

PART 1

1). A beggar collects cigarette stubs and makes one full cigarette with every 7 stubs. Once he gets 49 stubs. How many cigarettes can he smoke totally.

Ans. 8

2). A soldier loses his way in a thick jungle at random walks from his camp but mathematically in an interesting fashion. First he walks one mile east then half mile to north. Then $1/4$ mile to west, then $1/8$ mile to south and so on making a loop. Finally how far he is from his camp and in which direction.

ans: in north and south directions

$$1/2 - 1/8 + 1/32 - 1/128 + 1/512 - \text{and so on}$$

$$= 1/2 / (1 - (-1/4))$$

similarly in east and west directions

$$1 - 1/4 + 1/16 - 1/64 + 1/256 - \text{and so on}$$

$$= 1 / (1 - (-1/4))$$

add both the answers

3). how 1000000000 can be written as a product of two factors neither of them containing zeros

Ans $2^9 \times 5^9$ (check the answer)

4). Conversation between two mathematicians:

first : I have three children. The product of their ages is 36

. If you sum their ages . it is exactly same as my neighbour's door number on my left. The second mathematician verifies the door number and says that the not sufficient . Then the first says " o.k one more clue is that my youngest is the youngest"

Immediately the second mathematician answers . Can you answer the question asked by the first mathematician?

What are the children's ages? ans 2 and 3 and 6

5). Light glows for every 13 seconds . How many times did it between 1:57:58 and 3:20:47 am

ans : $383 + 1 = 384$

6). 500 men are arranged in an array of 10 rows and 50 columns . ALL tallest among each row are asked to fall out . And the shortest among THEM is A. Similarly after resuming that to their original positions that the shortest among each column are asked to fall out. And the longest among them is B . Now who is taller among A and B ?

ans A

7). A person spending out $\frac{1}{3}$ for cloths , $\frac{1}{5}$ of the remaining for food and $\frac{1}{4}$ of the remaining for travels is left with Rs 100/- . How he had in the beginning ?

ans RS 250/-

8). there are six boxes containing 5 , 7 , 14 , 16 , 18 , 29 balls of either red or blue in colour. Some boxes contain only red balls and others contain only blue . One sales man sold one box out of them and then he says " I have the same number of red balls left out as that of blue ". Which box is the one he sold out ?

Ans : total no of balls = 89 and $(89-29) / 2 = 60 / 2 = 30$

and also $14 + 16 = 5 + 7 + 18 = 30$

9). A chain is broken into three pieces of equal lengths containing 3 links each. It is taken to a blacksmith to join into a single continuous one . How many links are to be opened to make it ?

Ans : 2.

10). Grass in lawn grows equally thick and in a uniform rate. It takes 24 days for 70 cows and 60 for 30 cows . How many cows can

eat away the same in 96 days.?

Ans : 18 or 19

11). There is a certain four digit number whose fourth digit is twice the first digit.

Third digit is three more than second digit.

Sum of the first and fourth digits twice the third number.

What was that number ?

Ans : 2034 and 4368

If you qualify in the first part then you have to appear for the second i.e the following part.

Part 2.

1. From a vessel on the first day, $\frac{1}{3}$ rd of the liquid evaporates. On the second day $\frac{3}{4}$ th of the remaining liquid evaporates. what fraction of the volume is present at the end of the II day.

2. an orange glass has orange juice. and white glass has apple juice. Both equal volume 50ml of the orange juice is taken and poured into the apple juice. 50ml from the white glass is poured into the orange glass. Of the two quantities, the amount of apple juice in the orange glass and the amount of orange juice in the white glass, which one is greater and by how much?

3. there is a 4 inch cube painted on all sides. this is cut into no of 1 inch cubes. what is the no of cubes which have no pointed sides.

4. sam and mala have a conversation. sam says i am certainly not over 40. mala says i am 38 and you are atleast 5 years older than me. Now sam says you are atleast 39. all the statements by the two are false. How old are they really.

5. ram singh goes to his office in the city, every day from his suburbun house. his driver mangaram drops him at the railway station in the morning and picks him up in the evening. Every evening ram singh reaches the station at 5 o'clock. mangaram also reaches at the same time. one day ramsingh started early from his office and came to the station at 4 o'clock. not wanting to wait for the car he starts walking home. Mangaram starts at normal time, picks him up on the way and takes him back house, half an hour early. how much time did ram singh walk.

6. in a railway station, there are tow trains going. One in the harbour line and one in the main line, each having a frequency of 10 minutes. the main line service starts at 5 o'clock. the harbour line starts at 5.02a.m. a man goes to the station every day to catch the first train. what is the probability of man catchinhg the first train

7. some people went for vaction. unfortunately it rained for 13 days when they were there. but whenever it rained in the morning, they had clean afternood and vice versa. In all they enjoyed 11 morning and 12 afternoons. how many days did they stay there totally

8. exalator problem repeat

9. a survey was taken among 100 people to firn their preference of watching t.v. programmes. there are 3 channels. given no of people who watch

at least channel 1

" " 2

" " 3

no channels at all

atleast channels 1and 3

" " 1 and 2

" " 2 and 3

find the no of people who watched all three.

10. albert and fernandes they have two leg swimming race. both start from opposite end of the pool. On the first leg, the boys pass each other at 18 mt from the deep end of the pool. during the II leg they pass at 10 mt from the shallow end of the pool. Both go at const speed. but one of them is faster. each boy rests for 4 sec to see at the end of the i leg. what is the length of the pool.

11. T H I S Each alphabet stands for one I S digit, what is the maximum value T

----- can take

X F X X

X X U X

X X N X X

1. an escalator is descending at constant speed. A walks down and takes 50 steps to reach the bottom. B runs down and takes 90 steps in the same time as A takes 10 steps. how many steps are visible when the escalator is not operating.

2. evvery day a cyclist meets a train at a particular crossing. the road is straight before the crossing and both are travelling in the same direction. cyclist travels with a speed of 10 Kmph. One day the cyclist comes late by 25 min. and meets the train 5km before the crossing. what is the seppd of the train.

3. five persons muckerjee, misra, iyer, patil and sharma, all

take then first or middle names in the full names. There are 4 persons having I or middle name of kumar, 3 persons with mohan, 2 persons withdev and 1 anil.

--Either mukherjee and patil have a I or middle name of dev or misra and iyer have their I or middle name of dev

--of mukherkjee and misre, either both of them have a first or middle name of mohan or neither have a first or middle name of mohan

--either iyer of sharma has a I or middle name of kumar hut not both.

who has the I or middle name of anil

4. reading conprehension

5. a bird keeper has got Ppigeon, M mynas and S sparrows. the keeper goes for lunch leaving his assistant to watch the birds.

a. suppose $p=10$, $m=5$, $s=8$ when the bird keeper comes back, the assistant informs the x birds have escaped. the bird keeper exclaims oh no! all my sparrows are gone. how many birds flew away.

b. when the bird keeper come back, the assistand told him that x birds have escaped. the keeper realised that atleast2 sparrows have escaped. what is minimum no of birds that can escape.

6. select from the five alternatives A,B,C,D,E

AT THE end of each question ,two conditions will be given.

the choices are to filled at follows.

- a. if a definete conclusion can be drawn from condition 1
- b. if a definete conclusion can be drawn from condition 2
- c. if a definete conclusion can be drawn from condition 1 and 2
- d. if a definete conclusion can be drawn from condition 1 or 2
- e. no conclusion can be drawn using both conditions

1. person 1 says $N < 5$

person says $n > 5$

person 3 says $3N > 20$

person 4 says $3n > 10$

person 5 says $N < 8$

what IS value of N

a) 1. no of persons who speak false being less than no of persons

who tells the truth.

2. person 2 is telling the truth.

b) 1. no of persons telling the truth is greater than no of

persons telling lies

2. person 5 is telling the truth.

7. there are N coins on a table. there are two players A & B.

you can take 1 or 2 coins at a time. the person who takes the

last coin is the loser. A always starts first

--1. if $N = 7$

a) A can always win by taking two coins in his first chance

b) B can win only if A takes two coins in his first chance.

c) B can always win by proper play

d) none of the above

--2. A can win by proper play if N is equal to

a) 13 b) 37 c) 22 d) 34 e) 48 ans. e.

--3. B can win by proper play if N is equal to

a) 25 b) 26 c) 32 d) 41 e) none

--4. if $N < 4$, can A win by proper play always

8. Two turns have certain peculiar characteristics. One of them

always lies on Monday, Wednesday, Friday. The other always lies

on Tuesdays, Thursdays and Saturdays. On the other days they tell

the truth. You are given a conversation.

person A-- today is sunday my name is anil

person B-- today is tuesday, my name is bill

answers for selected questions

2. equal 1. 150

3. 8 2. 60 kmph

4. 37(M), 41(S) 3. Mukherjee

5. 45 min. 8. today is tuesday

6. 0.8

7. 18

11. T max value = 4

3. Anil kumar Mukherjee

Kumar Misra dev

Mohan iyer dev

kumar patil mohan

mohan sharma kumar