will be useful in the interview. concentrate on OS, networks.

PART 1

1). A beggar collects cigarette stubs and makes one full cigarette with every 7 stubs. Once he gets 49 stubs. How many cigarettes can he smoke totally.

Ans. 8

2). A soldier loses his way in a thick jungle at random walks from his camp but mathematically in an interesting fashion. First he walks one mile east then half mile to north. Then 1/4 mile to west, then 1/8 mile to south and so on making a loop. Finally how far he is from his camp and in which direction.

ans: in north and south directions

$$\frac{1}{2} - \frac{1}{8} + \frac{1}{32} - \frac{1}{128} + \frac{1}{512} - \text{and so on} \\ = \frac{1}{2} / ((1 - (-1/4)))$$

similarly in east and west directions

$$1 - \frac{1}{4} + \frac{1}{16} - \frac{1}{64} + \frac{1}{256} - \text{and so on} \\ = 1 / ((1 - (-1/4)))$$

add both the answers

3). how 1000000000 can be written as a product of two factors neither of them containing zeros

Ans $2^9 \times 5^9$ (check the answer)

4). Conversation between two mathematicians:

first : I have three children. The product of their ages is 36 . If you sum their ages . it is exactly same as my neighbour's door number on my left. The second mathematician verifies the door number and says that the not sufficient . Then the first says " o.k one more clue is that my youngest is the youngest" Immediately the second mathematician answers . Can you answer the question asked by the first mathematician?

What are the children's ages? ans 2 and 3 and 6

5). Light glows for every 13 seconds . How many times did it between 1:57:58 and 3:20:47 am

ans : $383 + 1 = 384$

6). 500 men are arranged in an array of 10 rows and 50 columns . ALL tallest among each row are asked to fall out . And the shortest among THEM is A. Similarly after resuming that to their original positions that the shortest among each column are asked to fall out. And the longest among them is B . Now who is taller among A and B ?

ans A

7). A person spending out $\frac{1}{3}$ for cloths , $\frac{1}{5}$ of the remaining for food and $\frac{1}{4}$ of the remaining for travelles is left with Rs 100/- . How he had in the beginning ?

ans RS 250/-

8). there are six boxes containing 5 , 7 , 14 , 16 , 18 , 29 balls of either red or blue in colour. Some boxes contain only red balls and others contain only blue . One sales man sold one box out of them and then he says " I have the same number of red balls left out as that of blue ". Which box is the one he sold out ?

Ans : total no of balls = 89 and $(89-29)/2 = 60/2 = 30$

and also $14 + 16 = 5 + 7 + 18 = 30$

9). A chain is broken into three pieces of equal lengths containing 3 links each. It is taken to a blacksmith to join into a single continuous one . How many links are to be opened to make it ?

Ans : 2.

10). Grass in lawn grows equally thick and in a uniform rate. It takes 24 days for 70 cows and 60 for 30 cows . How many cows can eat away the same in 96 days.?

Ans : 18 or 19

11). There is a certain four digit number whose fourth digit is twice the first digit.

Third digit is three more than second digit.

Sum of the first and fourth digits twice the third number.

What was that number ?

Ans : 2034 and 4368

If you qualify in the first part then you have to appear for the second i.e the following part.

Part 2.

1. From a vessel on the first day, $\frac{1}{3}$ rd of the liquid

evaporates. On the second day $\frac{3}{4}$ th of the remaining liquid evaporates. what fraction of the volume is present at the end of the 11 day.

2. an orange glass has orange juice. and white glass has apple juice. Both equal volume 50ml of the orange juice is taken and poured into the apple juice. 50ml from the white glass is poured into the orange glass. Of the two quantities, the amount of apple juice in the orange glass and the amount of orange juice in the white glass, which one is greater and by how much?

3. there is a 4 inch cube painted on all sides. this is cut into no of 1 inch cubes. what is the no of cubes which have no painted sides.

4. sam and mala have a conversation. sam says i am certainly not over 40. mala says i am 38 and you are atleast 5 years older than me. Now sam says you are atleast 39. all the statements by the two are false. How old are they really.

5. ram singh goes to his office in the city, every day from his suburban house. his driver mangaram drops him at the railway station in the morning and picks him up in the evening. Every evening ram singh reaches the station at 5 o'clock. mangaram also reaches at the same time. one day ramsingh started early from his office and came to the station at 4 o'clock. not wanting to wait for the car he starts walking home. Mangaram starts at normal time, picks him up on the way and takes him back home, half an hour early. how much time did ram singh walk.

6. in a railway station, there are two trains going. One in the harbour line and one in the main line, each having a frequency of 10 minutes. the main line service starts at 5 o'clock. the harbour line starts at 5.02a.m. a man goes to the station every day to catch the first train. what is the probability of man catching the first train

7. some people went for vacation. unfortunately it rained for 13 days when they were there. but whenever it rained in the morning, they had clean afternoon and vice versa. In all they enjoyed 11 mornings and 12 afternoons. how many days did they stay there totally

8. escalator problem repeat

9. a survey was taken among 100 people to find their preference of watching t.v. programmes. there are 3 channels. given no of

people who watch

at least channel 1

" " 2

" " 3

no channels at all

at least channels 1 and 3

" " 1 and 2

" " 2 and 3

find the no of people who watched all three.

10. albert and fernandes they have two leg swimming race. both start from opposite end of the pool. On the first leg, the boys pass each other at 18 mt from the deep end of the pool. during the II leg they pass at 10 mt from the shallow end of the pool. Both go at const speed. but one of them is faster. each boy rests for 4 sec to see at the end of the i leg. what is the length of the pool.

11. T H I S Each alphabet stands for one digit, what is the maximum value T can take

X F X X
X X U X

X X N X X

1. an escalator is descending at constant speed. A walks down and takes 50 steps to reach the bottom. B runs down and takes 90 steps in the same time as A takes 10 steps. how many steps are visible when the escalator is not operating.

2. evvery day a cyclist meets a train at a particular crossing. the road is straight before the crossing and both are travelling in the same direction. cyclist travels with a speed of 10 Kmph. One day the cyclist comes late by 25 min. and meets the train 5km before the crossing. what is the seppd of the train.

3. five persons muckerjee, misra, iyer, patil and sharma, all take then first or middle names in the full names. There are 4 persons having l or middle name of kumar, 3 persons with mohan, 2 persons withdev and 1 anil.

--Either mukherjee and patil have a l or middle name of dev or misra and iyer have their l or middle name of dev

--of mukherjee and misre, either both of them have a first or middle name of mohan or neither have a first or middle name of mohan

--either iyer of sharma has a l or middle name of kumar hut not both.

who has the l or middle name of anil

4. reading conprehension

5. a bird keeper has got Ppigeon, M mynas and S sparrows. the keeper goes for lunch leaving his assistant to watch the birds.

a. suppose p=10, m=5, s=8 when the bird keeper comes back, the assistant informs the x birds have escaped. the bird keeper exclaims oh no! all my sparrows are gone. how many birds flew away.

b. when the bird keeper come back, the assistand told him that x birds have escaped. the keeper realised that atleast2 sparrows have escaped. what is minimum no of birds that can escape.

6. select from the five alternatives A,B,C,D,E

AT THE end of each question ,two conditions will be given. the choices are to filled at follows.

- if a definete conclusion can be drawn from condition 1
- if a definete conclusion can be drawn from condition 2
- if a definete conclusion can be drawn from condition 1 and 2
- if a definete conclusion can be drawn from condition 1 or 2
- no conclusion can be drawn using both conditions

1. person 1 says $N < 5$

person says $n \leq 5$

person 3 says $3N \geq 20$

person 4 says $3n \geq 10$

person 5 says $N < 8$

whaT IS value of N

a) 1. no of persons who speak false being less than no of persons who tells the truth.

2. person 2 is telling the truth.

b) 1. no of persong telling the truth is greater than no of persons telling lies

2. person 5 is telling the truth.

7. there are N coins on a table. there are two players A&B. you can take 1 or 2 coins at a time. the person who takes the last coin is the loser. a always starts first

--1. if $N=7$

a) A can always win by taking two coins in his first chanse

b) B can win only if A takes two coins in his first chance.

c) B can always win by proper play

d) none of the above

--2. A can win by proper play if N is equal to

a) 13 b) 37 c) 22 d) 34 e) 48 ans. e.

--3. B can win by proper play if N is equal to

a) 25 b)26 c) 32 d) 41 e) none

--4. if $N < 4$, can A win by proper play always

8. Two turns have vertain peculiar characteristics. One of them always lies on Monday, Wednesday, Friday. \the other always lies on Tuesdays, thursdays and saturdays. On the other days they tel the truth. You are given a conversation.

person A-- today is sunday my name is anil

person B-- today is tuesday, my name is bill

answers for selected questions

2. equal

1. 150

- 3. 8
- 4. 37(M),41(S)
- 5. 45 min.
- 6. 0.8
- 7. 18
- 11. T max value = 4
- 2. 60 kmph
- 3. Mukherjee
- 8. today is tuesday

3. Anil kumar Mukherjee
Kumar Misra dev
Mohan iyer dev
kumar patil mohan
mohan sharma kumar

Verifone Interview.

Here, we had three single man panels. They are seeing the subjects taken and asking questions in that mainly. They didn't go deep into any subject and they were just asking overview. When they catch any new word they are asking about it.

These are some of the questions asked to us.(not to a single person.)

What is a finite Automata.

what is a turing machine.

how many processors are there in a pentium microprocessor. in Sparc.

difference between risc and cisc.

is risc always fast.

what is a real time system.

name some real time OS

what are the characteristics of Real time OS.

is DOS a real time OS.

what is a kernel,shell.

what is binary search, traversal, hashing etc.

given a scenario what is the suitable data structure.

write a code to count the no. of 1's in a binary rep. of a number.

memory taken for char *, int * etc.

char *cp; int *ip; cp++,ip++ - what is the result.

compare the no. of bytes in unix and Dos for long char short int.

how to make programs portable on unix and Dos under such circumstances.

in c++, what is a constructor, destructor etc.

what is friend etc.

what is waterfall model, prototype model etc.
what is testing. what is unit testing, integration testing etc.

What is indexing in databases?

What is atomicity?

Can recursive pgms be written in C++, Write a recursive pgm to calculate factorial in c++.

What is best data structure to store the processes info in a real time operating system?

VERIFONE

Verifone test Questions :

There are two parts :

1. Aptitude test : 15 Minutes, 20 Questions

Some questions are:

(not in order)

1. A question (first one) on addition of fraction of inches
a. was the answer

2. There were 36 chairs. how many ways can they be placed such that all rows have equal no. of chairs and atleast three chairs are there in each row and there are atleast three rows.
5 ways.

3. There are 27 balls, of which 1 is heavier. given a balance how many times you need to weigh to find out the odd ball.
3 Weighs.

4. Product of three consecutive nos. 210. What is the sum of two least numbers
11.

5. If the area of the square is increased by 69 % how much the length of the side will increase?
30%

6. if the sum of five consecutive nos. 35? how many prime nos are there :
2 primes.

7. if the length of the rectangle is reduced by 20% and breath

is increased by 20 % what is the net change ?

4 % decrease

8. A question on sets.

There are some 20 Basketball players & 30 Football players, and 25 cricket players. 1 of them plays all the three games.

8 of them plays atleast two games. They are 50 altogether.

How many of them plays none of the games.

9. A question on directions.

B is 20 miles east of A. D is 30 miles east of C. E is 10 miles north of D. C is 20 miles north of B. How far E is from A?

Some 3 questions on Reasoning like,

10. If you say that giving stock options to employees increases the productivity of the company, which of the following sentences support it.

A) Giving stock options increases the morale of the employees

..

..

etc.,

11. Gamblers comes to the Amusement parks. There are some Amusement

parks in each city. There are some gamblers in each city. So what can you infer.

A) Amusement park always have gamblers.

..

..

etc.,

2. Technical Questions.

i. Electrical & Electronics : 15 Questions

1.A Circuit with nand gates. (ans. may be XOR)

2.CMRR. relates to (options not in order)

voltage follower

non inverting amplifier

inverting amplifier

integrator

3. Given a circuit , give the output.

(ans. may be triangular wave.)

4. o/p of an assembly code.

multiply by 11.

5. how to handle asynchronous events.

a) polling

b) interrupt
etc.

- ii) Data Structures, Algo., & Complexity theory : 5 questions
 - iii) OS : 5 questions
 - iv) Networks and Hardware: 5 questions
 - v) Databases and Misc.: 5 questions
 - vi) C Pgm. : 5 questions
- some more 10 questions.

1. If W is a sequence of strings without a and W' is its reversal then WaW' is accepted by:

Context Free Grammars

2. Whether all recursive program can be written iteratively?
yes.

3. What data structure you will use if you want to go to first record from the last and vice versa?
doubly linked circular list

4. Given 10000 nos. and 48MB Memory. What is the complexity of the efficient sorting algo.? (the algo. is not mentioned)
 $O(N)$

5. Given a C code and ask what it does?
code was something similar to Bubble sort and that particular code does the sorting in Descending order and the complexity is $O(n^2)$ (which is the next question).

6.

A code like this is given.

a. `for(i=0;i<num;i++)`

b. `for(i=num;i0;i--)`

Assuming no code optimization and assume that the microprocessor has flags etc. which one is correct.

b will execute faster.

7. If there are too many page faults what is the problem?

8. To ensure one program doesn't corrupt other program in a Multi-program environment what should you do?

9. Which one you will use to implement critical section?
Binary Semaphore
10. Which one is not needed for Multi-processing. environment?
options are: virtual memory, security, time sharing, none of the above.
11. Which one is not done by Data link layer ?
bit stuffing, LRC, CRC, parity check
12. Which one is not related to Data link layer?
13. Which one is not suitable for client-server application?
tcp/ip, message passing, rpc, none of the above.
14. What is SQL.
Procedural Relational DB Query Language.
15. Indexing in databases give you
options were like 1. efficient deleting and inserting
2. efficient deleting.
etc.
16. `int a=1, b=2, c=3;`
`printf("%d,%d", a, b, c);`
What is the output?
17. Scope of Static Variable
in a file.
18. `for(i=0; i<=10; i++, printf("%d", i)); +-` (+- is there in the questions)
20. Real Time Os should have
a) fast context switch
b) Virtual memory etc.
21. Messages are transferred in some E71 code, where after 7 bits of data,
1 bit of stopping data is to be transferred. what should be done.
options were like
a) send directly
b) send after encoding
etc.
22. There are three processes A, B, C. A sends data to B. B removes the

header stores it and sends the data to C. C returns it to B. B receives the message, identifies the message and adds the header that was stored and sends to A. B receives the messages from C such that at most 'm' messages B are pending.
Identify the best Data Structure.

23. A question in compiler about the heap and stack allocation of memory.

24. struct

```
{  
  char a[3];  
  int b;  
}x;  
char *cp;
```

- a) size of x is 7.
 - B
 - b)
 - c)
 - d) cp takes the size of a pointer.
- (d) is the ans.

I am sending format of ORACLE. I just sent you Verifone(some questions)

ORACLE

section 2:

1. what is sparse matrices?. give (at least) two methods for implemetation rather than two dimentional array.
2. what are cheap locks/latches?.
3. what is two phase locking?. Name two locks.
4. What are volatile variables in C?. What is their significance ?.
5. will these two work in same manner
#define intp int *

```
typedef int * inpp;
```

6. what are binary trees?. what is its use?.

7.

section 3 :

A). write header file containing functions used, etc (C),
problem is to maintain a Queue. user has to give size and type of Queue.

This problem is like this I don't remember exactly.

B). C++

1. What is polymorphism?
2. What is Inheritance?.
3. Mention four Object Oriented Programming Languages?
4. Mention basic concepts of OOP.
5. What are messages in OOP?.
6. What is garbage collection?.
7. what is object?.
8. what is a class?.

section 4:

1. expand the following:
 - a. SEI
 - b. ISO
2. what are different levels of SEI?.
3. What is significance of ISO?
4. Expand the following:
 - a. WWW
 - b. HTTP
 - c. HTML
 - d. TCP/IP
5. what is Black box testing?.
6. explain the following:
 1. white box testing
 2. white box testing
 3. boundary testing
 - 4 stress
 5. negative
 6. system
 7. unit
 8. module
 9. destructive

INFOSYS

1) There are two balls touching each other circumferentially. The radius of the big ball is 4 times the diameter of the small ball. The outer small ball rotates in anticlockwise direction circumferentially over the bigger one at the rate of 16 rev/sec. The bigger wheel also rotates anticlockwise at N rev/sec. what is 'N' for the horizontal line from the centre of small wheel always is horizontal.

$$\begin{array}{r} 2) \quad 1\ 2\ 3\ 4 \\ \quad +\ 3\ 4\ 5\ 5 \\ \quad \text{-----} \\ \quad \quad 4\ 6\ 8\ 9 \\ \quad \quad -\ 2\ 3\ 4\ 5 \\ \quad \quad \text{-----} \\ \quad \quad \quad 2\ 3\ 4\ 4 \\ \quad \quad \quad +\ 1\ 2\ 5\ 4 \\ \quad \quad \quad \text{-----} \\ \quad \quad \quad \quad 3\ 6\ 9\ 8 \end{array}$$

Q) Strike off any digit from each number in seven rows (need not be at same place) and combine the same operations with 3 digit numbers to get the same addition. After this strike off another digit from all and add all the No.s to get the same 2 digit No. perform the same process again with 1 digit No.s. Give the '1' no.s in 7 rows at each stage.

3) there is a safe with a 5 digit No. The 4th digit is 4 greater than second digit, while 3rd digit is 3 less than 2nd digit. The 1st digit is thrice the last digit. There are 3 pairs whose sum is 11. Find the number. Ans) 65292.

4) there are 2 guards Bal and Pal walking on the side of a wall of a warehouse(12m X 11m) in opposite directions. They meet at a point and Bal says to Pal " See you again in the other side". After a few moments of walking Bal decides to go back for a smoke but he changes his direction again to his previous one after 10 minutes of walking in the other(opposite) direction remembering that Pal will be waiting for to meet.If Bal and Pal walk 8 and 11 feet respectively, how much distance they would have travelled before meeting again.

5) $xxx)xxxxx(xxx$

3xx

xxx
x3x

xxx
3xx

Q) Find the 5 digit No.

Hint: 5 is used atleast once in the calculation.

6) A fly is there 1 feet below the ceiling right across a wall length is 30m at equal distance from both the ends. There is a spider 1 feet above floor right across the long wall eqidistant from both the ends. If the width of the room is 12m and 12m, what distance is to be travelled by the spider to catch the fly? if it takes the shortest path.

7) Ramesh sit around a round table with some other men. He has one rupee more than his right person and this person in turn has 1 rupee more than the person to his right and so on, Ramesh decided to give 1 rupee to his right & he in turn 2 rupees to his right and 3 rupees to his right & so on. This process went on till a person has 'no money' to give to his right. At this time he has 4 times the money to his right person. How many men are there along with Ramesh and what is the money with poorest fellow.

8) Question related to probabilities of removing the red ball from a basket, given that two balls are removed from the basket and the other ball is red. The basket contains blue, red, yellow balls.

9) Venkat has 1 boy & 2 daughters. The product of these children age is 72. The sum of their ages give the door number of Venkat. Boy is elder of three. Can you tell the ages of all the three.

ANALYTICAL

1) L: says all of my other 4 friends have money
M: says that P said that exact one has money
N: says that L said that precisely two have money
O: says that M said that 3 of others have money.
P: Land N said that they have money.
all are liars. Who has money & who doesn't have?

2) A hotel has two, the east wing and the west wing. Some east wing rooms but not all have an ocean view (OV). All WW have a harbour view (HV). The

charge for all rooms is identical, except as follows

- * Extra charge for all HV rooms on or above the 3rd floor
- * Extra charge for all OV rooms except those without balcony
- * Extra charge for some HV rooms on the first two floor & some EW rooms without OV but having kitchen facilities. (GRE modrl Test 3-question 1J-22)

3) Post man has a data of name surname door no. pet name of 4 families. But only one is correct for each family. There are a set of statements & questions.

4) 4 couples have a party. Depending on the set of statements, find who insulted whom and who is the host of the party.

5) 5 women given some of their heights (tall, medium, short) Hair (long, plained), stards (Black or Brown), sari, 2 medium, 2-short. Tall-no sari. Plained-medium. Answer the combinations.

1) A person has to go both Northwards & Southwards in search of a job. He decides to go by the first train he encounters. There are trains for every 15 min both southwards and northwards. First train towards south is at 6:00 A.M. and that towards North is at 6:10. If the person arrives

at any random time, what is the probability that he gets into a train towards North.

2) A person has his own coach & whenever he goes to railway station he takes his coach. One day he was supposed to reach the railway station at 5 O'clock. But he finished his work early and reached at 3 O'clock. Then he rung up his residence and asked to send the coach immediately. He came to know that the coach has left just now to the railway station.

He thought that the coach has left just now to the railway station. He thought that he should not waste his time and started moving towards his residence at the speed of 3mi/hr. On the way, he gets the coach and reaches home at 6 o'clock. How far is his residence from railway station.

3) Radha, Geeta & Revathi went for a picnic. After a few days they forgot the date, day and month on which they went to picnic. Radha said that it was on Thursday, May 8 and Geeta said that it was Thursday May 10. Revathi said Friday Jun 8. Now one of them told all things wrongly, others one thing wrong and the last two things wrongly. If April 1st is tuesday what is the right day, date and month?

SIEMENS INFO

THIS PAPER CONSISTS 6 PARTS. all are multiple choice q's

- 1)general
- 2)c/unix
- 3)c++/motif
- 4)database
- 5)x-windows
- 6)ms-windows

we have written q's not acc. to each part.total 50. q's. time is sufficient.

if u have basic idea about all of the u can easily answer the paper.
paper

1)which of following operator can't be overloaded.

a) == b) ++ c) ?! d) <=

2)#include <iostream.h

main()

```
{  
printf("Hello World");  
}
```

the program prints Hello World without changing main() the o/p should be

intialisation

Hello World

Desruct

the changes should be

a) iostream operator <<(iostream os, char*s)
os <<'intialisation' <<(Hello World) <<Destruct

b) c) d) none of the above

3) CDPATH shell variable is in (c-shell)

a) b) c) d)

4) term stickily bit is related to a) kernel

b) undeletable file

c) d) none

5) semaphore variable is different from ordinary variable by

6) swap(int x,y)

```
{  
int temp;  
temp=x;  
x=y;  
y=temp;  
}
```

main()

```
{  
int x=2;y=3;  
swap(x,y);  
}
```

after calling swap ,what are yhe values x&y?

7) static variable will be visible in

a)fn. in which they are defined

b)module " " " "

c)all the program

d)none

8)unix system is

a)multi processing

b)multi processing ,multiuser

c)multi processing ,multiuser,multitasking

d)multiuser,multitasking

9)x.25 protocol encapsulates the follwing layers

a)network

b)datalink

c)physical

d)all of the above

e)none of the above

10)TCP/IP can work on

a)ethernet

b)tokenring

c)a&b

d)none

11)a node has the ip address 138.50.10.7 and 138.50.10.9.But it is transmitting data from node1 to node2only. The reason may be

a)a node cannot have more than one address

b)class A should have second octet different

c)classB " " " " "

d)a,b,c

12) the OSI layer from bottom to top

13)for an application which exceeds 64k the memory model should be

a)medium

b)huge

c)large

d)none

14)the condition required for dead lock in unix system is

15)set-user-id is related to (in unix)

16) bourne shell has

a)history record

b)

c)

d)

17)wrong statement about c++

a)code removably

b)encapsulation of data and code

c)program easy maintenance

d)program runs faster

18)struct base {int a,b;

base();

int virtual function1();

}

struct derv1:base{

int b,c,d;

derv1()

int virtual function1();

}

struct derv2 : base

{int a,e;

}

base::base()

{

a=2;b=3;

}

derv1::derv1(){

b=5;

c=10;d=11;}

base::function1()

{return(100);

}

derv1::function1()

{

return(200);

}

main()

base ba;

derv1 d1,d2;

printf("%d %d",d1.a,d1.b)

o/p is

a)a=2;b=3;

b)a=3; b=2;

c)a=5; b=10;

d)none

19) for the above program answer the following q's

main()

base da;

derv1 d1;

derv2 d2;

printf("%d %d %d",da.function1(),d1.function1(),d2.function1());

o/p is

a)100,200,200;

b)200,100,200;

c)200,200,100;

d)none

20)struct {

int x;

int y;

}abc;

you can not access x by the following

1)abc--x;

2)abc[0]--x;

abc.x;

(abc)--x;

a)1,2,3

b)2&3

c)1&2

d)1,3,4

21) automatic variables are destroyed after fn. ends because

a)stored in swap

b)stored in stack and popped out after fn. returns

c)stored in data area

d)stored in disk

22) relation between x-application and x-server (x-win)

23)UIL(user interface language) (x-win)

24)which is right in ms-windows

a)application has single qvalue system has multiple qvalue

b) " " multiple " " single "

c) " " " multiple "

d)none

25)widget in x-windows is

26)gadget in x_windows is

27)variable DESTDIR in make program is accessed as

a)\$(DESTDIR)

b){DESTDIR}

c)DESTDIR

d)DESTDIR

28)the keystroke mouse entrie are interpreted in ms windows as

a)interrupt

b)message

c)event

d)none of the above

29)link between program and out side world (ms -win)

a)device driver and hardware disk

b)application and device driver

c)application and hardware device

d)none

30)ms -windows is

a)multitasking

b) c) d)

31)dynamic scoping is

32) after logout the process still runs in the background by giving the command

a)nohop

b)

33)process dies out but still waita

a)exit

b)wakeup

c)zombie

d)steep

34)in dynamic memory allocation we use

a)doubly linked list

b)circularly linked

c)B trees

d)L trees

e)none

35)to find the key of search the data structure is

a)hask key

b)trees

c)linked lists

d)records

36)data base

```
-----  
-----  
employ_code  salary          employ_code  leave  
-----  
-----  
                                     from  to  
-----  
1236         1500          1238  ---  
---  
1237         2000          1238  ---  
---  
1238         2500          1237  ---  
-----  
                                     1237  ---  ---  
                                     1237  ---  ---  
                                     1237  ---  ---  
-----  
-----
```

select employ_code,employ_data ,leave
the number of rows in the o/p

a)18

b)6

c)7

d)3

- 37)DBMS
 - 38)read about SQL,db
 - 39)which is true
 - a)bridge connects dissimilar LANand protocol insensitive
 - b)router " " " " "
 - c)gateway " " " " "
 - d)none of the above
 - 40)read types of tree traversals.
 - 41)42)43) simple programs on pointers in c
-

BEST OF LUCK

Novell network paper

The paper consists of three sections.

1. aptitude 15 questions 20 min.
2. system concepts 20 questions 20 min.
3. 'c' 15 questions 20 min.

NOTE:::::

I'm sending the questions, so many have no answers. U do check the answers for all the given questions also.

All questions are MULTIPLE CHOICES ONLY.

U do try to cover the related topics to get some understanding. In interview They are asking C C++ Operating system concepts and Networks. They will ask about Ur interesting subjects, U try to have good grip on those interesting subjects.

They selected 11 out of 55 students. They asked about c c++ project work and OS,NETWORKS. But they selected only 2 , one from CS and another is BTech ECE.

SECTION 1 is main factor selection to the interview

In the interview you should be very active .And should be frank to say no also.One CS student said that he don't know NETWORK and he hasn't taken NETWORKS subject.But he has selected.

OK BEST OF LUCK.

section 1:;;;

* GRE book test paper 3 section 5
question no. 8 to 12 (ships WXYZ starting on dec. 23rd.....)

* 5 programs are sheduled from monday to saterday, monday is not holiday,
PQRST are the programs. The day before P is holiday, and some other clues are given, we have to find the sequence (4 questions)

ANS: tuesday is the holiday
P comes on wednesday ,
U can do the remaining very easily.

* Suppose U R the presoner, There are two guards Who will tell truth or one will tell truth. There is a gate for liberty and another foe hell.

Some questions are given, like

- i. are U tell truth?
- ii. another tell truth or not??
- iii. both of U R telling truth??
- iV. both of U lieing??
- V. -----

they gave a. b. c. d. and asking about which sequencing is sufficient to find the gate for liberty??
(I can't give exact thing)

* There are WIFE and HUSBAND at one side of river. They have one child,
They want to cross the river. The child can't be lonly. The boat boy won't permit morethan one to cross the river, what is the correct way to cross the river??

* There are 7 targets, A B and C has to shoot them. All should be shoted consecutively.

1. The no. of chances for A and B are not less thn 2,
2. for C there is only one chance.
3. A can't shot 3 times consecutively.

4. B is permitted to shoot in even chances only.

They have given some 3 or 4 questions on this

*

-

section 3::

1. Max value of SIGNED int

a. b. c. d.

2. One question is given, long one, to find the answer you should be familiar

with the operation as follows

```
int *num={10,1,5,22,90};
```

```
main()
```

```
{
```

```
int *p,*q;
```

```
int i;
```

```
p=num;
```

```
q=num+2;
```

```
i=*p++;
```

```
print the value of i, and q-p, and some other operations are there.
```

```
}
```

how the values will change??

3. One pointer diff is given like this:

```
int *(*p[10])(char *, char*)
```

asked to find the meaning.

4. `char *a[4]={"jaya","mahe","chandra","buchi"};`

what is the value of `sizeof(a)/sizeof(char *)`

a. 4 b. bytes for char c-- d.--

(we don't know the answer)

5. `void fn(int *a, int *b)`

```
{
```

```
int *t;
```

```
t=a;
```

```
a=b;
```

```
b=t;
```

```
}
```

```
main()
```

```
{
```

```
int a=2;
```

```
int b=3;
```

```
fn(&a,&b);  
print the values os a and b;  
}
```

what is the output--- out put won't swap, the same values remain.

- a. error at runtime
- b. compilation error
- c. 2 3
- d. 3 2

6.

```
#define scanf "%s is a string"  
main()  
{  
printf(scanf,scanf);  
}
```

what is the output.

ANS : %s is string is string

```
7. i=2+3,43,1;  
printf("%d",i);
```

ans is 5 only.

```
8. char *p="abc";  
char *q="abc123";
```

```
while(*p==*q)  
{  
printf("%c %c",*p,*q);  
}
```

- a. aabbcc
- b. aabbcc123
- c. abcabc123
- d. infinite loop (this may be correct)

```
9. printf("%u",-1)
```

what is the value?

- a. -1
- b. 1
- c. 65336
- d. --

(maxint value-1 I think, check for the answer)

```
10. #define void int  
int i=300;  
void main(void)  
{  
int i=200;
```

```
{  
  int i=100;  
  print the value of i;  
}  
print the value of i  
}  
what is the output?
```

may be 100 200

11.

```
int x=2;  
x=x<<2;  
printf("%d ",x);
```

ANS=8;

12.

```
int a[]={0,0X4,4,9}; /*some values are given*/
```

```
int i=2;
```

```
printf("%d %d",a[i],i[a]);
```

what is the value??? (may be error)

13.

some other program is given , I can't remember it
U can get it afterwards,

the answer is 3 3, so U can check this in the exam. itself.

I'll send the remaining two afterwars whenever I get them. OK !

14.

MASCOT

this test contains 2 papers
paper1=aptitude-30min-44questions
contains 3 sections
paper2=computer skill-30min-60questions-6sections-10questions each

paper1

section1

i do not remember the q's. simple quantitative apt. q's.
but takes more time ,do fast.

section2

1-8 q's on bus route. a b c d e
a x 8 15 20 7
b 6 x 9 13 21
c 10 12 x 3 11
d 9 1 18 x 5
e 3 4 17 14 x

where x is starting point. a&e are first and last stations. and b,c,d
are intermediate stations. fig's are no. of passengers. cost of ticket
is 0.7Rs /pass.
between any successive stations. based on this few q's were given.
the fig's
are not correct. q's like total no. of pass. in onward journey.
Rest of q's are
2 statements were given. u have to answer they are correct or not
.littlebit

easy.

section3

simple q's from r.s agarwal_ quantitative apt.

1. $\frac{1}{10^{18}} - \frac{1}{10^{20}}$ value?

2. pipes-leaking-cisterns.

paper2

1. general awareness. 2.

1. father of computers

2. expand HTML, DMA, FAT, LAN, WAN, FDD etc

3. intel's first micropro... a. pentium b. pentium pro etc

4. 1024(dec) convert to hexa&octal

5. first micro. pro. a) 8085 b) 8088 etc

6. motorola's processor name?
7. windows_NT expand
8. simple programs on pascal&c
9. diff between 8087,8086 (which is latest vers.)
10. some basic q's on GUI.
11. q's on IBMpc
12. one program on finding factorial

i remember only these q's. i will ask my pals about rest of q's.i
want to know
when mascot is coming.they have taken 14 from here. most of them are
mech.&ime.

TISL

I know some 25 questions.

The technical comprises of 50 questions on C,Unix and windows.

- 1.const char *
char * const
What is the difference between the above two?.
- 2.In Unix inter process communication take place using?.
- 3.What are the files in /etc directory?.
- 4.About i-node numbers
- 5.Max relaxable permission value with out giving write permission to others?.
- 6.About ln(linking)
- 7.A question on until
until (who |grep mary)
do
sleep(60)
done
- 8.Linking across directories?.
- 9.process id for kernel process
- 10.very first process created by kernel
- 11.function to repaint a window immediately?.
- 12.Function entry for DLL in win3.1
- 13.win 3.1 is a
- 14.win 3.1 supports which type of multi tasking?.
- 15.Message displayed when a window is destroyed
- 16.About fork()?
- 17.About send message and post message
- 18.Message to limit the size of window

19. System call executable binary file into a process
20. About GDI object?
21. API used to hide window
22. Initialize contents of a dialog?.

VERIFONE

there will be 45 qstns. 15+5+5+5+5+5+5.

section: electronics:

1. a logic ckt is given and asked to identify the configuration.

ans: XOR.

2. multi vibrator with nor gates is given

ans: astable multi sq wave opt.

3. 4 stage ripple counter with delay(f/f) 10msec. How much time it takes

for a state to change. $4 \times 10 = 40$.

4. impedance of a p'lel resonant circuit at resonance: R.

5. serial to parallel conversion is done by ans: shift register.

5. if the address bus is 20 bits, then the memory space is 1 Mb.

6. filtering can be done with: capacitor, inductor, both, none.

7. the config that is most affected by low CMMR

ans: Non inverting amplifier.

8. two programs are given. one starts counting from 0 to MAX and the other starts from MAX to 0. which one executes fast. may be Max to 0. Think of it

should be.

another 6 qstns are there. simple.

Networks:

1.

the function of datalink layer is: bit stuffing.

2. which of the following is not function of datalink layer: Encryption.

3. voltage levels of RS232C: +12, -12.

4. which of the following is not used for client/server.

RPC, TCP/IP, MESSAGEQs None ans: may be none.

5.

database:

1. which of the following is true.

ans: the primary key in DataBase design is very important.

2. SQL is a Non procedural query language.

3.

4

5.

compiler/algo/ds:

1.Data structure used to impliment a menu: doubly linked circular linked list.

2. some regular expression is given:WaW'.may be it is context free grammar.

3.,4,5.

os:

1.the feature of real time os is: fast context swithing.

2.os impliments protection with the help of hardware(like virtual addressing in 386/286 etc).

C:

some small c progs are given asked to tell the function/errors etc.

one of the qstn(last in the paper) is an invalid statement.

finish of all these very fast and think about those others. they are simple only.

Interview:

depends on the member.(Mr.Deep if he comes asks archirect of 586/486/386/286

etc. otherwise DS,OS,C,TCP/IP . they hv taken 21(18btechs+3mtechs).

ok if u hv any queries ask immediatly.

ok

all the best.

chigu.

DE-Shaw Software,Hyderabad.

SECTION-A

you should write the programs for the following problems in C.

1. swapping two variables x,y without using a temporary variable.

2. a program has been given asking to find the output

ans. it is algorithm for finding G.C.D

3. write a program for reversing the given string.

4. the integers from 1 to n are stored in an array in a random

fashion. but one integer is missing. write a program to find the missing integer.

ans. idea. the sum of n natural numbers is $= n(n+1)/2$.

if we subtract the above sum from the sum of all the numbers in the array , the result is nothing but the missing number.

5. some bit type of questions has been given on pointers asking to find whether it is correct from syntax point of view. and if it is correct explain what it will do.(around 15 bits).

SECTION-B

ANSWER AS MANY AS POSSIBLE.

- 6.& 7. two programs on pre-processor directions has been given asking to find the output.
8. simple question given on pointer
- a) kernighan & richie page no. 122
 - b) schaum series page no. 323
- try to understand the pointer problems given here he asked to explain
in the interview if answer it in exam.
9. write a c program to find whether a stack is progressing in forward
or reverse direction.
10. write a c program that reverses the linked list.

GUIDELINES:

the interview is very tough he is asking to do the problems in front of him. he is also giving some new problems to solve before him.

you should have a very good funda of C language.

From iit-kgp only two 2 students have been selected.

Wipro paper(System software)

July-1997

PART --A

1) $abcD+abcd+aBCd+aBCD$

then the simplified function is

(Capital letters are compliments of corresponding letters

A=compliment of a)

[a] a [b] ab [c] abc [d] a(bc)* [e] none
(bc)*=compliment of bc

Ans: e

2) A 12 address lines maps to the memory of

[a] 1k bytes [b] 0.5k bytes [c] 2k bytes [d] none

Ans: b

3) In a processor these are 120 instructions . Bits needed to
impliment
this instructions

[a] 6 [b] 7 [c] 10 [d] none

Ans: b

4) In 8085 microprocessor READY signal does.which of the following
is incorrect statements

[a]It is input to the microprocessor
[b] It sequences the instructions

Ans : b

5) Return address will be returned by function to
[a] Pushes to the stack by call

Ans : a

6)

n=7623

```
{  
  temp=n/10;  
  result=temp*10+ result;  
  n=n/10  
}
```

Ans : 3267

7) If AB then

F=F(G);
else BC then

$F=G(G)$;
in this , for 75% times AB and 25% times BC then, is 10000
instructions
are there , then the ratio of F to G
[a] 7500:2500 [b] 7500:625 [c] 7500:625 if $a=b=c$ else
7500:2500

-
- 4) question (3) in old paper
 - 5) q(4) in old paper
 - 6) question (7) in old paper
 - 7) q(9) in old paper
-

Honeywell conducted a test in IIT and Interview was in their office at B'lore.

Test contained 100 multiple choice questions divided into

- a) Verbal ability (15 ques)
- b) Numerical aptitude (15)
- c) Logical and analytical ability (15)
- d) Elementary computer science (10)
- d) Programming languages (20)
- e) Operatins systems and Data structures (25)

Not sure about the number of questions.

Verbal ability questions contained 3 parts.

- a) One passage is given and U have to answer 5 questions
- b) Some words are given and their synonyms have to be written
- c)

Numerical aptitude and Logical questions were the usual stuff.

I had 4 rounds of interview.

First round (around 45 minutes) contained, questions from Real-time

Systems (my research area), operating systems and Software Engineering

Explain U'r research work.

What is a Real-Time System ?

What is the difference between Hard and Soft real-time systems ?

What is a mission critical system ?

What is the important aspect of a real-time system ?

Explain the difference between microkernel and macro kernel.

Give an example of microkernel.

Why paging is used ?

Which is the best page replacement algo and Why ?

What is software life cycle ?

How much time is spent usually in each phases and why ?

Which one do U want to work if selected in Honeywell ?

(I said I don't like testing)

They asked why ?

I said it is a boring job. Then they tried to analyse the knowledge in testing.

What is testing ?

Which are the different types of testing ?

Then they explained the way they do testing. They said that they are doing testing in requirement phase and design phase so that if any problem comes in those phases it is not necessary to go back and change

the requirement or design. All the test processing is automated.

Why do U want to join Honeywell ?

Ans : To get a practical feeling of Real-time systems.

Do U know C++ ?

How good are U in C and C++ ?

Rate U'rself in both C and C++. (1 - 10 marks)

Second round (around 45 minutes)

They wanted a bio-data at the time of interview. I gave the placement office bio-data and in that one there was column 'Major subjects studied'. Many of the questions came from those.

Explain U'r research work.

Lot of questions from it.

What is a distributed system ?

Some questions about CSP. (I kept quiet)

Which languages do U know ?

What are the differences between Pascal and C.

I said Pascal is a strongly typed language.

Then what is typing and its advantages ?

Then he asked some questions from Compiler construction and Lisp.

Which are the different computer architectures ?
What is the requirement in MIMD ?
What is the difference between RISC and CISC processors ?
Difference between loosely coupled and tightly coupled systems ?
What is an open system ?

Still a lot of questions from software engineering .
Which are the different phases in Software life cycle (asked again)
Why is analysis and testing phases very important ?
Which methodologies are U familiar with ?

Have U worked in windows ? (Yes)
What is the difference U have seen from a Dos environment ?
I said it event driven .
So what do U mean by event driven ?
How do WinMain look like ?
How the messages are processed in Windows ?
(Queue of events)
What are parameters needed to distinguish an event ?

Have U done any network programming ?
Why networks are layered ?
What is the advantage of that ?
How many layers are there in OSI ?
Why is it called OSI model ?
Are U familiar with network topologies ?
Which are the different network topologies ?
Tell an example of bus type network.
I said ethernet.
What is the Bandwidth of ethernet ?
Explain the advantage and disadvantage of ethernet ?
Which is the protocol used in ethernet. (CSMA/CD)
Why is it called so ?
If all stations tries to communicate at same time, what will happen.
What is binary exponential backoff algo ?

What is the advantage of Ring network ?
Compare it with ethernet.
In a real-time system which one do U prefer and why ?
What is the basic requirement of a real-time network ?
Which one is costly - ethernet of ring networks ?

Some questions form OOSD and Digital signal processing.
What is inheritance, encapsulation etc.

Third Round (15 minutes)

Asked about the percentages and marks during SSC, PDC, B.Tech and MS.
When can U join ?
Who is U'r guide ?
U are from which place ?
Where is it in Kerala ?
How do U perform in the first two interviews ?
WHY have U given Honeywell as dream job ?
Some more personal questions

Fourth Round (45 minutes)

What do U like in Bangalore ?
I said the weather and all my friends are here.
Asked about my family members.
How do U interact with friends ?
How do adjust to a new environemnt ?
Suppose U solve a problem and after that U are getting an almost same
problem with high complexity (and lower complexity). How will U
approach to the next problem.
What is U'r approach towards a new subject ?
How do U prepare for exams ?
Suppose in a project meeting, somebody fires U, how will U react ?
Are U patient enough to wait in long queues ?
Still some more which I don't rememebr.....

#####

Some information regarding the question papers of TATA Infotech

Tata Infotech test has following sections
section 1) One section is of synonyms. These are 50 in all. They are very
difficult.

section 2) One section is on quantitative. i.e simple addtion,
subtraction, division etc.

section 3) Here you will be given a letter series and you have to find
the
next correct letter
e.g a c f j .?. ans= o

there are around 20 to 25 such questions

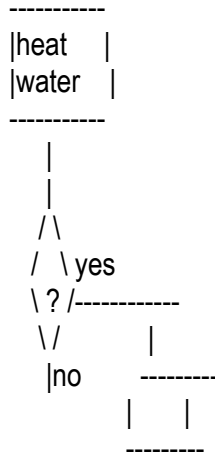
section 4) Flowchart analysis.

There are around 5 big questions in this section with 4 to 5 subquestions.

In these questions

1. first you will be explained the problem.
2. Then a flowchart is drawn.
3. Flowchart is not complete and question marks are placed at few locations. You have to find out what is the correct caption for question mark from the choices given

e.g



Then you have to decide what should be the correct entry in diamond box.

ie temp > 80
temp < 80 etc

In one such question they explain working of some chemical system with different condition of pressure, temp etc and what are the actions to be taken. Then a flowchart is drawn with few squares or diamonds blank. Out of given choices choose correct one.

One question is of finding a defective ball. i.e you have three pairs of balls. one pair of yellow one pair of blue and one pair of some other color. Then weighing two pairs at a time and finally separating a pair with defective ball.

There is one more problem related to balls. But I don't remember it.

#####

CV is as following.

CV paper that is given to us on 21st Aug 1997. (IIT M)

1. There are 45 questions which includes unix , c & aptitude, in 35 mts.

2. People say that cut off will be around 38-40 questions. All questions are objective type only.

There won't be any technical (about software) questions in software.

4. Here are some of the questions,

1. $|x-a| = a-x$ solve.
ans. $x \leq a$

2. There is a six letter word UGANDA. How many ways can you arrange the letters in the word in such a way that both A's are together.
ans. 120

3. If two cards are taken one after another without replacing from a pack of cards. What will be the probability for 2 cards to be drawn?
ans. $\frac{1}{13} \times \frac{1}{17}$

4. $51 \times 53 \times \dots \times 59$

ans. $99! \times 25! / 2^{24} \times 49! \times 5!$

5. The ratio of boys to girls is 6:4. 60% of the boys and 40% of girls take lunch in the canteen. What % of class takes lunch?
ans. 52%

6. & 7. 2 simple problems from data sufficiency (refer 1 or 2 test from ims)

data sufficiency:

- a) only statement a is sufficient
- b) only statement b ' is sufficient
- c) both are necessary
- d) both are not sufficient

7) Anna is the tallest girl

- a) anna is taller than all boys
- b) one other similarly appears you have to study it carefully and

the

choose the right answer

8) Zulus always speak truth and hutus always speak lies. There are three

persons A,B,and C. A met B and says "I am zulu or I am hutu. We don't know what he exactly said then B meets C and says to C that A is a Zulu. Then C replies " No ,A is a hutu.

q) How many zulus are there? (ans 2)

who must be a Zulu ? and B (check)

A father F has 5 sons p,q,r,s,t Not necessarily in this order. Two are of the same age The eldest and youngest cannot be twins. T is elder to r

and younger to q and s has three older brothers

q 1) who are twins

2) who is the oldest and youngest

3) who is the one having equal number of younger and elders

8) There are 7 people who take a test among which M is worst. R is disqualified , P and S obtain same marks , T scores less than S and Q scores less than P , N scores higher than every one.

N P S T Q R M (may be correct it)

and some questions will come on this

UNIX & C

unix commands:-

fork,

tar,

chmod,

yacc,

find,

compress,

make

questionukku fork than answer ana question tariyathu.

similarly hexa decimala larnthu octal-0 etho matiraturukku

oru question athukku answer 23.

C:-know about

calloc,

exit(),
pointer and arrays,
pointer to functions(5 th
chapter in K & R c book.(pointer fn. arguments thro'pointer)
some protpe functions like swap,sinfunction in math.h

NOTE: Above paper we get before our test. They given all above
quetions
and some of missing we are writing below. If any repeated skip that.

-pointer arithmetic
-what is the value of "i"?
i=Strlen("BLUE") + strlen ("purple")/strlen("red")-strlen("green")
ans:-1

i=2
printf("%ld%ld2%ld",i,i++,i--,i++);
answer check care fully may be 2223

what is the output of the following statements(string)
printf("what is /0 the output");
ans.what is

3) some problem appears like this

```
main()
{
  int i,a[10];
  int *x
  i = &a[6] - a;
  printf("%d", i)
;
}
```

answers are given as 1 , 6 , not compiled , machine dependent
answer is 6;

4)

another program apperas like this

```
main()
{
  int *x , y=2;
  int * fun(int* );
  x = (int *) malloc(sizeof(int));
  fun(x,&y);
  printf("%d%d",x,y);
}
```

```
int* fun(int *a, int *b)
{
    *a = (*b)++;
    return;
}
```

Program exactly i doesn't know but the stress is on `*a = (*b)++`
but for me answers are not tallied i think the answer now is 2,3;
but in answers it is not given;

5)
another programme
struct pt
{ int x;
 int y; }

```
struct
{ pt ptr;
  int xtr}lt,*lptr=&lt;lt;
he will give some accessing methods of data
but the correct one is
lptr->ptr.x;
```

7) some problem is there which says some jumps but the correct one is
setjump and longjump
you study the jumps and clarify it;

8)
ne problem like this
c prototype for math function
ans is external double sin(double);

8) one problem on variables apperars answer is "file" dam shure
that is actually the scope of external static variabl;

9) child procees- fork (this is given in c programmes)

10) for parsing another problem ans is lex and yacc;

11) for backups and archives ans is tar;

12) onebit on redirection of std error
ans may be `$command outfile 2&1` check it;

13)
what is
`int* p(char (*s)[]);`
ans there is c you read it from schaum series;

14) what for chmod 654
rw-rw-r-- check it

15)
one small c programme that appears like this

```
main()  
{ char *s = "hellow"  
  char *m = " how are you";  
  strcat(s,m);  
  printf("%s",s) ;  
}
```

do this and note;

16) you read stdin, stdout, stderr files and how to redirect that files.

+++++

VERIFONE

Verifone test Questions :

There are two parts :

1. Aptitude test : 15 Minutes, 20 Questions

Some questions are:

(not in order)

1. A question (first one) on addition of fraction of inches
a. was the answer

2. There were 36 chairs. how many ways can they be placed such that all rows have equal no. of chairs and atleast three chairs are there in each row and there are atleast three rows.
5 ways.

3. There are 27 balls, of which 1 is heavier. given a balance how many times you need to weigh to find out the odd

ball.

3 Weighs.

4. Product of three consecutive nos. 210. What is the sum of two least numbers
11.

5. If the area of the square is increased by 69 % how much the length of the side will increase?
30%

6. if the sum of five consecutive nos. 35? how many prime nos are there :
2 primes.

7. if the length of the rectangle is reduced by 20% and breadth is increased by 20 % what is the net change ?
4 % decrease

8. A question on sets.
There are some 20 Basketball players & 30 Football players, and 25 cricket players. 1 of them plays all the three games.
8 of them plays atleast two games. They are 50 altogether.
How many of them plays none of the games.

9. A question on directions.
B is 20 miles east of A. D is 30 miles east of C. E is 10 miles north of D. C is 20 miles north of B. How far E is from A?

Some 3 questions on Reasoning like,

10. If you say that giving stock options to employees increases the productivity of the company, which of the following sentences support it.

A) Giving stock options increases the morale of the employees
..
..
etc.,

11. Gamblers comes to the Amusement parks. There are some Amusement parks in each city. There are some gamblers in each city. So what can you infer.

A) Amusement park always have gamblers.
..
..
etc.,

2. Technical Questions.

i. Electrical & Electronics : 15 Questions

1. A Circuit with nand gates. (ans. may be XOR)

2. CMRR. relates to (options not in order)

voltage follower

non inverting amplifier

inverting amplifier

integrator

3. Given a circuit, give the output.

(ans. may be triangular wave.)

4. o/p of an assembly code.

multiply by 11.

5. how to handle asynchronous events.

a) polling

b) interrupt

etc.

ii) Data Structures, Algo., & Complexity theory : 5 questions

iii) OS : 5 questions

iv) Networks and Hardware: 5 questions

v) Databases and Misc.: 5 questions

vi) C Pgm. : 5 questions

some more 10 questions.

1. if W is a sequence of strings without a and W' is its reversal then WaW' is accepted by:

Context Free Grammars

2. Whether all recursive program can be written iteratively?

yes.

3. What data structures you will use if you want to go to first record from

the last and vice versa?

doubly linked circular list

4. Given 10000 nos. and 48MB Memory. What is the complexity of the efficient sorting algo.? (the algo. is not mentioned)

O(N)

5. Given a C code and ask what it does?
code was something similar to Bubble sort and that particular code does the sorting in Desending order and the complexity is $O(n^2)$ (which is the next question).
6.
A code like this is given.
 - a. `for(i=0;i<num;i++)`
 - b. `for(i=num;i0;i--)`Assuming no code optimization and assume that the microprocessor has flags etc. which one is correct.

b will execute faster.
7. If there are too many page faults what is the problem?
8. To ensure one pgm. doesnt corrupt other pgm. in a Multi-pgm enviornment what you should do?
9. Which one you will use to implement critical section? Binary Semaphore
10. Which one is not needed for Multi-processing. enviornment?
options are: virtual memory,security,time sharing,none of the above.
11. Which one is not done by Data link layer ?
bit stuffing, LRC,CRC,parity check
12. Which one is not related to Data link layer?
13. Which one is not suitable for client-server application?
tcp/ip,message passing,rpc,none of the above.
14. What is SQL.
Procedural Relational DB Query Language.
15. Indexing in databases give you
options were like 1.efficient deleting and inserting

2. efficient deleting.

etc.

16. `int a=1,b=2,c=3;`
`printf("%d,%d",a,b,c);`

What is the output?

17. Scope of Static Variable
in a file.

18. `for(i=0; i<=10;i++,printf("%d",i)); +-` (+- is there in the questions)

20. Real Time Os should have

- a) fast context switch
- b) Virtual memory etc.

21. Messages are transferred in some E71 code, where after 7 bits of data,

1 bit of stopping data is to be transferred. what should be done.

options were like

- a) send directly
 - b) send after encoding
- etc.

22. There are three processes A, B, C. A sends data to B. B removes the header stores it and sends the data to C. C returns it to B. B receives the message, identifies the message and adds the header that was stored and sends to A. B receives the messages from C such that atmost 'm' messages

B

are pending.

Identify the best Data Structure.

23. A question in compiler about the heap and stack allocation of memory.

24. struct

```
{
  char a[3];
  int b;
}x;
char *cp;
```

- a) size of x is 7.
 - B
 - b)
 - c)
 - d) cp takes the size of a pointer.
- (d) is the ans.

Verifone Interview.

Here, we had three single man panels. They are seeing the subjects taken and asking questions in that mainly. They didn't go deep into any subject and they were just asking overview. When they catch any new word they are asking about it.

These are some of the questions asked to us.(not to a single person.)
What is a finite Automata.
what is a turing machine.
how many processors are there in a pentium microprocessor. in Sparc.
difference between risc and cisc.
is risc always fast.

what is a real time system.
name some real time OS
what are the characteristics of Real time OS.
is DOS a real time OS.
what is a kernel,shell.

what is binary search, traversal, hashing etc.
given a scenario what is the suitable data structure.
write a code to count the no. of 1's in a binary rep. of a number.
memory taken for char *, int * etc.
char *cp; int *ip; cp++,ip++ - what is the result.
compare the no. of bytes in unix and Dos for long char short int.
how to make programs portable on unix and Dos under such circumstances.
in c++, what is a constructor, destructor etc.
what is friend etc.

what is waterfall model, prototype model etc.
what is testing. what is unit testing, integration testing etc.

What is indexing in databases?

What is atomicity?

Can recursive pgms be written in C++, Write a recursive pgm to calculate factorial in c++.

What is best data structure to store the processes info in a real time operating system?

++++

Motorola Interview.

There was a Technical Interview, followed by personal interview. Mainly concentrating on the interesting subjects.

write a C code

1. to reverse a string using a recursive function, without swapping or using an extra memory.
2. To reverse a linked list as above.

given a macro like

```
#define MAX(A,B) {to return that is larger}  
what will MAX(i++,j),MAX(i,j++) return.
```

Difference between Macro and ordinary definition.

Difference between Class and Struct.

Testing and Maintenance.(will you work in it and what are they)

Give the outputs of a compiler and assembler and loader and linker etc.

If a new data structure, suppose a queue is to be added like int, long etc.,

where shall the changes be -- lex or yacc or where.

what is a Real Time OS.

Name some.

Describe VRTX in few words.

How does the scheduler know the time how it should be scheduled.

sockets, TLI, streams.

and much about project.

What is deadlock? How do you avoid it?

What is a semaphore?

What exactly happens after each system call in sockets,
both at the
client and at the server.

What is the difference between widget & gadget in XWindows?

Tell about strtok & strstr functions.

=====

OK PLEASE ACCEPT THIS AND ACKNOWLEDGE THE RECEIPT
srinivas.

CV PAPER:

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There won't be any technical (about software) questions in software.

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ans. $x \leq a$

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in the word in such a way that both A's are together.

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q) How many Zulus are there? (ans 2)

who must be a Zulu? and B (check)

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2) who is the oldest and youngest

3) who is the one having equal number of younger and elders

8) There are 7 people who take a test among which M is worst. R is disqualified

N P S T Q R M (may be correct it)

and some questions will come on this

INTERGRAPH

Paper consists of two sections : 1. analytical (20 marks)
2. C skills (20 marks)total time 45
min

Analytical:

1. Given a cube, with different colors on its faces, and then is cut into 64 pieces, and the questions relate to the colors of different colored small cubes.
2. A few ladies and gents sit around table in some given order and 4 questions are about their seating arrangement with some restrictions.
3. Draw a venn diagram for 3 items : white, flowers, cloth

Ans : draw 3 circles each intersecting the other , with white kept in the middle.

4. A problem related to seating arrangement of 4 people (2 ladies and 2 gents) with some restrictions
5. problem related to milk with water added to it for three times

Ans: 20.5 litres

6. Problem related to diagrams . Five diagrams were given and asked to find the sixth one.

C-Skills:

1. Max number of nodes in a binary tree with height 3 is 20 : Ans: False
2. 10,20,30,40,50,60 : give the order when put in a queue and in a stack

Ans : Queue : 10,20,30,40,50,60
stack : 60,50,40,30,20,10

3. Debugging is the process of finding

Ans : logical and runtime errors

4. trace the error:

```
void main(){  
    int &a;  
    /* some other stuff here */  
}
```

Ans: syntax error

5. a problem with a function named 'myValue' will be given and asked to find the value of main() for an argument of 150,

Ans : 150

6. Some problems related to 'for' loops.

7. problem on conditional inclusion.

8. problem related to depth first and breadth first search (DSA subject)

9. study the syntax of malloc function

10. locate the error

```
int arr (20);
```

Ans: syntax error.