



## TAKING THE TEST

### Test Introduction

The test is online (computer based) as described in our brochure, covering qualitative, quantitative, general aptitude, and very basic programming ability. The test has four sections with durations as indicated below. The candidates will not be allowed to return to a previous section after moving to a subsequent one.

Each of the four sections has a different time limit as mentioned below:

Test Name	Total Questions	Total Duration (In Minutes)
Verbal Ability	30	25
Analytical Ability	30	35
Quantitative Ability	30	30
Computing Aptitude	15	30
<b>Total Duration: 2 hrs</b>		

Each section has a minimum marks cut off that you must reach to pass this stage of the selection process.

#### *Verbal Ability Section*

Verbal Ability involves retrieval, formation, modification and processing of language. Verbal Ability is the cognitive ability to use words or use a language effectively.

Target Audience: The test-taking audience should have good proficiency in English Language.

#### *Analytical Ability*

The Analytical Ability test involves reasoning that helps in analyzing and synthesizing information, applying broad analysis to arrive at conclusions, understanding complex relationships, using systems perspectives while handling a problem or a situation.

Target Audience: The test-taking audience should have good problem solving and analytical skills.

#### *Quantitative Ability*

The Quantitative Ability tests a candidate on his/her numerical facility

Target Audience: The test-taking audience should have good mathematical knowledge.



### *Computing Aptitude*

The Computing Aptitude test assesses the candidate's fundamentals in Computer Problem Solving using Algorithms, Array, Data structures, etc.

Target Audience: The test-taking audience should have knowledge of Computers and basic Programming.

Reference: "How to solve it by computers" by R G Dromey

## **STRUCTURE OF THE TEST**

The written examination will comprise an objective test of 105 questions covering Quantitative Aptitude, Reasoning Ability, Verbal Ability and Computing Aptitude. Composite time of two hours (120 minutes) will be given to attempt all the 105 questions.

Sample Questions on each of these areas are given later in this document.

## **SAMPLE QUESTIONS**

### **Verbal Ability**

Fill in the Blanks

Q 1) We'll be in Australia for \_\_\_\_ year.

Choice 1 A

Choice 2 An

Choice 3 The

Choice 4 No article required

Q 2) She knows more \_\_\_\_\_ classical music than anyone I've ever met.

Choice 1 Of

Choice 2 About

Choice 3 From

Choice 4 With

Q 3) On the other side of the river, \_\_\_\_\_ the bridge, is the richer side of town.

Choice 1 Across

Choice 2 Along

Choice 3 Through

Choice 4 Above

Replace the word in italics with the best option



Q 4) Flowers have *conspicuous* petals so that they can attract birds for pollination.

Choice 1 Prominent

Choice 2 Beautiful

Choice 3 Colorful

Choice 4 Scented

Q 5) The tour was cancelled on account of *incessant* rain.

Choice 1 Constant

Choice 2 Heavy

Choice 3 intermittent

Choice 4 Unexpected

### Analytical Ability

Q 1) In a class of 100, 64% of the students have opted for political science and 56% of the students have opted for history. How many students have opted for both subjects?

A) 17

B) 18

C) 19

D) 20

Q 2) Out of 120 musicians in a club, five can play all three instruments - guitar, violin and flute. The number of musicians who can play both the flute and the guitar is 20. The number of musicians who can play only the guitar is 40. The number of musicians who can play both the guitar and the violin is 10 and the number of musicians who can play both the flute and the violin is 10. The number of musicians who can play the flute is 45. What is the total number of musicians who can play only the violin?

A) 25

B) 30

C) 35

D) 45

Q 3) Johnny is playing with cubical building blocks. He begins building a giant cube and finds that he needs six more blocks to complete the cube. Next, Susan starts building a cube with the same building blocks, and has 85 building blocks left after completing her cube. How many blocks were they playing with?

A) 155

B) 210

C) 270

D) 189

Directions for questions 4 – 5:

In the following questions mark:

- 1, if the question can be answered with the help of statement I alone.
- 2, if the question can be answered with the help of statement II alone.
- 3, if the question can be answered with the help of both I and II.
- 4, if none of the above options is true

Q 4) Is the volume of the cylinder a whole number?

Statement I: The height is the reciprocal of the ratio of the circumference of the base to its base diameter.

Statement II: The base diameter is not a whole number.

- A) 1
- B) 2
- C) 3
- D) 4

Q 5) Is  $X - Y$  even?

Statement I:  $X$  is even.

Statement II:  $x*y = \text{odd}$ .

- A) 1
- B) 2
- C) 3
- D) 4

## Quantitative Ability

Q 1) A theft took place 9 p.m. and the thief started running at a speed of 30 kmph. The police was informed at 11 p.m., and they started chasing the thief at a speed of 40 kmph. If the theft took place on 20 June 2005, on which day of the week will the police be able to catch the thief?

- A) Sunday
- B) Tuesday
- C) Saturday
- D) Monday

Q 2) In a manufacturing plant for wrist watches, on a certain assembly line, the rejection rate for Monday's production was 4%. The rejection rate for Tuesday's



production was 8%, and was 7% for the two days combined. What was the ratio of Tuesday's production to Monday's production?

- A) 3:1
- B) 2:1
- C) 1:3
- D) 1:2

Q 3) There were five questions in a question paper. 5% of the candidates answered all. 5% answered none. Of the rest, 25% answered only 1 and 20% answered only 4. If 24.5% of the entire group answered only 2 questions and the remaining 200 candidates answered only 3 questions, the total number of candidates was:

- A) 500
- B) 600
- C) 700
- D) 800

Q 4) Jaggu purchased 100 kites at Rs.10.30 per unit. He purchased another lot of 200 kites at Rs.10.40, a lot of 400 kites at Rs.10.50 and a further lot of 300 kites at Rs.10.80 per kite. Jaggu then observed a decrease in the price and desired to purchase as many kites at Rs.10.25 per kite as would make the average cost of his holding come down to Rs.10.50. What is the number of kites purchased by him at Rs.10.25 per kite?

- A) 100
- B) 400
- C) 200
- D) 300

Q 5) A and B start their journey from Delhi to Agra. B overtakes A at 10 a.m. and reaches Agra at 1 p.m. On his way back, he meets A at 2 p.m. When will A reach Agra?

- A) 3 p.m.
- B) 3:30 p.m.
- C) 3:50 p.m.
- D) 4 p.m.

## Computing Aptitude

### 1. Identify the correct option that has the valid iterative algorithm for generating fibonacci series

a.       int fib(int n)  
      {  
      int f[n+1];  
      f[1] = f[2] = 1;  
      for (int i = 3; i <= n; i++)  
          f[i] = f[i-1] + f[i-2];  
      return f[n];  
      }

```
}
```

- b. `int fib(int n)`
- ```
{  
int f[n-1];  
f[1] = f[2] = 1;  
for (int i = 3; i <= n; i++)  
    f[i] = f[i] + f[i-2];  
return f[n];  
}
```
- c. `int fib(int n)`
- ```
{  
int f[0];  
f[1] = f[2] = 0;  
for (int i = 2; i <= n; i++)  
    f[i] = f[i] + f[i-2];  
return f[n];  
}
```
- d. `int fib(int n)`
- ```
{  
int f[n];  
f[0] = f[1] = 2;  
for (int i = 3; i <= n-1; i++)  
    f[i] = f[i-1] + f[i-3];  
return f[n];  
}
```

## 2. Identify the pseudo code for Post Order implementation of Binary Search Trees

- a. `postorder(node)`
- ```
if node.left = null then postorder(node.left)  
if node.right ≠ null then postorder(node.right)  
print node.value
```
- b. `postorder(node)`
- ```
if node.left ≠ null then postorder(node.left)  
if node.right ≠ null then postorder(node.right)  
print node.value
```
- c. `postorder(node)`

```
if node.left = null then postorder(node.root)
print node.value
if node.right = null then postorder(node.left)
print node.value
d. postorder(node)
if node.left ≠ null then postorder(node.left)
print node.value
if node.right = null then postorder(node.right)
print node.value
```

### 3. Identify the correct pseudocode for Quicksort algorithm

- a. function quicksort(array)
- ```
var list less, greater
if length(array) ≤ 1
    return array
select and remove a pivot value pivot from array
for each x in array
    if x ≤ pivot then append x to less
    else append x to greater
return concatenate(quicksort(less), pivot, quicksort(greater))
```
- b. function quicksort(array)
- ```
var list less, greater
if length(array) > 1
```

return array

select and remove a pivot value pivot from array

for each x in array

if  $x \leq$  pivot then append x to less

else append x to greater

return concatenate(quicksort(less), quicksort(greater))

c. function quicksort(array)

var list less, greater

if length(array)  $\geq$  10

return array

select and remove a pivot value pivot from array

for each x in array

if  $x \leq$  pivot then append x to less

else append x to less

return concatenate(quicksort(less), quicksort(greater))

d. function quicksort(array)

var list less, greater

if length(array)  $<$  0

return array

select and add a pivot value pivot from array

for each x in array

if  $x \leq \text{pivot}$  then append x to greater

else append x to less

return concatenate(quicksort(greater), quicksort(less))

**4. Identify the properties a tree must possess to become a binary search tree.**

a. For all nodes y in left subtree of x,  $\text{key}[y] < \text{key}[x]$

For all nodes y in right subtree of x,  $\text{key}[y] > \text{key}[x]$

b. For all nodes y in left subtree of x,  $\text{key}[y] < \text{key}[x]$

For all nodes y in right subtree of x,  $\text{key}[y] > \text{key}[x]$

c. For all nodes y in left subtree of x,  $\text{key}[y-1] < \text{key}[x]$

For all nodes y in right subtree of x,  $\text{key}[y+1] > \text{key}[x]$

d. For all nodes x in right subtree of y,  $\text{key}[x] > \text{key}[y]$

For all nodes x in left subtree of y,  $\text{key}[x] < \text{key}[y]$

**5. Number Guessing game can be mapped to which searching technique?**



- a. Binary Search
- b. Ternary Search
- c. Adjacency matrix search
- d. Linear Search