Tata Consultancy Services (TCS) is software services consulting company headquartered in Mumbai, India. TCS is the largest provider of information and business process outsourcing services in Asia. TCS has offices in 42 countries with more than 142 branches across the globe. The company is listed on the National Stock Exchange and Bombay Stock Exchange of India.

TCS is a flagship subsidiary of one of India's largest and oldest conglomerate company, the Tata Group, which has interests in areas such as energy, telecommunications, financial services, manufacturing, chemicals, engineering, materials, government and healthcare.

Founded: 1968

Headquarters: Mumbai, Maharashtra, India

Key people: Ratan Tata (Chairman)
S Ramadorai (Vice Chairman)
N Chandrasekaran (CEO & MD

Employees: 160,429 (As on 31 March 2010)

Website: www.tcs.com

India Locations:

Bangalore, Chennai, Ahmedabad, Baroda, Bhubaneswar, Coimbatore, Delhi, Gandhinagar, Goa, Gurgaon, Hyderabad , Cochin , Kolkata, Mumbai, Jamshedpur, Pune, Thiruvananthapuram.

23 Aug 2010 Paper

There was only 3 rounds:

1) Written test
2) Technical
3) HR

Written test:

It was very easy exam as compared with other company written exams. Test contains 35 questions, only from quantitative, in 60 minutes. You can get through if you prepared with previous papers. Questions which i got in exam are.

1) Two pipes A and B fill at A certain rate B is filled at 10,20,40,80,. If 1/16 of B if filled in 17 hours what time it will take to get completely filled
Ans 21

2) In a shopping mall with a staff of 5 members the average age is 45 years. After 5 years a person joined them and the average age is again 45 years. What's the age of 6th person?

3) Find (4x+2y)/ (4x-2y) if x/2y=2

4) Find average speed if a man travels at speed of 24kmph up and 36kmph down at an altitude of 200m. Formula is 2xy/(x+y)

5) Same model as 4th question. But it is on flat surface. Formula is same 2xy/(x+y).

6) Six friends go to pizza corner there are 2 types of pizzas. And six different flavors are there they have to select 2 flavors from 6 flavors. In how many ways we can select?
Ans: 6C2

7) 3, 15, x, 51, 53,159,161. Find X
Ans: 17

8) 3 friends A, B, C went for week end party to McDonald's restaurant and there they measure there weights in some order IN 7 rounds. A;B;C;AB;BC;AC;ABC. Final round measure is 155 kg then find the average weight of all the 7 rounds?
Ans: 4(155)/7=31

9) There is a toy train that can make 10 musical sounds. It makes 2 musical sounds after being defective. What is the probability that same musical sound would be produced 5 times consecutively? (1 of)?
Ans: 1/2 * 1/2 * 1/2 * 1/2 * 1/2 = 1/32

10) (There was a long story, I'll cut short it). There are 5 materials to make a perfume: Lilac, Balsamic, Lemon, and Woody and MI mosaic. To make a perfume that is in demand the following conditions are to be followed: Lilac and Balsamic go together. Woody and MI mosaic go together; Woody and Balsamic never go together. Lemon can be added with any material. (Actually they had also mentioned how much amount of one can be added with how much quantity of the other; but that's not needed for the question.) All of the following combinations are possible to make a perfume except:
1) Balsamic and Lilac
2) Woody and Lemon
3) MI mosaic and Woody
4) MI mosaic and Lilac

11) A triangle is made from a rope. The sides of the triangle are A cm, B cm and C cm (I do not remember the numerical value). What will be the area of the square made from the same rope?
Ans: ((A+B+C)/4)2

12) What is the distance of the z-intercept from the x-intercept in the equation ax+by+cz=d (I do not remember the values of a, b, c, d).
Ans: sqrt ((d/a) 2+ (d/c) 2)

13) A scientist in Antarctic region conducts research on bears came to know that bears changes according to the location .once he moves 1 mile towards north, then he moves 2 miles towards east, then 1 mile towards south. Now the color of bear he found will be in:
Ans: white

14) (1/3) of a number is 3 times more than the (1/6) of the same number?
Ans is 18

15) There are 11 boys in a family. Youngest child is a boy. What is the probability of all are boys?
a) 2 b) 2! C) 2048 d) 1024

16) A boy bought a roll A of 56 inches wide and 141 yards long. He also bought B of 77 inches wide of length 333yards. We don't want any details of B. Some irrelevant matter. Final question is Time taken for cutting A into 1 yard piece is 2 seconds. Time taken to cut into 141 pieces of 1 yard each is?
Ans is 2(141) =242

17) A Person buys a horse for 15 ponds, after one year he sells it for 20 pounds. After one year, again he buys the same horse at 30 pounds and sells it for 40 pounds. What is the profit for that person?

Ans is 15 pounds

18) John buys a cycle for 31 dollars and given a cheque of amount 35 dollars. Shop Keeper exchanged the cheque with his neighbor and gave change to John. After 2 days, it is known that cheque is bounced. Shop keeper paid the amount to his neighbor. The cost price of cycle is 19 dollars. What is the profit/loss for shop keeper?
Ans is 23(cost price + change given).

19) In a family there are some boys and girls. All boys told that they are having equal no of brothers and sisters and girls told that they are having twice the no. of brothers than sisters. How many boys and girls present in a family?
Ans is 4 boys and 3 girls

20) There are certain number of hats and gloves in a box. They are of 41 red, 23 green, 11 orange. Power gone. But a woman can differentiate between hats and gloves.How many draws are required to obtain a pair of each color.

21) There is a die with 10 faces. It is not known that fair or not. 2 captains want to toss die for batting selection. What is the possible solution among the following?
a) If no. is odd it is head, if no. is even it is tail
b) If no. is odd it is tail, if no. is even it is head
c) Toss a die until all the 10 digits appear on top face. And if first no. in the sequence is odd then consider it as tail. If it is even consider it as head.
I didn't remembered last option and I don't know answer.

22) 2 years ago of A is x times that of B. 3 Years hence the age of A is 4/3 times of B. What is the present age of B in binary form?
I didn't remember the exact values of x and y. You can solve easily.

23) metal strip of width 'x' cm. 2 metal strips are placed one over the other, then the combine length of 2 strips is 'y'. If 'z' strips are placed in that manner. What is the final width of that arrangement?
Ans is (z-1) (y-x) +x.

24) There are 100 men and 100 women on the dance floor. They want to dance with each other. Then which of the following statements is always true:
a) There are 2 men who danced with equal no. of women's
b) There are 2 women who danced with equal no. of men

25) A game is played between 2 players and one player is declared as winner. All the winners from first round are played in second round. All the winners from second round are played in third round and so on. If 8 rounds are played to declare only one player as winner, how many players are played in first round
Ans is $2^{8.}$

26) There are 3 boys A, B, C and 2 Girls D, E. D always sit right to A. Girls never sit in extreme positions and in the middle position. C always sits in the extreme positions. Who is sitting immediate right to E?
Ans is B or C

27) 49 members attended the party. In that 22 are males, 17 are females. The shake hands between males, females, male and female. Total 12 people given shake hands. How many such kinds of such shake hands are possible?
Ans is $^{12}C_2$

28) There are 1000 pillars for a temple. 3 friends Linda, Chelsey, Juli visited that temple. (Some unrelated stuff) Linda is taller than Chelsea and taller than 2 of 1000 pillars. Julia is shorter than Linda. Find the correct sentence?
a) Linda is shorter among them
b) Chelsea is taller than Julia

c) Chelsea is shorter than Julia
d) Cannot determine who is taller among Chelsea and Julia
Ans: d

29) Entry ticket to an exhibition ranges from 1p to 31p. You need to provide exact change at the counter. You have 31p coin. In how many parts will u divide 31p so that u will provide the exact change required and carry as less coins as possible?
a) 22 b) 31 c) 6 d) 32
Ans is 6

30) There are 2 friends Peter and Paul. Peter age is twice as old as Paul when peter was as old as Paul is now. Sum of the present ages of Peter and Paul is 35.What is the present age of Peter?
Ans is 20

31) A lady took out jacket and gloves, which are avialable in blue 26, yellow 30 and red 56. Power goes off, she can distinguish between gloves and jacket but not incolors. What's the possibilty their she will pick up pair of gloves of each color.

32) Two bowls are taken, one contains water and another contains tea.one spoon of water is added to second bowl and mixed well, and a spoon of mixture is taken from second bowl and added to the second bowl. Which statement will hold good for the above?
(Ans: second liquid in first bowl is smaller than the first mixture in second bowl)

33) Rearrange and categorize the word 'RAPETEKA'?
Ans: bird(parakeet)

34) A lies on mon, tues, wed and speak truths on other days, B lies on Thurs, Fri, Sat and speaks truths on other days. One day a said I lied today and B said I too lied today. What is the day?

35) One grandfather has three grandchildren, two of their age difference is 3, eldest child age is 3 times youngest child's age and

eldest child's age is two times of sum of other two children. What is the age of eldest child?
Ans: 18

Technical:

I reached there by 11:00 on 28th. After checking our documents, we were made 2 sit in a room and asked 2 wait 4 the turn. My turn came around 7 pm and within half an hour, result was declared and again my name was in the list.

Questions asked from me and my friends are:

1) Tell me abt. urself.
2) Your project in detail nd ur role in it.
3) Yourr favourite subjects in B.Tech. Be well prepare with atleast 1.
4) OSI model nd function of each layer
5) TCP/IP model
6) Classful addressing
7) What is swapping?
8) Difference b/w linux and windows?
9) What is op-amp?
10) What is IC?
11) Which sorting technique is best?
12) What is stack?
13) WAP for factorial using recursion.
14) WAP for Armstrong no.
15) Wap for reversing a string.
16) WAP for prime no.
17) WAP for even/odd no.
18) WAP for getting Fibonacci series.
19) What is REGEDIT command?
20) What is your PC's configuration?
21) How to do project planning?

22) Being an ECE student, why you want 2 join software industry?
23) What is the use of stdio.h, conio.h?
24) Different b/w scanf & gets?
25) Different b/w while nd do while?
26) Why capacitor allows ac nd not dc?

Only 250 cleard d technical.

HR:

After half an hour, I was called for HR

Me: Good evening sir.
Int: Good evening, take your seat.

Me: Thank you sir. (Interviewer is looking at my resume, which i already gave to them)
Int: Tell me about yourself.

Me: Told with confidence and smile on my face. (I think he was well satisfied with my answer).

Int: Tell me about. Your family background.
Me: Bla Bla

Int: Tell me about your hobbies?
Me: Told as cricket and internet surfing.
Then he asked some questions about cricket. So be well prepare with your hobbies

Int: Why do you want to join TCS?
Me: Told some strong points about TCS and he was impressed with my answer.

Int: I you are rejected today, then what will you do?
Me: Told

Int: Are you having any geographical constraints (are you intended to work anywhere in the world)?
Me: No sir, I am not having any geographical constraints and I'm interested to work anywhere in the world.

Int: Are you ok with TCS bond (2 years, bond break 50,000)?
Me: Yes sir.

Int: Thank you.
(It was a 10 min round. I felt very happy for that. They told me that they will send results through mail within 3 week. I thought i will be selected because i was confident about my performance)

12Dec 2010 Paper

1.A Roman was born the first day of the 35th year before Christ and died the first day of the 35th year after Christ. How many years did he live?

(a) 70 (b) 69 (c) 71 (d) 72

2. A horse starts to chase a dog that has left the stable two hours earlier. The horse runs at an average speed of 2km/hr. It crosses a 10-metre road, two small ponds 3 metres deep, and finally runs along two small streets of 200 metres long. After traveling 6 hrs, 2hrs after sunset, it catches the dog. Compute the speed of the dog in Km/hr?
(a) 20 (b) 22 (c) 16.5 (d) 18.5

3.Adam sat with his friends in the Chinnaswamy stadium at Madurai to watch the 100 metres running race organized by the Asian Athletics Association. Five rounds were run. After every round half the teams were eliminated. Finally, one team wins the game. How many teams participated in the race?

(a) 30 (b) 32 (c) 41 (d) 54

4. If an airplane starts at point R and travels 14 miles directly north to S, then 48 miles directly east to T, what is the straight-line distance (in miles) from T to R?

(a) 25 (b) 34 (c) 50 (d) 2500

5. A scientist was researching into animal behavior in his laboratory. He was very interested in studying the behavior of bears. He travelled a mile to the north and reached the north pole. There he saw a bear. He then followed the bear for an 1 hour to

the east with a speed of 2km/hr. After that he travelled south and reached his laboratory in 2 hours. What was the colour of the bear?

(a) Black (b) White (c) Red (d) Blue

6. A garrison of 3300 men has provisions for 32 days when supplied at the rate of 850 g per head. At the end of 7 days, a reinforcement arrives, and it is found that the provisions can last for 17 days more when supplied at the rate of 825 g per head. What is the strength of the reinforcement?

(a) 1700 (b) 1000 (c) 3000 (d) 2700

7. Two unemployed young men decided to start a business together. They pooled in their savings, which came to Rs. 2,000. They were both lucky, their business prospered and they were able to increase their capital by 50 per cent every three years. How much did they have in all at the end of eighteen years?

(a) Rs. 22,781.25 (b) Rs. 24,150.25 (c) Rs. 28,140.50 (d) Rs. 18,000

8. A man divides Rs.8600 among 5 sons, 4 daughters and 2 nephews. If each daughter receives four times as much as each nephew, and each son receives five times as much as each nephew, how much does each daughter receive?

(a) Rs.800 (b) Rs.600 (c) Rs.200 (d) Rs.700

9. A train starts full of passengers. At the first station, it drops one-third of the passengers and takes 280 more. At the second station, it drops one-half of the new total and takes 12 more. On arriving at the third station, it is found to have 248 passengers. Find the number of passengers in the beginning.

(a) 240 (b) 248 (c) 280 (d) 288

10. A manufacturer undertakes to supply 2000 pieces of a particular component at Rs.25 per piece. According to his estimates, even if 5% fail to pass the quality tests, then he will make a profit of 25%. However, as it turned out, 50% of the components were rejected. What is the loss to the manufacturer?
(a) Rs.12000 (b) Rs.13000 (c) Rs.14000 (d) Rs.15000

11. In Tnagar many buildings were under residential category.for buildings they number as 1 to 100. For shops, corporation numbered between 150 and 200 only prime numbers. how many time 6 will appear in building numbering?

(a) 10 (b) 20 (c) 8 (d) 19

12. 6 persons standing in queue with different age group, after two years their average age will be 43 and seventh person joined with them. hence the current average age has become 45. find the age of seventh person?

(a) 69 (b) 70 (c) 40 (d) 45

13. 3, 22 , 7, 45, 15, ? , 31

(a) 45 (b) 90 (c) 91 (d) 35

14. Which is the smallest no divides 2880 and gives a perfect square?

(a) 1 (b) 2 (c) 5 (d) 6

15. One grandfather has three grandchildren, two of their age difference is 3, eldest child age is 3 times youngest child's age and eldest child's age is two times of sum of other two children. What is the age of eldest child?

(a) 5 (8) 10 (c) 8 (d) 15

16. It is dark in my bedroom and I want to get two socks of the same color from my drawer, which contains 24 red and 24 blue socks. How many socks do I have to take from the drawer to get at least two socks of the same color?

(a) 2 (b) 3 (c) 48 (d) 25

17. 23 people are there, they are shaking hands together, how many hand shakes possible, if they are in pair of cyclic sequence.

(a) 22 (b) 23 (c) 44 (d) 46

18. There are 10 reading spots in a room. Each reading spot has a round table. Each round table has 4 chair. If different no of persons are sitting at each reading spot. And if there are 10 persons inside the room then how many reading spots donot have atleast a single reader.

(a) 5 (b) 6 (c) 7 (d) None

19. Middle – earth is a fictional land inhabited by Hobbits, Elves, dwarves and men. The Hobbits and the Elves are peaceful creatures who prefer slow, silent lives and appreciate nature and art. The dwarves and the men engage in physical games. The game is as follows . A tournol 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 a knock-out tournol how many matches were played?

(a) 257 (b) 256 (c) 72 (d) 255

20. 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

21. A man jogs at 6 mph over a certain journey and walks over the same route at 4 mph. What is his average speed for the journey?
(a) 2.4 mph (b) 4 mph (c) 4.8 mph (d) 5 mph

22. A pizza shop, there were 2 kinds of pizzas available. But now they have introduces 8 new types, a person buy two different type pizzas of new type in how many ways he can select?

(a) 24 (b) 43 (c) 56 (d) 58

23. A box of 150 packets consists of 1kg packets and 2kg packets. Total weight of box is 264kg. How many 2kg packets are there?

(a) 100 (b) 114 (c) 200 (d) 208

24. A man, a woman, and a child can do a piece of work in 6 days. Man only can do it in 24 days. Woman can do it in 16 days and in how many days child can do the same work?

(a) 8 (b) 14 (c) 16 (d) 18

25. A bus started from bus stand at 8.00a m and after 30 min staying at destination, it returned back to the bus stand. The destination is 27 miles from the bus stand. The speed of the bus 50 percent fast speed. At what time it returns to the bus stand.

(a) 11a.m (b) 12a.m (c) 10a.m (d) 10.30p.m

26. 2 oranges, 3 bananas and 4 apples cost Rs.15. 3 oranges, 2 bananas, and 1 apple costs Rs 10. What is the cost of 3 oranges, 3 bananas and 3 apples?

(a) Rs10 (b) Rs15 (c) Rs20 (d) Rs25

27. If on an item a company gives 25% discount, they earn 25% profit. If they now give 10% discount then what is the profit percentage.

(a) 40% (b) 55% (c) 35% (d) 30%

28. Two trains move in the same direction at 50 kmph and 32 kmph respectively. A man in the slower train observes the 15 seconds elapse before the faster train completely passes by him. What is the length of faster train?

(a) 100m (b) 75m (c) 120m (d) 50m

29. A man spends half of his salary on household expenses, 1/4th for rent, 1/5th for travel expenses, the man deposits the rest in a bank. If his monthly deposits in the bank amount 50, what is his monthly salary?
(a) Rs.500 (b) Rs.1500 (c) Rs.1000 (d) Rs. 900

30. It was Sunday on Jan 1, 2006. What was the day of the week Jan 1, 2010

(a) Sunday (b) Saturday (c) Friday (d) Wednesday 3

31. In how many different ways can the letters of the word 'LEADING' be arranged in such a way that the vowels always come together?

(a) 360 (b) 480 (c) 720 (d) 5040

32. The captain of a cricket team of 11 members is 26 years old and the wicket keeper is 3 years older. If the ages of these two are excluded, the average age of the remaining players is one year less than the average age of the whole team. What is the average age of the team?

(a) 23 years (b) 24 years (c) 25 years (d) None of these

33. Six bells commence tolling together and toll at intervals of 2, 4, 6, 8 10 and 12 seconds respectively. In 30 minutes, how many times do they toll together?

(a) 4 (b) 10 (c) 15 (d) 16

34. The difference of two numbers is 1365. On dividing the larger number by the smaller, we get 6 as quotient and the 15 as remainder. What is the smaller number?

(a) 240 (b) 270 (c) 295 (d) 360

35. In a flight of 600 km, an aircraft was slowed down due to bad weather. Its average speed for the trip was reduced by 200 km/hr and the time of flight increased by 30 minutes. The duration of the flight is:

(a) 1 hour (b) 2 hours (c) 3 hours (d) 4 hours

TCS Aptitude Question Paper : 2011

1. There are seventy clerks working in a company, of which 30 are females. Also, 30 clerks are married; 24 clerks are above 25 years of age; 19 married clerks are above 25 years, of which 7 are males; 12 males are above 25 years of age; and 15 males are married. How many bachelor girls are there and how many of these are above 25?

2. A man sailed off from the North Pole. After covering 2,000 miles in one direction he turned West, sailed 2,000 miles, turned North and sailed ahead another 2,000 miles till he met his friend. How far was he from the North Pole and in what direction?

3. Here is a series of comments on the ages of three persons J, R, S by themselves.

S : The difference between R's age and mine is three years.
J : R is the youngest.
R : Either I am 24 years old or J 25 or S 26.
J: All are above 24 years of age.
S: I am the eldest if and only if R is not the youngest.
R: S is elder to me.
J: I am the eldest
R: S is not 27 years old.
S: The sum of my age and J's is two more than twice R's age.
One of the three had been telling a lie throughout whereas others had spoken the truth. Determine the ages of S, J , R.

4. In a group of five people, what is the probability of finding two persons with the same month of birth?

5. A father and his son go out for a 'walk-and-run' every morning around a track formed by an equilateral triangle. The father's walking speed is 2 mph and his running speed is 5 mph. The son's walking and running speeds are twice that of his father. Both start together from one apex of the triangle, the son going clockwise and the father anti-clockwise. Initially the father runs and the son walk for a certain period of time. Thereafter, as soon as the father starts walking, the son starts running. Both complete the course in 45 minutes. For how long does the father run? Where do the two cross each other?

6. The Director of Medical Services was on his annual visit to the ENT Hospital. While going through the out patients' records he came across the following data for a particular day : " Ear consultations 45; Nose 50; Throat 70; Ear and Nose 30; Nose and Throat 20; Ear and Throat 30; Ear, Nose and Throat 10; Total patients 100." Then he came to the conclusion that the records were bogus. Was he right?

7. Amongst Ram, Sham and Gobind are a doctor, a lawyer and a police officer. They are married to Radha, Gita and Sita (not in order). Each of the wives have a profession. Gobind's wife is an artist. Ram is not married to Gita. The lawyer's wife is a teacher. Radha is married to the police officer. Sita is an expert cook. Who's who?

8. What should come next?
1, 2, 4, 10, 16, 40, 64,
Questions 9-12 are based on the following : Three adults – Roberto, Sarah and Vicky – will be traveling in a van with five children – Freddy, Hillary, Jonathan, Lupe, and Marta. The van has a driver's seat and one passenger seat in the front, and two benches behind the front seats, one beach behind the other. Each bench has room for exactly three people. Everyone must sit in a seat or on a bench, and seating is subject to the following restrictions: An adult must sit on each bench. Either Roberto or Sarah must sit in the driver's seat. Jonathan must sit immediately beside Marta.

9. Of the following, who can sit in the front passenger seat?
(a) Jonathan (b) Lupe (c) Roberto (d) Sarah (e) Vicky

10. Which of the following groups of three can sit together on a bench?
(a) Freddy, Jonathan and Marta (b) Freddy, Jonathan and Vicky
(c) Freddy, Sarah and Vicky (d) Hillary, Lupe and Sarah
(e) Lupe, Marta and Roberto

11. If Freddy sits immediately beside Vicky, which of the following cannot be true ?
a. Jonathan sits immediately beside Sarah
b. Lupe sits immediately beside Vicky
c. Hillary sits in the front passenger seat
d. Freddy sits on the same bench as Hillary
e. Hillary sits on the same bench as Roberto

12. If Sarah sits on a bench that is behind where Jonathan is sitting, which of the following must be true?
a. Hillary sits in a seat or on a bench that is in front of where Marta is sitting
b. Lupe sits in a seat or on a bench that is in front of where Freddy is sitting
c. Freddy sits on the same bench as Hillary
d. Lupe sits on the same bench as Sarah
e. Marta sits on the same bench as Vicky

13. Make six squares of the same size using twelve match-sticks. (Hint : You will need an adhesive to arrange the required figure)

14. A farmer has two rectangular fields. The larger field has twice the length and 4 times the width of the smaller field. If the smaller field has area K, then the are of the larger field is greater than the area of the smaller field by what amount?
(a) 6K (b) 8K (c) 12K (d) 7K

15. Nine equal circles are enclosed in a square whose area is 36sq units. Find the area of each circle.

16. There are 9 cards. Arrange them in a 3*3 matrix. Cards are of 4 colors. They are red, yellow, and blue, green. Conditions for arrangement: one red card must be in first row or second row. 2 green cards should be in 3rd column. Yellow cards must be in the 3 corners only. Two blue cards must be in the 2nd row. At least one green card in each row.

17. Is z less than w? z and w are real numbers.
(I) z2 = 25
(II) w = 9
To answer the question,
a) Either I or II is sufficient
b) Both I and II are sufficient but neither of them is alone sufficient
c) I & II are sufficient
d) Both are not sufficient

18. A speaks truth 70% of the time; B speaks truth 80% of the time. What is the probability that both are contradicting each other?

19. In a family 7 children don't eat spinach, 6 don't eat carrot, 5 don't eat beans, 4 don't eat spinach & carrots, 3 don't eat carrot & beans, 2 don't eat beans & spinach. One doesn't eat all 3. Find the no. of children.

20. Anna, Bena, Catherina and Diana are at their monthly business meeting. Their occupations are author, biologist, chemist and doctor, but not necessarily in that order. Diana just told the neighbour, who is a biologist that Catherine was on her way with doughnuts. Anna is sitting across from the doctor and next to the chemist. The doctor was thinking that Bena was a good name for parent's to choose, but didn't say anything. What is each person's occupation?

12 Jan 2011 Paper

1. Alok and Bhanu play the following min-max game. Given the expression N=40+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) 49
(b) 51
(c) 31
(d) 58

2. 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 14 such programmers take 14 minutes to write 14 lines of code in total. How long will in take 5 programmers to write 5 lines of code in total ?

(a) 19
(b) 5
(c) 14
(d) 70

3. 14 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 people a1, a2,…ak, k>2 such that the pairs {a1,a2}, {a2,a3},…, {a(k-1), ak}, {ak, a1} shake hands).

(a) 11
(b) 12
(c) 10
(d) 13

4. 45 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 the suspects are lying. B. The leftmost suspect is guilty. C. The rightmost suspect is guilty.

(a) A only
(b) A and C
(c) B only
(d) A and B

5. The dynamics of crowd behaviour are hard to study because usually people are not reliable witnesses of their own behaviour. Now consider 4 people standing in the queue of a supermarket. You want to predict their behaviour based on their age group. You get to know from the supermarket records that their average age 4 years ago was 43 years. After a while, another person joins the queue and the present average of all the 5 is 40 years. The present age of the last person in the queue is :

(a) 28 years
(b) 12 years
(c) 32 years
(d) 24 years

6. One day Snow-white meets Pal and Unicorn in the Fairyland. She knows the Pal lies on Mondays, Tuesdays and Wednesdays, and tells the truth on the other days of the week. Unicorn, 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 Snow-white – Pal: Yesterday was one of those days when I lie. Unicorn: Yesterday was one of those days when I lie too. What day is it?

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

7. The Barnes Foundation in Philadelphia has one of the most extra-ordinary and idiosyncratic collections in French impressionist art. Dr. Barnes who put together this collection has insisted that the paintings be hung in a particular manner specified by him at a museum designed by the French architect Paul Philippe Cret who also designed the Rodin Museum. The museum has, say, seven galleries – Eugene Boudin, Cassatt, Boudin, Forain, Gonzales, Manet and Monet. Visitors reach the main Eugene Boudin by an elevator, and they can enter and leave the exhibition only through Eugene Boudin gallery. Once inside, visitors are free to move as they choose. The following list includes all of the doorways that connect the seven galleries: There is a doorway between Eugene Boudin and Cassatt, a doorway between Eugene BoudinandBoudin, and a doorway between Eugene Boudin and Gonzales galleries. There is a doorway between Cassatt and Boudin galleries. There is

a doorway between Gonzales and Forain and a doorway between Gonzales and Manet galleries. There is a doorway between Manet and Monet galleries. Which of the following rooms CANNOT be the third gallery that any visitor enters ?

(a) Monet
(b) Boudin
(c) Forain
(d) Cassatt

8. Mr. Beans visited a magic shop and bought some magical marbles of different colours along with other magical items. While returning home whenever he saw a coloured light, he took out marbles of similar colours and counted them. So he counted the pink coloured marbles and found that he has bought 25 of them. Then he counted 14 green marbles and then 21 yellow marbles. He later counted 30 purple coloured marbles with him. But when he reached a crossing, he looked at a red light and started counting red marbles and found that he had bought 23 Red marbles. As soon as he finished counting, it started raining heavily and by the time he reached home he was drenched. After reaching home he found that the red, green and yellow marbles had magically changed colours and became white, while other marbles were unchanged. It will take 1 day to regain its colours, but he needs to give atleast one pair of marbles to his wife now. So how many white marbles must be choose and give to his wife so as to ensure that there is atleast one pair of red, yellow and green marbles?

(a) 46
(b) 35
(c) 29
(d) 48

9. A greengrocer was selling watermelon at a penny each, chickoos

at 2 for a penny and peanuts at 3 for a penny. A father spent 7p and got the same amount of each type of fruit for each of his three children, Jane, Joe and Jill. Jane is three years older than Jill and Joe is exactly half the age of Jane and Jill together. What did each child get ?

(a) 1 watermelon, 3 chickoos, 2 peanuts
(b) 1 watermelon, 1 chickoo, 1 peanus
(c) 1 watermelon, 2 chickoos, 2 peanuts
(d) 1 watermelon, 2 chickoos, 1 peanut

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

(a) 4
(b) 3
(c) 0
(d) 1

11. 33 people {a1, a2,…,a33} meet and shake hands in a circular fashion. In other words, there are totally 33 handshakes involving the pairs, {a1,a2}, {a2,a3},…,{a32, a33}, {a33, a1}. Then the size of the smallest set of people such that the rest have shaken hands with at least one person in the set is

(a) 10
(b) 11
(c) 16
(d) 12

12. Consider two vessels, the first containing on liter of water and the second containing one liter of pepsi. Suppose you take one glass of water out of the first vessel and pour it into the second vessel. After mixing you take one glass of the mixture from the second vessel and pour it back into the first vessel. Which one of the following statements holds now?

(a) None of the statements holds true.
(b) There is less Pepsi in the first vessel than water in the second vessel.
(c) There is more Pepsi in the first vessel than water in the second vessel.
(d) There is as much Pepsi in the first vessel as there is water in the second vessel.

13. Amok is attending a workshop 'How to do more with less' and today's theme is Working with fever digits. The speakers discuss how a lot of miraculous mathematics can be achieved if mankind (as well as womankind) had only worked with fever digits. The problem posed at the end of the workshop is 'How many 10 digit numbers can be formed using the digits 1, 2, 3, 4, 5 (but with repetition) that are divisible by 4?' Can you help Amok find the answer?

(a) 1953125
(b) 781250
(c) 2441407
(d) 2441406

14. 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 wining. 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 11/12 of winning the game. What is the probability that Paul with correctly pick the winner of the Ghana-Bolivia game?

(a) .92
(b) .01
(c) .85
(d) .15

15. There are two boxes, one containing 39 red balls and the other containing 26 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) .60
(b) .50
(c) .80
(d) .30

16. After the typist writes 40 letters and addresses 40 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 improver envelope?

(a) 1 – 1/40
(b) 1/40
(c) 1/401
(d) 0

17. 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 1/3 of its distance and that too leisurely. The hare and tortoise meet when the hare has covered only 1/4 of the distance. By what factor should be hare increase its speed so as the win the race?

(a) 4
(b) 3
(c) 12
(d) 5.00

18. A sheet of paper has statements numbered from 1 to 20. For each value of n from 1 to 20, statements n says 'At least n of the statements on this sheet are true.' Which statements are true and which are false?

(a) The odd numbered statements are true and the even numbered are false.
(b) The first 13 statements are false and the rest are true.
(c) The first 6 statements are true and the rest are false.
(d) The even numbered statements are true and the odd numbered are false.

19. The question is followed by two statements, A and B. Answer the question using the following instructions: Choose 1: if the question can be answered by using one of the statements alone but not by using the other statement alone. Choose 2: if the question can be answered by using either of the statements alone. Choose 3: if the question can be answered by using both statements together but not by either statement alone. Choose 4: if the question cannot be answered on the basis of the two statements. Zaheer spends 30% of his income on his children's education, 20% on recreation and 10 % on healthcare. The corresponding percentages for Sandeep are 40%, 25% and 13%. Who spends

more on children's education? A" Zaheer spends more on recreation that Sandeep B: Sandeep spends more on healthcare than Zaheer.

(a) 3
(b) 2
(c) 1
(d) 4

20. Subha Patel is an olfactory scientist working for International Flavors and Fragrances. She specializes in finding new scents recorded and reconstituted from nature thanks to Living Flower Technology. She has extracted fragrance ingredients from different flowering plants into bottles labeled herbal, sweet, honey, anisic and rose. She has learned that a formula for a perfume is acceptable if and only if it does not violate any of the rules listed: If the perfume contains herbal, it must also contain honey and there must be twice as much honey as herbal. If the perfume contains sweet, it must also contain anisic, and the amount of anisic must equal the amount of sweet. honey cannot be used in combination with anisic. anisic cannot be used in combination with rose. If the perfume contains rose, the amount of rose must be greater than the total amount of the other essence or essences used. Which of the following could be added to an unacceptable perfume consisting of two parts honey and one part rose to make it acceptable?
(a) Two parts rose
(b) One part herbal
(c) Two parts honey
(d) One part sweet

21. The citizens of planet Oz are 6 fingered and thus have developed a number system in base 6. A certain street in Oz contains 1000 buildings numbered from 1 to 1000. How many 3's are used in numbering these buildings? Express your answer in base 10.

(a) 144
(b) 54
(c) 108
(d) 36

22. Recent reports have suggested that sportsmen with decreased metabolic rates perform better in certain sports. After reading one such report, Jordan, a sportsperson from Arlington decides to undergo a rigorous physical training program for 3 months, where he performs Yoga for 3 hours, walks for 2 hours and swims for 1 hour each day. He says: I began my training on a Wednesday in a prime number month of 2008. I lost 1% of my original weight within the first 30 days. In the next two months combined, I lost 1 Kg. If he walks at 5 mph over a certain journey and walks back over the same route at 7 mph at an altitude of 200 meters, what is his average speed for the journey?

(a) 5.83
(b) 2.92
(c) 6.00
(d) 35.00

23. A schoolyard contains only bicycles and 4 wheeled wagons. On Tuesday, the total number of wheels in the schoolyard was 134. What could be possible number of bicycles?

(a) 16
(b) 15
(c) 18
(d) 14

24. A sheet of paper has statements numbered from 1 to 20. For

all values of n from 1 to 20, 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) All the statements are false.
(c) The odd numbered statements are true and the even numbered statements are false.
(d) The second last statement is true and the rest are false.

25. 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 1/8 filled after 5 hours, what is the total duration required to fill it completely?

(a) 9 hours
(b) 7 hours
(c) 3 hours
(d) 8 hours

26. 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 4 faces of the outer surface of the cube are painted, totally how many faces of the smaller cubes remain unpainted?

(a) 900
(b) 488
(c) 500
(d) 800

27. 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 (for some I between 0 and 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. 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) Alice has no winning strategy.
(d) In order to win, Alice's first move can be a 0-move or a 1-move.

28. The teacher is testing a student's proficiency in arithmetic and poses the following question: 1/2 of a number is 3 more than 1/6 of the same number. What is the number?
Can you help the student find the answer?

(a) 9
(b) 8
(c) 10
(d) 3

29. A circular dashboard of radius 1.0 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) 1.00
(b) .75
(c) .25
(d) .50

30. A result of global warming is that the ice of some glaciers is melting. 13 years after the ice disappears, tiny plants, called lichens, start to grow on the rocks. Each lichen grows approximately in the shape of a circle. The relationship between the diameter of this circle and the age of the lichen can be approximated with the formula: d=10*(t – 13) for t > 13, where d represents the diameter of the lichen in millimeters, and t represents the number of years after the ice has disappeared. Using the above formula, calculate the diameter of the lichen, 45 years after the ice has disappeared.

(a) 450
(b) 437
(c) 13
(d) 320

31. 25 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 people a1, a2, …,ak, k>2 such that pairs {a1, a2}, {a2, a3}, …, {a(k-1), ak}, {al, a1} shake hands).

(a) 24
(b) 22
(c) 21
(d) 23

32. Consider two cans, the first containing one litre of water and

the second containing one litre of Pepsi. Suppose you take one cup of water out of the first can and pour it into the second can. After mixing you take one cup of the mixture from the second can and pour it back into the first can. Which one of the following statements holds now?

(a) There is less Pepsi in the first can than water in the second can.
(b) There is more Pepsi in the first can than water in the second can.
(c) None of the statements holds true.
(d) There is as much Pepsi in the first can as there is water in the second can.

33. A greengrocer was selling orange at a penny each, olives at 2 for a penny and grapes at 3 for a penny. A father spent 7p and got the same amount of each type of fruit for each of his three children, Jane, Joe, and Jill. Jane is three years older than Jill and Joe is exactly half the age of Jane and Jill together. What did each child get?

(a)1 orange, 2 olives, 2 grapes
(b) 1 orange, 3 olives, 2 grapes
(c) 1 orange, 1 olive, 1 grape
(d) 1 orange, 2 olives, 1 grape

34. A sheet of paper has statements numbered from 1 to 20. For each value of n from 1 to 20, 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 13 statements are false and the rest are true.

(c) The fist 6 statements are true and the rest are false.
(d) The odd numbered statements are true and the even numbered are false.

35. 45 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 the suspects are lying. B. The leftmost suspect is guilty. C. The rightmost suspect is guilty.

(a) A and C
(b) A and B
(c) A only
(d) B only

36. Ferrari S.P.A. is an Italian sports car manufacturer base in Maranello , Italy. Founded by Enzo Ferrari in 1928 as Scuderia Ferrari, the company sponsored driver and manufactured race cars before moving into production of street – legal vehicles in 1947 as Ferrari S.p.A. sThroughout its history, the company has bee noted for its continued participation in racing, especially in Formula One, where it has enjoyed great success. Rohit once brought a Ferrari. It could go 2 times as fast as Mohit's old Mercedes. If the speed of Mohit's Mercedes is 40 Km/hr and the distance traveled by the Ferrari is 913 Km, find the total time taken for Rohit to drive the distance.

(a) 12 Hours
(b) 22 Hours
(c) 456 Hours
(d) 11.41 Hours

37. The teacher is testing a student's proficiency in arithmetic and poses the following question: 1/3 of a number is 6 more than 1/6 of the same number. What is the number?
Can you help the student find the answer?

(a) 35
(b) 6
(c) 37
(d) 36

38. Recent report have suggested that sportsmen with decreased metabolic rates perform better in certain sports. After reading one such report, Jordon, a sportsperson from Arlington decides to undergo a rigorous physical training program for 3 months, where he performs Yoga for 3 hours, walks for 2 hours and swims for 1 hour each day. He says: I began my training on a Wednesday in a prime number month of 2008. I lost 1% of my original weight within the first 30 days. In the next two months combined, I lost 1 Kg. If he walks at 5 mph over a certain journey and walks back the same route at 8 mph at an altitude of 200 meters, what is his average speed for the journey?

(a) 6.15
(b) 3.08
(c) 6.50
(d) 26.67

39. The result of global warming is the ice of some glaciers is melting. 19 years after the ice disappears, tiny planets, called lichens, start to grow on the rock. Each lichen grows approximately in the shape of a circle. The relationship between the diameter of the circle and the age of the lichen can be approximated with the formula: d =12* (t-19) for t>19, where d represents the diameter

of the lichen in millimeters, and t represents the number of years after the ice has disappeared. Using the above formula, calculate the diameter of the lichen, 32 years after the ice has disappeared.

(a) 384
(b) 156
(c) 19
(d) 365

40. There are two boxes, one contains 12 red balls and the other containing 47 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) .59
(b) .20
(c) .10
(d) .50

41. The citizens of planet Oz are fingered and thus have developed a number system in base 6. A certain street in Oz contains 1000 buildings numbered from 1 to 1000. How many 2's are used in numbering these buildings? Express your answer in base 10.

(a) 144
(b) 24
(c) 108
(d) 36

42. The question is followed by two statements, A and B. Answer the question using the following instructions: Choose1: if the question can be answered by using one of the statements alone but not by using the other statement alone. Choose2: if the question

can be answered by using either of the statements alone. Choose3: if the question can be answered by using both statements together but not by either statement alone. Choose4: if the question cannot be answered on the basis of the two statements. Zayed spends 30% of his income on his children's education, 20% on recreation and 10% on healthcare. The corresponding percentage for Sandeep are 40%, 25% and 13%. Who spends more on children's education? A: Zayed spends more on recreation than Sandeep B: Sandeep spends more on healthcare than Zayed.

(a) 4
(b) 3
(c) 2
(d) 1

43. The question is followed by two statements, A and B. Answer the question using the following instructions: Choose1: if the question can be answered by using one of the statements alone but not by using the other statement alone. Choose2: if the question can be answered by using either of the statements alone. Choose3: if the question can be answered by using both statements together but not by either statement alone. Choose4: if the question cannot be answered on the basis of two statements. Tarun is standing 2 steps to the left of a green mark and 3 steps to the right of a black mark. He tosses a coin. If it comes up heads, he moved one step to the right, otherwise he moves one step to the left. He keeps doing this until he reaches one of the two marks, and then he stops. At which mark does he stops? A: he stops at 21 coin tosses. B: he obtains three more tails than heads.

(a) 1
(b) 3
(c) 4
(d) 2

44. There are two water tank A and B, A is much smaller than B. While water fills at rate of one liter every hour in A, it gets filled up like 10, 20, 40, 80, 16..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 1/8 filled after 7 hours, what is the total duration required to fill it completely?

(a)10 hours
(b) 9 hours
(c) 11 hours
(d) 3 hours

45. A sheet of paper has statements numbered from 1 to 10. For all values of n from 1 to 10, 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 second last statement is true and the rest are false.
(c) The odd numbered statements are true and the even numbered statements are false.
(d) All the statements are false.

46. Alok is attending a workshop 'How to do more with less' and today's theme is working with fewer digits. The speakers discuss how a lot of miraculous mathematics can be achieved if mankind (as we as womankind) had only worked with fewer digits. The problem posed at the end of the workshop is 'How many 6 digit numbers can be formed using the digits 1,2,3,4,5, (but with repetition) that are divisible by 4?' Can you help Alok find the answer?
(a) 3906
(b) 3907

(c) 3125
(d) 1250

47. The dynamics of crowd behavior are hard to study because usually people are not reliable witness of their own behaviour. Now consider 4 people standing in the queue of a supermarket. You want to predict their behaviour based on their age group. You get to know fro the supermarket records that their average age 3 years ago was 48 years. After a while, another person joins the queue and the present average of all the 5 is 46 years. The present age of the last person in the queue is:

(a) 38 years
(b) 35 years
(c) 41 years
(d) 26 years

48. 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 of the 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 (for some I between 0 and 100). We will call this as 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 happen to be on the 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) Alice has no winning strategy.
(c) In order to win, Alice's first move can be a 0-moveor a 1-move.

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

49. 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 16 hours, what is total duration required to fill it completely?

(a) 19 hours
(b) 20 hours
(c) 4 hours
(d) 21 hours

50. Consider two tumblers, the first containing one litre of milk ad the second containing one litre of coffee. Suppose you take one glass of milt out of the first tumbler and pour it into the second tumbler. After mixing you take one glass of the mixture from the second tumbler and pour it back into the first tumbler. Which one of the following statements holds now?

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

51. A circular dashboard of radius 2.0 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) .75
(b) 1.00
(c) .25
(d) .50

52. A sheet of paper has statements numbered from 1 to 10. For all values of n from 1 to 10, statement n says: 'Exactly n of the statements on this sheet are false.' Which statements are true and which are false?

(a) All the statements are false.
(b) The second last statement is true and the rest are false.
(c) The even numbered statements are true and the odd numbered statements are false.
(d) The odd numbered statements are true and the even numbered statements are false.

53. Consider two vessels, the first containing one litre of oil and the second containing one litre of coffee. Suppose you take one spoon of oil out of the first vessel and pour it into the second vessel. After mixing you take one spoon of mixture from the second vessel and pour it back into the first vessel. Which one of the following statements holds now?

(a) None of the statements holds true.
(b) There is less coffee in the first vessel than oil in the second vessel.
(c) There is more coffee in the first vessel than oil in the second vessel.
(d) There is as much coffee in the first vessel as there is oil in the second vessel.

54. 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 19 hours, what is total duration required to fill it completely?

(a) 5 hours
(b) 23 hours
(c) 24 hours
(d) 25 hours

55. The question is followed by two statements, A and B. Answer the question using the following instructions: Choose1: if the question can be answered by using one of the statements alone but not by using the other statement alone. Choose2: if the question can be answered by using either of the statements alone. Choose3: if the question can be answered by using both statements together but not by either statement alone. Choose4: if the question cannot be answered on the basis of two statements. Zayed spends 30% of his income on his children's education, 20% on recreation and 10% on healthcare. The corresponding percentage for Sandeep are 40%, 25% and 13%. Who spends more on children's education? A: Zayed spends more on recreation than Sandeep B: Sandeep spends more on healthcare than Zayed.
(a) 1
(b) 3
(c) 4
(d) 2

56. The question is followed by two statements, A and B. Answer the question using the following instructions: Choose1: if the question can be answered by using one of the statements alone but not by using the other statement alone. Choose2: if the question can be answered by using either of the statements alone. Choose3: if the question can be answered by using both statements together

but not by either statement alone. Choose4: if the question cannot be answered on the basis of two statements. Tarak is standing 2 steps to the left of a yellow mark and 3 steps to the right of a grey mark. He tosses a coin. If it comes up heads, he moves one step to the right, otherwise he moves one step to the left. He keeps doing this until he reaches one of the two marks, and then he stops. At which mark does he stops? A: he stops at 21 coin tosses. B: he obtains three more tails than heads.

(a) 2
(b) 3
(c) 4
(d) 1

57. A sheet of paper has statements numbered from 1 to 10. For all values of n from 1 to 10, 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 second last statement is true and the rest are false.
(c) The odd numbered statements are true and the even numbered statements are false.
(d) All the statements are false.

58. There are two boxes, one contains 47 red balls and the other containing 46 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).75
(b) .50
(c) .25
(d) .51

59. Consider two vessels, the first containing one liter of ink and the second containing one liter of cola. Suppose you take one glass of ink out of the first vessel and pour it into the second vessel. After mixing you take one glass of mixture from the second vessel and pour it back into the first vessel. Which one of the following statements holds now?

(a) There is as much cola in the first vessel as there is ink in the second vessel.

(b) None of the statements holds true.

(c) There is more cola in the first vessel than ink in the second vessel.

(d) There is less cola in the first vessel than ink in the second vessel.

TCS Fresher, 13 January 2011

1. Aptitude Test
2. Personal Interview

Written Test:

1) 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 X and Y, X the stronger team has a probability of 4/5 of winning the game. What is the probability that Paul will correctly pick the winner of the X-Y game?

Ans: ((4/5)^2+(1-1/5)^2)

2) A circular dart board 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 X in the circle. What is the probability that X is closer to the center of the circle than the periphery?

Ans: pi(r/2)^2/pi(r)^2=.25

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

Ans: here ans will be 4 because in question it is given as 3 lines. But in case of 3line segment ans will b 1.

4)36people {a1, a2, ..., a36} meet and shake hands in a circular fashion. In other words, there are totally 36 handshakes involving the pairs, {a1, a2}, {a2, a3}, ... , {a35, a36}, {a36, a1}. Find the size of the smallest set of people such that the rest have shaken hands with at least one person in the set.

Ans: (2,5,8,11,14,,17,20,23, 26,29,32,35) so there are 12 handshake possible or simply N/3=36/3=12.

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

Ans:0.

5) A sheet of paper has statements numbered from 1 to 35. For all values of n from 1 to 35, statement n says "At most n of the statements on this sheet are false". Which statements are true and which are false

Ans: this type f question very important in my set it comes 4 times. The simple solution is that
for-Exactly -the (n-1) statement s true and left r false
At least-the first half statements r true & rest r false
Almost-all the statements r true.

6) 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; i.e. 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 n1(P). Find the maximum value of n1(P) over all configurations P of 10 points in the plane.
Ans: 10

7) A and B play the following min-max game. Given the expression
N = 12 + X*(Y - Z)
where X, Y and Z are variables representing single digits (0 to 9), "A" would like to maximize N while "B" would like to minimize it. Towards this end, "A" chooses a single digit number and "B" substitutes this for a variable of her choice (X, Y or Z). "A" then chooses the next value and "B", the variable to substitute the value. Finally "A" 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: here also a rule s there.
For X-Y-Z=2,
X+Y-Z=11,
X*(Y-Z)=18
X*(Y+Z)=18,
in my set these type f question repeat 2times.

8) 1/3 of a number is 6 more than 1/6 of the same number. What is the number?
Ans: 36

9) Two pipes A and B fill at A certain rate B is filled at 10,20,40 ,80,. If 1/16 of B if filled in 17 hours what time it will take to get completely filled.

Ans: For data structure type f question simply find 16 prime factor how many 2s r coming count dn add it wth givn 17 hr.so here ans s 21.

10) On planet Corba, 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 echini is given by the formula

d = 4 * (t - 8) for t â‰¥ 8

where d represents the diameter in mm and t the number of years since the solar blast.

If you record the radius of some echina at a particular spot as 8mm. How many years back did the solar blast occur?

Ans: Put the value f d=2*8=16.

11) 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 = i = 20). 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 coinis the third coin from the top

Ans: for winning player should move 1 at first.

12) There are certain number of hats and gloves in a box. They are of 41 red, 23 green, 11 orange. Power gone. But a woman can differentiate between hats and gloves.How many draws are required to obtain a pair of each color.

Ans: For data structure question simply add larger one+middle1+2

14) 20 people meet and shake hands. The maximum number of hand shakes possible if there is to be no `cycle' of handshakes is(a cycle of handshake is a sequence of people a1,a2, …..ak)such that people(a1,a2),(a2,a3)…..(a(k- 1),ak),(a2,a1) shake hand is
Ans: for cyclic d formula s (n-1) for non-cyclic d formula s nc2. here it s cyclic.

16) 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 ans 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?
Ans: Here lso has simple solution if question ask to find no. f mint & no. of programmer ans will be first 1 i.e here it will be 12. And if question asked to find no. of line formula will be-12*72* 72/(12*12)

I get data Structure type of question 3 times.
At last i want to suggest please visit all the TCS aptitude question website and also placement puzzle, math's.
In our college cut off was 33 and i attempt34 and all was right.

2) Personal Interview Round

1) Tell me about yourself
2)As i was electrical engineering student so HR asked some basic thing from core subject like. In tower HW d light is controlled and earthing.
3) From data structure he asked bubble sorting, Fibonacci program to write, what s http. How many protocols r there.
4) Now he asked some HR type question like as u r coming 4m where, why do u want to shift your career from core to software.
5) Asked me about my project.
6)Weakest and strength point
7)Asked if in a office if u r appointed where every1 knows Hindi but u don't known Hindi hw will u communicate with them
8)And so more i forget some of them .my interview was for 1/2 hr.