The VNIT, Nagpur Ph.D. 2017 entrance test was held on 14 June 2017. The written test has been divided into two sections. 34 questions of objective type and 11 questions of subjective/ descriptive type. Some of the questions from both the sections are mentioned here.

Section A : Solve 26 questions out of 34

1. The recurrence relation is given and complexity is asked.

2. Checkpoint is used for

3. Chromatic number for any graph is \_\_\_.

4. Which of the following is not Dynamic programming problem?

5. What is the probability when two dice is rolled and sum is 10.

6. Find the baundrate?

7. Which of the following statements are correct?

8. To get LALR we reduce SLR, if SR conflict in SLR whether it is in LALR?

9. the grammar is given and we have to find grammar after removing left recession.

10. The SQL query is given and its complexity is asked.

Section B : Solve 6 questions out of 11

1. What will be the recurrence relation for quick sort in worst case

2. Find the total count of 4 digits numbers possible

p1: all digits are distinct p2: the number is even number

also find if both the conditions were used p1 , p2

3. The pre order and post order sequence o f binary tree is given. Draw the binary tree,

4. apply the Booth's multiplication algorithm step by step and find the solution for given 2's complement representation

5. what you can conclude from following set equations

A-B=B-A

A-B=A

A-(A-B)=A

6. Find the number of page fault using LRU and FCFO page replacement policy. Also tell which one is best. What happen if number of frames are increased by '1' in FCFO policy.

7. The six face dice is rolled once . if we get output 1,2 or 3 then second dice is rolled. What is the probability that sum is at least 6.

8. Write the algorithm to find v , w from S. |v-w|>|x-y| where x,y belongs to S.

9. Write SQL query to find the name employee having more than 5th maximum salary.

table emp(ename, salary)

10. Question based on cache L1 and cache L2, Hit and miss ratio and effective access time.

After written test normally 20-22 students has been shortlisted for interview.

Interview questions

1. Write a simple program using recursion: factorial,gcd, power, fibonacci and string function without using library function.

2. Write algorithm for some situation.

3. Post graduation project and area of interest.

4. Which is the longest program you have written?