# TCS NINJA MODEL PAPER

## SECTION 1 - VERBAL ABILITY (10 QUESTIONS, 20 MINS)

1. Identify the one which is opposite in meaning (antonym) to the question word and mark.

**BLANDISH**

A. extract
B. smack
C. scuttle
D. reprimand

2. Select most suitable synonym

**SANCTIMONIOUS**

A. reverent
B. pure
C. divine
D. priggish

3. Read each sentence to find out whether there is any error in it. The error, if any, will be in one part of the sentence. The number of that part is the answer.

**It will profit a man nothing 1 / if he was I to gain the world 2/ and lose his own soul.3/no error 4**

A. 2
B. 1
C. 3
D. 4

4. Several sentences are given below which, when properly sequenced, form a coherent paragraph. Each sentence is labelled with a letter. Choose the most logical order of sentences from among the four given choices to construct a coherent paragraph.

A. An age such as ours which resents such disturbance is unlikely to view with sympathy the aims of science.
B. From Galileo to Darwin, from Einstein to Freud, scientific theories have constantly relocated our place in the order of things.
C. No period has been more penetrated by science, not more dependent upon it, than the past half century.

D. Few things - physical, social or moral - have more disturbed our universe than has science.
E. Yet, no period has been more uneasy about it, nor felt more that the relationship with scientific knowledge is a Faustian pact.

A. CBDAE
B. DBACE
C. DACEB
D. BACED

5. A person who criticizes popular beliefs or established customs and ideas.

A. Cryptic
B. Iconoclast
C. Ideologue
D. Haberdasher

Common Content:

Today most businessmen are very worried. To begin with, they are not used to competition. In the past they sold whatever ... (1)... produced at whatever prices they chose. But ... (2) ... increasing competition, customers began to ... (3) ... and choose. Imports suddenly became ... (4) ... available and that too at cheaper ... (5) ...

6. Fill in the empty spaces that are numbered with (1)
   A. it
   B. he
   C. they
   D. we

7. Fill in the empty spaces that are numbered with (2)

A. from
B. after
C. by
D. with

8. Fill in the empty spaces that are numbered with (3)

A. want
B. pick
C. buy
D. take

9. Fill in the empty spaces that are numbered with (4)

A. hardly
B. easily
C. frequently
D. conveniently

10. Fill in the empty spaces that are numbered with (5)

A. costs
B. prices
C. dividend
D. returns

ANSWERS

1. D
2. D
3. A
4. B
5. B
6. C
7. D
8. B
9. B
10. B

## SECTION 2 - QUANTITATIVE ABILITY (20 QUESTIONS, 40 MARKS)

1. Find no of ways in which 4 persons a, b, c, d and 6 more persons can stand in a queue so that A always stand before B. B always stand before C, And C always stand before D.

    A. 6!
    B. 1006*6!
    C. 7!

D. 10046!

2. There are 10 points on a straight-line AB and 8 on another straight-line AC none of them being point A. how many triangles can be formed with these points as vertices?

   A. 816
   B. 680
   C. 720
   D. 640

3. Find the number of ways a batsman can score a double century only in terms of 4's & 6's?

   A. 15
   B. 16
   C. 17
   D. 18

4. How many positive integers less than 4300 of digits 0-4.

   A. 560
   B. 565
   C. 575
   D. 625

5. A person travels from Chennai to Pondicherry in cycle at 7.5 Kmph. Another person travels the same distance in train at a speed of 30 Kmph and reached 30 mins earlier. Find the distance.

   A. 20km
   B. 15km
   C. 5 Km
   D. 10 Km

6. A bag contains 8 white balls, and 3 blue balls. Another bag contains 7 white, and 4 blue balls. What is the probability of getting blue ball?

   a. 7/25
   b. 3/7
   c. 7/22
   d. 7/15

7. Jake can dig a well in 16 days. Paul can dig the same well in 24 days. Jake, Paul and Hari together dig the well in 8 days. Hari alone can dig the well in

   A. 32
   B. 24

C. 48
D. 96

8. On a toss of two dice, A throws a total of 5. Then the probability that he will throw another 5 before he throws 7 is

   A. 45%
   B. 50%
   C. 40%
   D. 60%

9. In 2003, there are 28 days in February and there are 365 days in the year. In 2004, there are 29 days in February and there are 366 days in the year. If the date March 11, 2003 is a Tuesday, then which one of the following would be the date March 11, 2004 be?

   A. Tuesday
   B. Thursday
   C. Wednesday
   D. Monday

10. How many 6 digits even numbers can be formed from digits 1 2 3 4 5 6 7 so that the digit should not repeat, and the second last digit is even?

    A. 320
    B. 720
    C. 6480
    D. 2160

11. There are 5 letters and 5 addressed envelopes. If the letters are put at random in the envelops, the probability that all the letters may be placed in wrongly addressed envelopes is.

    A. 44
    B. 40
    C. 119
    D. 53

12. Average marks of a, b, c is 48. When d joins average becomes 47. E has 3 more marks than d. Average marks of b, c, d, e is 48. What are the marks of a?

    A. 42
    B. 53
    C. 56
    D. 43

13. On a certain assembly line, the rejection rate for Hyundai i10s production was 4 percent, for Hyundai i20s production 8 percent and for the 2 cars combined 7 percent. What was the ratio of Hyundai's i10 production?

    A. 2/1
    B. 1/2
    C. 1/1
    D. 3/1

14. For a car there are 5 tyres including one spare tyre (4+1). All tyres are equally used. If the total distance travelled by the car is 40000km then what is the average distance travelled by each tyre?

    A. 10000
    B. 32000
    C. 8000
    D. 40000

15. In a clock the long hand is of 8cm and the short hand is of 7cm. if the clock runs for 4 days find out the total distance covered by both the hands

    A. 1824 π cm
    B. 2028π cm
    C. 1648π cm
    D. 1724π cm

16. Find no of ways in which 4 persons a, b, c, d and 6 more persons can stand in a queue so that A always stand before B. B always stand before C, And C always stand before D.

    _____

17. There are 10 points on a straight-line AB and 8 on another straight-line AC none of them being point A. how many triangles can be formed with these points as vertices?

    _____

18. Find the greatest number that will divide 148 246 and 623 leaving remainders 4 6 and 11 respectively.

_____

19. How many positive integers less than 4300 of digits 0-4.

_____

20. There are 5 letters and 5 addressed envelopes. If the letters are put at random in the envelops, the probability that all the letters may be placed in wrongly addressed envelopes is.

_____

## SOLUTION SET

1. C
2. D
3. B
4. C
5. C
6. C
7. C
8. C
9. B
10. B
11. A
12. D
13. D
14. B
15. C
16. 7!
17. 680
18. 12
19. 575
20. 44

### *EXPLANATION*

1) a, b, c, d is grouped and considered them as one and remaining as 6.

total 6+1 = 7! Ways

2) To form a triangle, we need 3 points

select 2 points from the 10 points of line AB & 1 from the 8 on AC
= (10C2) *(8C1)

select 2 points from the 8 points of line AC & 1 from the 10 on AB=
(8C2) *(10C1)
total no. of triangles = (10C2) *(8C1) + (8C2) *(10C1) = 640

4) one-digit no =4 (0 is not a positive integer)

two-digit no=4*5=20
three-digit no=4*5*5=100
four-digit no=3*5*5*5=375(the possibility for 1,2,3 will come in the first position) four-digit no=1*3*5*5(the possibility of 4is fixed in the first position and
then 0,1,2 is comes in second position) and the last digit is 4300 we include this number also
4+20+100+375+75+1=575
5) Let, time taken by ç =t

//ly, time taken by train ω =t-30
We know that.... speed=distance /time
speed of bicycle ç, 7.5=d/t.... (1)
Speed of ω, 30=d/(t-30/60) .... (2)
Sol 1&2, we get t=0.666
By sub and value in equal (1)
We d=4.999~5km

5) First, we must select a bag and then we will draw a ball.

Probability of selection of both bags is equal =1/2
Now probability of blue ball taken from first bag = (1/2) x (3/11)
and probability of blue ball taken from second bag = (1/2) x (4/11)
So, probability of blue ball = (1/2) x (3/11) + (1/2) x (4/11) = 7/22

7) 1/x = 1/8 - (1/16 + 1/24)

so, x=48
= 48 days

8) total probabilities for getting 5 = 4/36

total probabilities for getting 7 = 6/36
Total Probability = 10/36
We need only 5, hence prob of getting only 5 is (4/36)/ (10/36)
=40%

9) Every year day is increased by 1 odd day. Or in leap year it is increased by 2 odd days.

so, 11 March 2003 is Tuesday,
11 March 2004 is Thursday

10) Given 6th digit even number, so last digit 2 or 4 or 6-> 3 ways

" 5th digit should be even...so there will be 2 ways (rep. not allowed)

so, therefore we get 5*4*3*2*2*3=720 ways

11) If there is one letter and one envelope, then no way you can put it wrong(S1).

If there are 2 letters and 2 envelopes, then you can put them wrong in 1 way(S2).
If there are 3 letters and 3 envelopes, then you can put them wrong in 2 ways(S3).
If there are 4 then you can put them wrong in 9 ways(S4).
If there are 5 then you can put them wrong in 44 ways(S5).
If you observe you can find a pattern.
S3=(S1+S2) *2
S4=(S2+S3) *3
S5=(S3+S4) *4
S6=(S4+S5) *5
In general, Sn= (Sn-2 + Sn-1) *(n-1)
So, if there are 5 letters then S5=(S3+S4) *4= (2+9) *4=44

12) let the no of i10 cars be x and i20 be y

now the rejcted i10 cars are 4x/100 and i20 cars are 8y/100 and it is given that 4x/100 +8y/100 = 7(x+y)/100

so, we get y = 3x

so, the ratio is 3:1

13) let the no of i10 cars be x and i20 be y

now the rejcted i10 cars are 4x/100 and i20 cars are 8y/100 and it is given that 4x/100 +8y/100 = 7(x+y)/100
so, we get y = 3x. so, the ratio is 3:1

14) total distance travelled by the car=40000km

so total distance travelled by 4 wheels=4*40000=160000 as all tyres (4+1) are equally used

so average distance travelled by each tyre=160000/5=32000

15) Short Hand (Hour hand)

Hour hand makes a full rotation in 12 hours.
One full rotation in 12 hours =>2πr=14π cm traversed every 12 hours.
For one day (24 hours), we have 28π cm, twice that of a 12-hour period.
For 3 days, we then have 4 x 28 π=112π cm traversed.
Long Hand (Minute hand)

One full rotation in 1 hour =>$2\pi r=16\pi$ cm traversed every hour.
For one day, we have 24 x 16 $\pi=384\pi$ cm.
For 4 days, we then have 4 x $384\pi=1536\pi$ cm traversed.
Total Distance
For the total, we have $112\pi+1536\pi=1648\pi$ cm.