



Latest TCS Fresher Job Interview Paper Pattern : 24th-January-2011

Company Name : TCS

Type : Fresher

Job Interview, Question Paper

Dear Friend's, I am belong to Gaya and I will attend the TCS recruitment Process at Gaya.

1. $(1/3)$ of a number is 3 more than the $(1/6)$ of the same number?

- a) 6
- b) 16
- c) 18
- d) 21

Ans: 18

2. There are two water tanks A and B, A is much smaller than B. While water fills at the rate of 1 liter every hour in A, it gets filled up like, 10, 20, 40, 80, 160 in tank B. (At the end of first hour, B has 10 liters, second hour it has 20 liters and so on). If tank B is $1/4$ filled of the 10 hours, what is total duration of hours required to fill it completely?

- a) 12
- b) 25
- c) 05
- d) 27

Ans: 12

3. Samita was making a cube with dimensions $5*5*5$ using $1*1*1$ cubes. What is the number of cubes needed to make a hollow cube looking of the same shape? If we are painting only 2 face of each cube then how many faces will remain unpaint???

- a) 98
- b) 104
- c) 538
- d) 650

Ans: 538

Sol: $(5*5*5-3*3*3)=125-27=98$ *no of faces= $98*6=588$ -(no of sides painted)= $588-50=538$

4. Middle- earth is a fictional land inhabited by hobbits, elves, dwarves and men. The hobbits and elves are peaceful creatures that prefer slow, silent lives and appreciate nature and art. The dwarves and the men engage in physical games. The game is as follows. A tournament is one where out of the two teams that play a match, the one that loses get eliminated. The matches are played in different rounds, where in every round; half of the teams get eliminated from the tournament. If there are 8 rounds played in knock out tournament, how many matches were played?

- a) 257
- b) 256
- c) 72

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d) 255

Ans: 255

Sol: $2^n - 1 = 2^8 - 1 = 255$

5. Mr. bean having magical balls 25 pink, 10 green, 31 red, 31 yellow, 30 purple. He drenched in rain red, green, and yellow turn into white what is the maximum probability of a pair of same color ?

Ans : $31+31+2(\text{worst case probability}) = 64$

6. There is 22 friends (A1, A2, A3....A22). If A1 have to have shake with all without repeat. How many handshakes possible?

a) 6

b) 21

c) 28

d) 7

Ans: 21 since cycle will not form.

7. we are having 54 men doing hand shake in set what will be minimum required hand shakes for minimum 1 hand shake?

Ans : {1,2,3,4,5,6,.....54}

Set= { 2,5,8,.....53}

So1 set will be ans 18

8. On planet korba, a solar blast has melted the ice caps on its equator. 9 years after the ice melts, tiny planetoids called echina start growing on the rocks. Echina grows in the form of circle, and the relationship between the diameter of this circle and the age of echina is given by the formula $d = 4 \cdot \sqrt{t-9}$ for $t \geq 9$ where d represents the diameter in mm and t the number of years since the solar blast. Jagan recorded the radius of some echina at a particular spot as 7mm. How many years back did the solar blast occur?

a) 17

b) 21.25

c) 12.25

d) 14.05

9. Ferrari S.P.A is an Italian sports car manufacturer based in Maranello, Italy. Founded by Enzo Ferrari in 1928 as Scuderia Ferrari, the company sponsored drivers and manufactured race cars before moving into production of street-legal vehicles in 1947 as Ferrari S.P.A. Throughout its history, the company has been noted for its continued participation in racing, especially in Formula One where it has employed great success. Rohit once bought a Ferrari. It could go 4 times as fast as Mohan's old Mercedes. If the speed of Mohan's Mercedes is 35 km/hr and the distance traveled by the Ferrari is 490 km, find the total time taken for Rohit to drive that distance.

a) 20.72

b) 3.5

c) 238.25

d) 6.18

10. A sheet of paper has statements numbered from 1 to 70. For all values of n from 1 to 70. Statement n says 'At least n of the statements on this sheet are false.' Which statements are true and which are false?

- a) The even numbered statements are true and the odd numbered are false.
- b) The odd numbered statements are true and the even numbered are false.
- c) The first 35 statements are true and the last 35 are false.
- d) The first 35 statements are false and the last 35 are false.

Sol: when

Rule 1: exact (n-1)th will be true and other will be false

Rule2: At least (first half will be true)

Rule 3: At most (all true)

Example : exactly 40 statement 39th will be true other than it false

11. If there are 254 barrels out of them one is poisoned if a person tastes very little he will die within 14 hours so if there are mice to test and 24 hours to test, how many mice are required to find the poisoned can?

- a) 3
- b) 2
- c) 6
- d) 8

Ans : $2^n > \text{no of barrels}$

Then n=will be required mice N=8

12. Consider two tumblers, the first containing Water and next contains coffee. Suppose you take one spoon of water out of the first tumbler and pour it into the second tumbler. After moving you take one spoon of the mixture from the second tumbler and pour it back into the first tumbler . Which one of the following statement holds now?

- a) There is less coffee in the first tumbler than water in the second tumblers
- b) There is more coffee in the first tumbler than water in the second tumbler
- c) There is as much coffee in the first tumbler as there is water in the second tumbler
- d) None of the statements holds true

Ans: both will be equal

13. Given a collection of points P in the plane, a 1-set is a point in P that can be separated from the rest by a line, that is the point lies on one side of the line while the others lie on the other side. The number of 1-sets of P is denoted by $n_1(P)$. The minimum value of $n_1(P)$ over all configurations P of 5 points in the plane in general position (that is no three points in P lie on a line) is

- a)3
- b)5
- c) 2
- d)1

Ans: 5 same as given no of points

14. The citizens of planet nigiet are 8 fingered and have thus developed their decimal system in base 8. A certain street in nigiet contains 1000 (in base 8) buildings numbered 1 to 1000. How many 3s are used in numbering these buildings?

- a) 54
- b) 64
- c) 265
- d) 192

Ans: 192

Some times base value is change like: 9finger, 1 to 100(base 9)

For $1..100 = 2x$

For $1....1000 = 3*x^2$

15. Given 3 lines in the plane such that the points of intersection form a triangle with sides of length 20, 20 and 30, the number of points equidistant from all the 3 lines is

a)1

b)3

c)4

d)0

Ans: 4

16. Hare in the other. The hare starts after the tortoise has covered $1/3$ of its distance and that too leisurely. A hare and a tortoise have a race along a circle of 100 yards diameter. The tortoise goes in one direction and the. The hare and tortoise meet when the hare has covered only $1/8$ of the distance. By what factor should the hare increase its speed so as to tie the race?

a) 30.33

b)8

c) 40

d) 5

Ans: 30.33

Sol: $1/3, 1/8$

$3*8=24$

$(24-3)=21$

$(21-8)=13$

$(21*13)/3^2$

17. Here 10 programmers, type 10 lines with in 10 minutes then 60lines can type within 60 minutes. How many programmers are needed?

a) 16

b) 6

c) 10

d) 60

Solution: $(\text{men} * \text{time}) / \text{work}$

Ans: 10

This type of Q's repeated 4times for me but values are different.

18. Alok and Bhanu play the following min-max game. Given the expression $N = 9 + X + Y - Z$ Where X, Y and Z are variables representing single digits (0 to 9) Alok would like to maximize N while Bhanu would like to minimize it. Towards this end, Alok chooses a single digit number and Bhanu substitutes this for a variable of her choice (X, Y or Z). Alok then chooses the next value and Bhanu, the variable to substitute the value. Finally Alok proposes the value for the remaining variable. Assuming both play to their optimal strategies, the value of N at the end of the game would be.

a) 0

b) 27

c) 18

d) 20

The Q's concept is same but the equation of N's is changing.

19. Alice and Bob play the following coins-on-a-stack game. 20 coins are stacked one above the other. One of them is a special (gold) coin and the rest are ordinary coins. The goal is to bring the gold coin to the top by repeatedly moving the topmost coin to another position in the stack. Alice starts and the players take turns. A turn consists of moving the coin on the top to a position i below the top coin ($0 \leq i \leq 19$). We will call this an i -move (thus a 0-move implies doing nothing). The proviso is that an i -move cannot be repeated; for example once a player makes a 2-move, on subsequent turns neither player can make a 2-move. If the gold coin happens to be on top when it's a player's turn then the player wins the game. Initially, the gold coin is the third coin from the top. Then

- a) In order to win, Alice's first move should be a 1-move.
- b) In order to win, Alice's first move should be a 0-move.
- c) In order to win, Alice's first move can be a 0-move or a 1-move.
- d) Alice has no winning strategy.

Ans: d

20. For the FIFA world cup, Paul the octopus has been predicting the winner of each match with amazing success. It is rumored that in a match between 2 teams A and B, Paul picks A with the same probability as A's chances of winning. Let's assume such rumors to be true and that in a match between Ghana and Bolivia, Ghana the stronger team has a probability of $2/3$ of winning the game. What is the probability that Paul will correctly pick the winner of the Ghana-Bolivia game?

- a) $1/9$
- b) $4/9$
- c) $5/9$
- d) $2/3$

Ans: $5/9$

Q21. 36 people $\{a_1, a_2, \dots, a_{36}\}$ meet and shake hands in a circular fashion. In other words, there are totally 36 handshakes involving the pairs, $\{a_1, a_2\}$, $\{a_2, a_3\}$, ..., $\{a_{35}, a_{36}\}$, $\{a_{36}, a_1\}$. Then size of the smallest set of people such that the rest have shaken hands with at least one person in the set is

- a) 12
- b) 11
- c) 13
- d) 18

Ans: 12

22. After the typist writes 12 letters and addresses 12 envelopes, she inserts the letters randomly into the envelopes (1 letter per envelope). What is the probability that exactly 1 letter is inserted in an improper envelope?

- a) $1/12$
- b) 0
- c) $12/212$
- d) $11/12$

Ans: b

23. A sheet of paper has statements numbered from 1 to 40. For each value of n from 1 to 40, statement n says "At least n of the statements on this sheet are true." Which statements are true and which are false?

- a) The even numbered statements are true and the odd numbered are false.

- b) The first 26 statements are false and the rest are true.
- c) The first 13 statements are true and the rest are false.
- d) The odd numbered statements are true and the even numbered are false.

Ans: c

24. There are two boxes, one containing 10 red balls and the other containing 10 green balls. You are allowed to move the balls between the boxes so that when you choose a box at random and a ball at random from the chosen box, the probability of getting a red ball is maximized. This maximum probability is

- a) $1/2$
- b) $14/19$
- c) $37/38$
- d) $3/4$

Ans: $14/19$

25. A circular dartboard of radius 1 foot is at a distance of 20 feet from you. You throw a dart at it and it hits the dartboard at some point Q in the circle. What is the probability that Q is closer to the center of the circle than the periphery?

- a) 0.75
- b) 1
- c) 0.5
- d) 0.25

Ans: d

26. On planet zorba, a solar blast has melted the ice caps on its equator. 8 years after the ice melts, tiny plantoids called echina start growing on the rocks. echina grows in the form of a circle and the relationship between the diameter of this circle and the age of echina is given by the formula $d = 4 * \sqrt{t - 8}$ for $t \geq 8$ Where d represents the diameter in mm and t the number of years since the solar blast. Jagan recorded the time of some echina at a particular spot is 24 years then what is diameter?

- a) 8
- b) 16
- c) 25
- d) 21

Ans: 16

27. A sheet of paper has statements numbered from 1 to 40. For all values of n from 1 to 40, statement n says: 'Exactly n of the statements on this sheet are false.' Which statements are true and which are false?

- a) The even numbered statements are true and the odd numbered statements are false.
- b) The odd numbered statements are true and the even numbered statements are false.
- c) All the statements are false.
- d) The 39th statement is true and the rest are false.

Ans: d

28. Alok and Bhanu play the following coins in a circle game. 99 coins are arranged in a circle with each coin touching two other coin. Two of the coins are special and the rest are ordinary. Alok starts and the players take turns removing an ordinary coin of their choice from the circle and bringing the other coins closer until they again form a (smaller) circle. The goal is to bring the special coins adjacent to each other and the first player to do so wins

the game. Initially the special coins are separated by two ordinary coins O1 and O2. Which of the following is true?

- a) In order to win, Alok should remove O1 on his first turn.
- b) In order to win, Alok should remove one of the coins different from O1 and O2 on his first turn.
- c) In order to win, Alok should remove O2 on his first turn.
- d) Alok has no winning strategy.

Ans: a if the gold coin in 3rd position then mark it otherwise leave it

29. Two pipes A and B fill at A certain rate B is filled at 10, 20, 40, 80. If 1/4 of B is filled in 21 hours what time it will take to get completely filled

Ans: 23

30. One day Alice meets pal and byte in fairyland. She knows that pal lies on Mondays, Tuesdays and Wednesdays and tells the truth on the other days of the week byte, on the other hand, lies on Thursdays, Fridays and Saturdays, but tells the truth on the other days of the week. Now they make the following statements to Alice – pal. Yesterday was one of those days when I lie byte. Yesterday was one of those days when I lie too. What day is it?

- a) Thursday b) Tuesday c) Monday d) Sunday

Ans: a

31. Sudha Patel +> perfume factory

Ans : 2 more cedar

32. A toy train can make 10 sounds sound changes after every 4 minute now train is defective and can make only 2 sounds find probability that same sound is repeated 4 times consecutively (1 OUT OF)?

- a 16
- b 8
- c 12
- d 4

Ans:

$$(1/2)*(1/2)*(1/2)*(1/2)+ (1/2)*(1/2)*(1/2)*(1/2)=(1/8)$$

thus 1 out of 8 ans

33. In there is a planet Oz in which there is 36 hrs in a day & 90 minutes in a hrs and 60 seconds in 1 minute it is having same pattern as our watch. Then what will be angle between hour hand and minute hand at 9:40?

- a) 29
- b) 12
- c) 67
- d) 98

Ans :29

34. In a country x we are having diff types of coins ranging from 64...512. All coins having different integral value the difference between two coins comes out to be 50% more than the former coin. Then how many coins can be made?

Ans : 6 coins

Sol.64

$$64*1.5=96$$

$$96*1.5=144$$

$$144 * 1.5 = 216$$

$$216 * 1.5 = 324$$

$$324 * 1.5 = 486$$

Then total coin will be 6

35. There is a relation is given which is $n/P=195$ Where n- no of steps in meters P- pace length These Is a man shivam he know his pace length =185cm then what will be the speed of shivam kmph?

$$\text{Ans} = 195 * 1.85 * 1.85 * 60 / 1000 = 40.04 \text{ kmph}$$

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