> We do not remember the questions exactly, here we just tried to cove
r
> the major areas.
>
> 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.
>
>
>
  IITD.
 05 -09-1997.

Model paper of Inetrgraph

NO.of questions 40.     Time  45minutes
out of 40 questions 20 from 'c' and 20 from analytical
ability,quantitative ability .
also 1 question ___ to draw venn diagram
   1 question__  on analogy
  1 "    _______non verbal reasoning
ALL THESE ARE NOT TOUGH .AVERAGE LEVEL.
THEY HAVE GIVEN TWO TYPES OF PAPERS.HERE I AM GIVING THE PAPER WHICH
WAS WRITTEN BY MY FRIEND.
```

1.there are 6 (p,q,r,s...)people.each one play one game
---tennis,football,hockey,cricket etc
clues given like:shortest one plays hokey
largest person plays ..tennis
P,Q ARE NEITHER LARGEST NOR SHORTEST
R PLAYS FOOTBALL
s is between t &r in height
question: who plays which game
who is taaller than whom
2.a cube has colors blue,red ,yellow each on two opposite sides.cube i
s
divided into "32 small cubes and 4 large cubes".
question:how many cubes (on 36 cubes) have blue at leat one side.
how many cubes have colors on two sides.
3.anlogy: cell: tissue::atom:?

4.aa person sold two articles for 80 /- each.with 20% profit on one article and 20% loss on another article, what is the loss / prifit he will gain on both.

5.five cities. city1 is west to city3.city4 is east to city 5._____etc
.
which is farthest on west side.

6.one question on: -=+,*=-,/=* etc
then 10/5*45=?

7.on ,C, paper is easy.mostly on pointers,3 question on structures,5 o
n
fundamentals,
8.ex:define max 10

```
main()
{int a,b;
int *p,*q;
a=10;b=19;
p=&(a+b);
q=&max;
```
} Q a)error in p=&(a+b) b)error in p=&max c)error in both d) no error

important suggestions:
1. average preparation is enough to qualify foe interview.time is enough.
2.they are particular about academic background .
3.interview is only on personal details.no question on technical subjects
4.they may change paper sets also.
5.in outside recruitment they are asking more questions on CAD.

but not in campus.
in iitd they interviewed 5students out of 21 .selected 1,waiting list 1.
6.cut off cgpa:7.5

Optimize the below 1,2,3,4 questions for time:

1)
```
int i;
if i=0 then i:=1;
if i=1 then i:=0;
```

2)
```
int i;
if i=0 then i:=1;
if i=1 then i:=0;
```
(given that i can take only two values (1,0))

3)
```
int i;
if i=0 then i:=1;
else if i=1 then i:=0;
```
(given that i can take only two values (1,0))

4)
```
int m,j,i,n;
for i:=1 to n do
m:=m+j*n
```

5) Expand the following
a) ISDN
b) CASE
c) CSMA/CD
d) OOPS
e) MIMD

6) In the following questions, answer A,B,C,D depending on when the errors are detected?
A if no error is detected
B if semantic and syntactic checking
C if during Code genration & Symbol allocation
D run time

a) Array overbound
b) Undeclared identifier
c) stack underflow
d) Accessing an illegal memory location

7) How many page faults will occur for below sequence of pages when LR
U
page replacement algorithm is used (The memory can only have 3pages):

1,2,3,4,2,1,5,2,4 (something like that)

8) If a CPU has 20 address lines but MMU does'nt use two of them.
OS occupies 20K. No virtual memory is supported. What is the
maximum memory available for a user program?

9) For a binary tree with n nodes, How many nodes are there which
has got both a parent and a child?

10) Understand the funda of incrementing a variable using
val++ and ++val . Some programs are given for error correction.

11) Learn datagram . (Computer networks)

12) Which of the following can be zero? (only one)
a) swap space
b) physical memory
c) virtual memory

13) What is a must for multitasking?
a) Process preemption
b) Paging
c) Virtual memory
d) None of the above

14) A question on call by value,
call by name,
call by reference.

```
f(x,y,z)
{
y := y+1;
z := z+x;
}
main()
{
int a,b;
a := 2
b := 2;
f(a+b,a,a);
print a;
}
```

what is the value of a printed for three different calls in main.

15) Using the following instructions and two registers , A&B.
find out A XOR B and put the result in A
PUSH <reg>
POP <reg>
NOR These instructions operates with A & B and puts the result i
n
AND A

(question basically to get XOR in terms of NOR and AND)

16) True/False questions:
1) The page size should be the power of 2.
2)

17)

```
int i=0;
int j=0;

loop:
  if(i = 0)
     i++;
  i++;
  j++;
  if(j<= 25)
    goto loop
xxx:
```

question1 : how many times is the loop entered
A few questions of that sort. some count fundaes. Easy one)

18) Who handles page faults?
a) OS
b) MMU
c) Hardware logic
d) etc etc....

19) For which of following is it not possible to write an algorithm.

a) To find out 1026th prime number
b) To write program for NP-complete problem
c) To write program which generates true Random numbers.
etc...

20) what is the essential requirement for an real-time systems

a) pre-emption
b) virtual memory
c) paging etc...