

Hi,
I am Pushpendra Khangan from BIST Bhopal. Finally get selected in TCS!!!!!!!!!!!!!!!!!!!!!!

There are some questions which are important as a view of TCS. Plz get prepare of it.....

(Written Test: 35 questions 80 mins calci aloud)

1) How many four digit numbers can be formed using the digits 1, 2, 3, 4, 5 (but with repetition) that are divisible by 4?

$5^{(n-1)}$ Can you help Alok find the answer?

a) 100 b) 125 c) 75 d) 85

2) 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

$d = 4 * (t-9)$ 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 12mm. How many years back did the solar blast occur?

a) 17 b) 21.25 c) 12 d) 12.06

Ans: c

3) 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 Feraari 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 46 km/hr and the distance traveled by the Ferrari is 953 km, find the total time taken for Rohit to drive that distance.

a) 20.72 b) 5.18 c) 238.25 d) 6.18

Ans: b

4) There are two water tanks A and B, A is much smaller than B. While water fills at the rate of one litre 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 litres, second hour it has 20, and so on). If tank B is $1/32$ filled after 21 hours, what is the total duration required to fill it completely?

a) 26 hrs b) 25 hrs c) 5 hrs d) 27 hrs

Ans: a

5) There are two water tanks A and B, A is much smaller than B. While water fills at the rate of one litre 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 litres, second hour it has 20, and so on). If tank B is $1/16$ filled after 4 hours, what is the total duration required to fill it completely?

a) 8hrs b) 25 hrs c) 5 hrs d) 27 hrs

Ans: a

6) Unnecessary data. A lady has fine gloves and hats in her closet- 18 blue- 32 red, 10 white, 25 yellow, 55 purple, 30 orange. The lights are out and it is totally dark inspite of the darkness. She can make out the difference between a hat and a glove. She takes out an item out of the closet only if she is sure that if it is a glove. How many gloves must she take out to make sure she has a pair of each colour of blue, red, yellow?

a) 59 b) 8 c) 50 d) 42

Ans: a(32+25+2)

7) The IT giant Tirnop has recently crossed a head count of 150000 and earnings of \$7 billion. As one of the forerunners in the technology front, Tirnop continues to lead the way in products and services in India. At Tirnop, all programmers are equal in every respect. They receive identical salaries and also write code at the same rate. Suppose 12 such programmers take 12 minutes to write 12 lines of code in total. How long will it take 72 programmers to write 72 lines of code in total?

a) 6 b) 18 c) 72 d) 12

Ans: d ($w_1/w_2 = m_1 \cdot t_1 / m_2 \cdot T_2$)

8) The citizens of planet nigiet are 6 fingered and have thus developed their decimal system in base 6. 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) 256 b) 54 c) 192 d) 108

Ans: d

9) 12 people $\{a_1, a_2, \dots, a_{12}\}$ meet and shake hands in a circular fashion. In other words, there are totally 36 handshakes involving the pairs, $\{a_1, a_2\}, \{a_2, a_3\}, \dots, \{a_{11}, a_{12}\}, \{a_{12}, a_1\}$. 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) 4 c) 18 d) 11

Ans: B

10) Alice and Bob play the following coins-on-a-stack game. 100 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 ($0 \leq i \leq 100$). 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.

A. Alice has no winning strategy.

B. Initially, the gold coin is the third coin from the top. Then

C. In order to win, Alice's first move should be a 0-move.

D. In order to win, Alice's first move should be a 1-move.

Ans: D

11) 10 people meet and shake hands. The maximum number of handshakes possible if there is to be no "cycle" of handshakes is (A cycle of handshakes is a sequence of k people a_1, a_2, \dots, a_k ($k > 2$) such that the pairs $\{a_1, a_2\}, \{a_2, a_3\}, \dots, \{a_{k-1}, a_k\}, \{a_k, a_1\}$ shake hands).

a) 7 b) 6 c) 9 d) 8

Ans: c

12) 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) 0 b) $12/2^{12}$ c) $11/12$ d) $1/12$

Ans: a

13) 10 suspects are rounded by the police and questioned about a bank robbery. Only one of them is guilty. The suspects are made to stand in a line and each person declares that the person next to him on his right is guilty. The rightmost person is not questioned. Which of the following possibilities are true?

A. All suspects are lying

B. leftmost suspect is innocent .

C. leftmost suspect is guilty

a) A only b) A or C c) A or B d) B only

Ans: c

14) 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) 4 b) 3 c) 0 d) 1

Ans: a 3 lines are given so ans is 4 one incenter and 3 excenters. If it is 3 line segments then ans would be 1

15) Alok and Bhanu play the following min-max game. Given the expression - $N = 15 + X*(Y - Z)$

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

Ans: $15 + 18 = 33$

16) A hare and a tortoise have a race along a circle of 100 yards diameter. The tortoise goes in one direction and the hare in the other. The hare starts after the tortoise has covered $\frac{1}{5}$ of its distance and that too leisurely. The hare and tortoise meet when the hare has covered only $\frac{1}{8}$ of the distance. By what factor should the hare increase its speed so as to win the race?(for this values are changed)

a) 8 b) 5 c) 37 d) 80

Ans: c

17) A sheet of paper has statements numbered from 1 to 45. For all values of n from 1 to 45, statement n says "At most n of the statements on this sheet are false". Which statements are true and which are false?

A. The odd numbered statements are true and the even numbered are false.

B. The even numbered statements are true and the odd numbered are false.

C. All statements are true.

Ans: c

18) A hollow cube of size 5 cm is taken, with a thickness of 1 cm. It is made of smaller cubes of size 1 cm. If 1 face of the outer surface of the cube are painted, totally how many faces of the smaller cubes remain unpainted?

a) 900 b) 488 c) 563 d) 800

Ans: c

19) The IT giant Tirnop has recently crossed a head count of 150000 and earnings of \$7 billion. As one of the forerunners in the technology front, Tirnop continues to lead the way in products and services in India. At Tirnop, all programmers are equal in every respect. They receive identical salaries and also write code at the same rate. Suppose 12 such programmers take 12 minutes to write 12 lines of code in total. How many lines of code can be written by 72 programmers in 72 minutes?

a) 72 b) 432 c) 12 d) 144

Ans: b

20) The teacher is testing a student's proficiency in arithmetic and poses the following question. $\frac{1}{3}$ of a number is 3 more than $\frac{1}{6}$ of the same number. What is the number? Can you help the student find the answer?

a) 12 b) 18 c) 6 d) 21

Ans: b

Alok and Bhanu play the following min-max game. Given the expression

$$N = X - Y - Z$$

21) 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) 2 b) 4 c) 9 d) -18

Ans: a

22) Horse started to chase dog as it relieved stable two hrs ago. And horse started to ran with average speed 22km/hr, horse crossed 10 mts road and two small pounds with depth 3m, and it crossed two small street with 200 mts length. After traveling 6 hrs, 2hrs after sunset it got dog. compute the speed of dog?

Ans: As we have speed and travel time of horse, we can get distance travelled by it.

Hence $d = 22 \times 6 = 132\text{km}$,

Exactly this 132km was travelled by dog in 8 hours (as it started two hours earlier).

Hence speed of dog = $132/8 = 16.5\text{km/hr}$

Ans: 16.5km/hr.

23) A and B play a game between them. The dice consist of colors on their faces (instead of number). When the dice are thrown, A wins if both show the same color, otherwise B wins. One die has 3 red faces and 3 blue faces. How many red and blue faces should the other die have if the both players have if the both players have the same chances of winning?

a) 5 red and 1 blue faces.

b) 1 red and 5 blue faces.

c) 3 red and 3 blue faces.

Ans: c

24) In planet OZ planet there are 8 days, sunday to saturday and 8th day is Oz day.

There is 36 hours in a day. What is angle between 12.40?

- a) 80 b) 81 c) 87 d) 89

Ans: 89

Technical and managerial Round:

1. Programs on Fibanoci, Reversing a string, sorting techniques normally and by using double pointers, programs on pointers, swapping normally and by using pointers.

2. Difference between C and C++?

3. Inheritance, polymorphism?

4. Why do we use header files, how are they created?

HR-

1. About urself?

2. r u mobile?

3. Why **TCS**??