

VIRTUSA PAPER

Held on: 01-02-2003

2 Marks * 5 Questions = 10 Marks

ANALYTICAL

- 1) 1, 2, 3, 2, 5, 6, 7, 8, 3, ____ What is the next number in the series and he asked the reason also?
- 2) There are 4 coins, you have to arrange them in a 2 rows so that each row should have 3 coins each and reason for that?
- 3) Find the odd Word out?
ALPHA, DELTA, SIGMA, OMEGA
- 4) Find the odd word out?
DEAF, REST , BACK, HELD
- 5) In Chess Board, how many knights can u arrange so that no two knights will attack each other?
and He explained the problem.. using mathematical positions of the knights like $(x+1, y)$, $(x+1, y+1)$
and so on upto 8 points in which way the KNIGHT travels in the CHESS BOARD?

4 marks * 5 Questions = 20 marks

- 1) if SATURN
URANUS

PLANETS

In this Each LETTER represents a single DIGIT.

Now you have to find atleast 3 digits. no need to find all DIGITS?

- 2) 1, 2, 3, 25, 50, 75, 100 using these digits once and only once with basic operators you have make 81?
- 3) There are 11 Huge boxes, 8 large boxes, 8 small boxes. Now there is a table first someone put 11 Huge boxes on the table and in some of them he added 8 large boxes, and then he put small boxes in large boxes. Finally he has left 102 boxes empty. Now How many large boxes were kept in huge boxes and small boxes were kept in large boxes. (Just similar to this.. question... not reminded clearly... check it out....)

Ans: Key Steps:

- 4) He gave one series based on the last 3 letters of the SOLAR PLANET SYSTEM keeping tow of them blank and asked us to find them. it was very easy.

SUN, ARS, URY, ____, ..._____, UTO

Ans: RTH and one another (EARTH and some thing)

- 5) A Problem on ROPES...

There were some ropes that are of different lengths and different thickness. Each can burn in 12 minutes individually. If we are given 9 minutes as ELAPSED TIME how many ropes can be burnt in that time. (Just Similar to this.... Check out with some other friends).

Ans:

15 Marks * 1 Question = 15 Marks

WRITING SKILLS

(This is the important and may be most important

eliminate process in Virtusa)

1) Write the advantages of "all the rivers linked together in India" and gave one note that this should be published in Computer Magazine. (May be his intention is to explain the Topic using Computer Words)

10 Marks * 4 Questions = 40 Marks

PROGRAMMING

(Note: You may use language of programming to write the following codes)

1) Write a program to print all the four digit numbers whose squares must have all the even digits.

2) Write a program to print the pyramid up to the passed integer value.

```
1
2 3
4 5 6
7 8 9 10
11 12 13 ...
```

If we pass the value 13 it should print like the above (no need to print the 3 dots)

3) In a certain DATABASE we had to store the TIMESTAMP for each record. Is there any way store in an efficient way to store (Memory)? The Time stamp has the following fields. Year, Month, Date, Hour and Minutes. Discuss the design such DATASTRUCTURE.

4) Write a function which takes one string S, one character X, one more Character Y which should return the longest substring in the String S, which starts with the X and ends with Y?

15 marks * 1 Question = 15 Marks

1) For the problems like SATURN + URANUS = PLANETS (As Explained in the above) which were written in cryptography. Write a program to solve such situations. The most generalized way.

All the Best Friends.....

I have attended 4, 2 marks quesitons, and 3 four marks questions. and I have written the Topic basing on Internet. and I wrote first 3 programs and was trying to write the 4th program.

It was a little Hard for me... hope you all do well next based... on this paper.

Hi friends,

The pattern was

- 1) aptitude:- It was not multiple choice but fill in the blank along with a reasoning for your answer.
- 2) Essay Writing :-to test your communication skills.
- 3) Open-Ended Problem Solving: only one question
- 4) Programming: 4 programs-2 programs r to be written, 1 to find the bugs given in a pseudo code, 1 to find what a program does and its limitations.

32 out of approx. 500 were selected for GD.

After GD, there were 2 technical interviews followed by a Hr interview.

around 17 were selected.

I got the offer letter today. I have to join for training by Nov 17th

I thank all the group members and especially Chetana mam who have helped me during my trials. With all your help, I got this job.

ALL THE BEST for all the members who r in trials .

This paper is from IIIT, Hyderabad (October, 2003)
Few of them...

-> In how many different ways, a rectangle can be cut into 4 identical parts.

==> using the numbers 1, 2, 3, 25, 50, 75, 100 Exactly one time, give an expression which will give the answer as 383.

==> Ans: $100*3+75+(50/25)^{(2+1)}$

-> using the numbers 1, 2, 25, 50, 75, 100 Exactly one time, give an expression which will give the answer as 383.

-> volume of sphere is $(PI)*(Theta)$ Cubic-meters and Surface area is $(PI)*(Epsilon)$ Square-meters And both are 4 digit integer numbers. What is the value of radius?

-> In the figure given below, Replace '?' mark by any operator (+, -, *, /, =) and if we leave as it is, numbers are considered together and forms either 2 or 3 digit number. Generate an expression using some symbols.

```
-----
| ? | 2 | ? | 3 |
-----
| 2 |    | ? |
```

```

-----
| ? |      | 1 |
-----
| 6 | ? | 1 | ? |
-----

```

-> Analyse the Programme

```

main(){
    int x=1,y=1;
    while( (x > 0) && (y > 0) ){
        printf("%16d%16d",x,y);
        x += y;
        y += x;
    }
}

```

-> Start from a random number, generate a sequence such that if number is odd multiply it 3 and add 1. If number is even, divide the number by 2. This Sequence will always cyclic with 4, 2, 1. In this sequence, find the maximum power of 2 generated in the sequence and print only the power, not the sequence.

-> Start with a random 2 digit number, The series is generated by multiplying the number by 2 and placing the last 2 digits as the next number. Series continues until one of the element repeats.

-> write a function maxsubstring(str,alpha,theta) str is the source string and have to return maximum sub string which starts with alpha and ends with theta.

INTERVIEW

-> what will this line will do? if it is legal?

```
B -= (B < 0) * 2 * B;
```

-> what does this function do??

```

int f(int p)
{
    int i = 0, t = 1, s = 1;
    while( s <= p)
    {
        i++;
        t += 2;
        s += s;
    }
    return i;
}

```

-> explain What is divide and conquer method?

Travelling salesman problem

What is greedy method

- > How Neural Networks and A.I are related.
- > Tell me something about your self
- > Where will you see your self after 5 years
- > You awnt to shift your career to management side or be in technical side?
- > What you do in free time
- > Interests other than studies
- > How do you rate your self in 'C' Programming

Hai Friends,

I had attended Virtusa with all u r valuable Information.Thank u for all.

+++++
 Virtusa Paper:

 (Campus Recruitment)

Place

 Crescent, Vandalur.
 DATE: 9.10.2003

Pattern: (No multiple choice Qns)

4 Sections.

1.Analytical Reasoning (12 qns.)
 =====
 (we have to write reasons for the answer.)

(I don't remember exactly what they had given.I am putting it in my own words)

1) x_1 peach + y_1 plum = z_1 apple
 x_2 peach + y_2 plum = z_2 apple
 (x_1, y_1 z_2 are integer values)
 How many peaches make one apple?

2) 100,100,102,106,112,120,_____

3) which is greater ?
 Product of all Bradman's first class scores or Sum

of all test scores of Sachin.

4) U r provided with 500ml and 300ml jar(it has no markings).

a) u have to measure exactly 100ml.

b) u have to measure exactly 200ml.

5) Using four 4's u have to make 1 ... 10.

(for eg. $1 = (4/4)*(4/4)$

$2 = ?$

.

.

$10 = ?$)

6) student,canopy,thirst,... are the words given.

u have to group the words using the following words

1)Master

2)Teacher

3)Deft

etc..(i don't remember some of words)

7) U have to cut a Pizza using 7 st. lines(wit out rearranging) and u have to obtain maximum number of pieces.

(Give generalised solution..)

8) U have to cut a Cylindrical cake of diameter 32 cm and height 20 cm in to 12 equal pieces.

9) In a village there r 2 groups.

1) Knight -> always tell true

2) Knave -> always tell false

Mr.X met a man of that village(u don't which grp he belongs) and questioned "Tell me whether u r knight or knave ?"

Reply: "i cannot tell u and left that place"

Find which grp that man belongs to?

10) obtain 277 from 3,25,50,65,100.use 4 arithmetic operations only.

11) $1\#2=x$, $2\#3=y$, $4\#4=z$

$4@14=a$, $5@15=b$, $d@e=f$

(i don't remember values for x,y,z,a,b,c,d,e,f)

find $(2\#4)@5= ?$

12) (i don't remember what they had given.)
It is just example for that question,

CODE is encoded as DGBF
READ is encoded as JHNV
Fins "KOVAI"

2. Essay(General).

=====

(Topic given: India should spend money on Atom bomb
and Rocket OR for the welfare of poor.)

3. Problem solving.

=====

(Problem statement: How will u determine number of
Petrol bunks in Madras.)

4. Programming.(4 Qns)

=====

(we can use any Programming Language for coding)

a) They had given one function ,we have to find it
what it does and also problem in the fn. and how to
overcome it.

```
double what( double z, int y)
{
    double answer;

    while( y > 0 )
    {
        if( y%2 == 1)
            answer = answer * z;
        y=y/2;
        z=z*z;
    }
    return answer;
}
```

b) They had given one Pseudocode.We have to find bug
in the pseudocode.

I don't remeber the pseudocode fully.But the
function of pseudocode is
"To make a Robot to fetch a tumbler of water"

c) write a program to print all Armstrong numbers,
($abc=a^3+b^3+c^3$)
(for eg. $153=1^3+5^3+3^3$)

d) write a function witj the following conditions,

- 1)It should have one integer parameter.
- 2)If the value passed is -ve, return -1.
- 3)If the value passed is a perfect square, return
root of that number.

4) If the value passed is not a perfect square,
return that number itself.

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