

⑤ George, Paul and Harry take 8, 10, 12 days resp. to complete the work. They start together at 9 am

③ Thomas takes 7 days to complete the work and Raj takes 9 days to complete the work. What is the time taken by Thomas and Raj to complete the work together.

sol

Solution

$$\text{Thomas IDW} \rightarrow \frac{1}{7}$$

$$\text{Raj IDW} \rightarrow \frac{1}{9}$$

$$(\text{Thomas} + \text{Raj}) \text{ IDW} \Rightarrow \frac{1}{7} + \frac{1}{9} = \frac{9+7}{9 \times 7} = \frac{16}{63}$$

$$\text{Time taken by Thomas and Raj together} \Rightarrow \boxed{\frac{63}{16} = 3 \frac{15}{16} \text{ days}}$$

④ Total weight of mother, daughter and ~~and~~ baby is 74 kgs. weight of mother is 46 kgs more than the total weight of daughter and baby. weight of baby is 60% less than the weight of the daughter. Find daughter's weight.

Solution

$$\text{Mother} + \text{daughter} + \text{baby} = 74$$

$$(46 + 10x + 4x) + (10x) + (4x) = 74$$

$$28x + 46 = 74$$

$$2x = 74 - 46$$

$$x = \frac{28}{28} = 1$$

$$\text{Daughters weight} = 10x = 10 \times 1 = \boxed{10 \text{ Kgs}}$$

18) One card is lost from pack of 52 cards
Two cards are drawn randomly they are
Spade. What is the probability that lost
card is also Spade

- a) $\frac{1}{52}$ b) $\frac{1}{13}$ c) $\frac{1}{4}$ d) $\frac{3}{30}$

19) In how many ways can the letters of
English alphabet be arranged so that
there are seven letters b/w A & B & no
letter is repeated

A _ _ _ _ _ B

~~Ans: $24C_2 \times 7! \times 2$~~

Ans: $24P_7 \times 2$

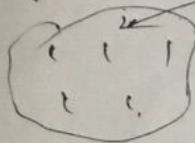
ECE

Technical Questions

Panel - 1

- 1) Data types
- 2) Logic gates
- 3) Program to reverse a number

4)



Flowers $\wedge \wedge \rightarrow$ few birds
 $\wedge \wedge$

$$1B \rightarrow 1F$$

$$R - 1F$$

$$F - 2$$

$$2B \rightarrow 1F$$

$$R \rightarrow 1B$$

$$B - 3$$

Determine $B \& F = ?$

5) Complete Information of project - including hardware and software used

Panel - 8

(7)

Software testing,
Encapsulation,
Inheritance,
Abstract class.

Different kind of Testing.

Waterfall Model.

Prime No.

factorial with recursion.

If you are given a Railway Postal, what steps you will take?

Railway Postal, what steps you

Stress Testing.

- ① John does a work in 16 days, Ben in 24 days. John, Ben and Jack can do the work in 8 days. In how many days does Jack do the work alone.

Solution

$$\text{John IDW} \rightarrow \frac{1}{16}$$

$$\text{Ben IDW} \rightarrow \frac{1}{24}$$

$$(\text{John} + \text{Ben} + \text{Jack}) \text{ IDW} \rightarrow \frac{1}{8}$$

$$\text{Jack IDW} = \frac{1}{8} - \frac{1}{16} - \frac{1}{24}$$

$$= \frac{6 - 3 - 2}{48} = \frac{1}{48}$$

$$\boxed{\text{Jack} \rightarrow 48 \text{ days}}$$

- ② On March 11th, 2003, the day was Tuesday. What was the day on 11th March 2004

Solution

Each year has 365 days

52 weeks 1 day extra

Since 2004 is a leap year.

366 days

52 weeks 2 days extra

So +2 \rightarrow Tuesday + 2 \rightarrow $\boxed{\text{Thursday}}$

TCS

Technical Interview Questions

- ① Being an telecommunication Engineer why IT?
- ② You have better opportunity in airtel, vodafone, then why this field?
- ③ What ~~are~~ conditional statement?
- ④ Explain while and do while?
- ⑤ About the project and advantages of it.
- ⑥ ~~who is~~ You said that you read novels who is your favorite author.
- ⑦ Introduce yourself
- ⑧ Tell me about your family
- ⑨ Why this college
- ⑩ Why TCS?
- ⑪ Are you fine with shifts & relocation?
- ⑫ How was the TR and MR round and what did they ask.
- ⑬ Are you fine with night shifts?
- ⑭ Are you ready to work on agreement?

$$2s^2 + 8s - 5s - 20 = 0$$

$$2s(s+4) - 5(s+4) = 0$$

$$(2s-5)(s+4) = 0$$

$$s = \frac{5}{2} \text{ or } -4$$

↓

Speed cannot
be negative

$$\therefore \boxed{s = 2.5}$$

$$\text{Speed of Jack} = 1.5 + 2.5 = \boxed{4 \text{ km/hr}}$$

⑧ Three containers contain milk and water in the ratio 1:5, 3:5 and 5:7 respectively. Capacity of the containers is in the ratio 5:4:5 resp. Find the ratio of milk to water when liquid in three containers is mixed together.

Solution

$$\text{Total Milk} = \left(\frac{1}{6} \times 5x\right) + \left(\frac{3}{8} \times 4x\right) + \left(\frac{5}{12} \times 5x\right)$$

$$= \frac{5x}{6} + \frac{12x}{8} + \frac{25x}{12}$$

$$= \frac{20x + 36x + 50x}{24} = \frac{106x}{24} = \frac{53x}{12}$$

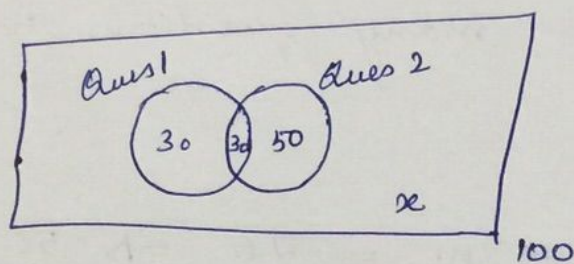
$$\text{Milk : Total} = \frac{53x}{12} : (5x + 4x + 5x)$$

$$= \frac{53}{12 \times 14} = \frac{53}{168}$$

$$\boxed{\text{Milk : water} = \frac{53}{168 - 53} = \frac{53}{115}}$$

- 19) In an examination 100 students attended two questions. 60 cleared 1st question and 50 cleared 2nd question and 30 cleared both. What is the probability that a student selected is failed in both the questions.

Solution



$$30 + 30 + 50 + x = 100$$

$$\boxed{x = 20}$$

$$\text{Required Probability} = \frac{20}{100} = \boxed{\frac{1}{5}}$$

- 20) The depth of a conical vessel is 8 cm and diameter of base is 10 cm. It is filled with water upto the brim. Spherical balls of radius 0.5 cm are thrown into the vessel. $\frac{1}{4}$ th of the water is disposed out.

How many spherical balls are put into the vessel?

Solution

$$\begin{aligned} \text{Volume of conical vessel} &= \frac{1}{3} \pi r^2 h = \frac{1}{3} \pi (5)^2 (8) \\ &= \frac{200\pi}{3} \end{aligned}$$

$$\begin{aligned} \text{Volume of Spherical ball} &= \frac{4}{3} \pi r^3 = \frac{4}{3} \pi (0.5)^3 \\ &= \frac{0.5\pi}{3} \end{aligned}$$

$$\frac{1}{4} \times \frac{200\pi}{3} = n \times \frac{0.5\pi}{3} \Rightarrow \boxed{n = 100}$$

14. In a particular year month of Jan had exactly 4 Thursday and 4 Sunday. on which day of the week did Jan 1st occur that year

Ans: Monday

15. How many times '2' digit comes if the tickets are numbered from 1 to 1100?

16. If two dice are rolled what is the probability of getting the sum as 3 or 7.

17. A rectangle is divided into 4 rectangles
70 36 20, x. Find value of x

70	36
x	20

$$\frac{70}{x} = \frac{36}{20}$$
$$x = \frac{70 \times 20}{36} = 21\frac{350}{9}$$

$$2s^2 + 8s - 5s - 20 = 0$$

$$2s(s+4) - 5(s+4) = 0$$

190 →
 ⑥ Find the highest possible number which when divides 148, 246 and 623 gives remainders of 4, 6 and 11 respectively.

- (a) 8 (b) 10 (c) 12 (d) 14

Solution

$12 \times 12 = 144$	$144 + 4 = 148$
$12 \times 20 = 240$	$240 + 6 = 246$
$12 \times 51 = 612$	$612 + 11 = 623$

⑧

⑦ Jack and Paul are walking together. Jack is 1.5 km/hr faster than Paul and reaches 1.5 hours earlier than Paul. Distance travelled by each is 10 km. Find the speed of Jack.

Solution

Solution

	Distance	Speed	Time
① Jack	10 km	$(s+1.5)$ km/hr	$t-1.5$ hrs
② Paul	10 km	s km/hr	t hrs

$$\textcircled{1} \quad 10 = (s+1.5)(t-1.5)$$

$$10 = st - 1.5s + 1.5t - 2.25$$

$$10 = 10 - 1.5(s-t) - 2.25$$

$$\frac{2.25}{1.5} = t - s$$

$$t - s = 1.5$$

$$\boxed{t = 1.5 + s}$$

$$\textcircled{2} \quad 10 = st$$

substituting $t = s+1.5$ in equation ②

$$10 = s(1.5+s)$$

$$s^2 + 1.5s - 10 = 0$$

$$10s^2 + 15s - 100 = 0$$

$$2s^2 + 3s - 20 = 0$$

① One card is lost from a pack of 52 cards. Two cards are drawn randomly and they are found to be spades. What is the probability that the lost card is a spade.

Solution

After two cards have been taken out

Remaining cards \rightarrow 50 cards

Spade cards \rightarrow 11 cards

Probability that the lost card is a spade \Rightarrow $\boxed{\frac{11}{50}}$

⑩ A person walks around the diagonal of a square at speed of 4 km/hour and covers it in 3 mins. Find the area of square.

Solution

$$\text{Distance} = \text{Speed} \times \text{Time}$$

$$= 4 \text{ km/hr} \times \frac{3}{60} \text{ hr}$$

$$= \frac{1}{5} \text{ km} = 200 \text{ m}$$

$$\text{Area of Square} = \frac{1}{2} \times \text{product of diagonals}$$

$$= \frac{1}{2} \times 200 \times 200$$

$$= \boxed{20,000 \text{ m}^2}$$

27) How can I become good if I like you

28) declare object.

40) Your role model & why?

57) About family.

67) Will you quit job if posting is in Bhubaneswar or so.

7) About project

8) Basics of TD which I mentioned.

9) Basics of C.

10) Prime number program

11) Difference between C and C++.

12) About project

13) Units of current and voltage

1 Km = ? meters.

14) Why do you want to join TCS?

15) HP → addition of two numbers

16) Difference b/w $9+9$ & $9\#9$

17) Two match sticks are given, one burns completely in 60 min how will you measure 45 min using them.

18)

10 Q. If $f(x) = ax^4 - bx^2 + x + 5$ & if $f(-3) = 2$

then $f(3) = ?$

Ans $f(3) = 8$

11 Q. A boy buys 18 Sharpens (brown or white) for Rs 100. For every white Sharpener, he pays one rupee more than the brown Sharpener. What is the cost of white Sharpener & how much did he buy.

Ans $\rightarrow (6, 10)$

12 Q. Of a set of 30 numbers, avg of first 10 nos = avg of last 20 nos. Then sum of last 20 nos

Ans = 2 x Sum of first 10 numbers

13 Q. If M is 30% of P, P is 20% of Q, & N is 50% of Q the M/N is

$\frac{3}{25}$

Q1. Jack is faster than Paul. Jack & Paul each walk 24 km.
The sum of speeds is 7 km/hr and sum of
times taken by them is 14 hours. Then Jack's speed is

4 kmph

2. ~~See~~ open See Same (4th question)

3. u (15th question)

4. The average marks of 3 students A, B & C is 48.
When another student D joins the group the avg
becomes 46 marks. If another student E who has
3 more marks than D joins the group the average
of 4 students B, C, D, E becomes 45 marks. How
many marks did 'A' get in exam.

a) 46

b) 50

c) 49

d) 47

5. Cost of the apple for 1st 30 kg is ₹1167
'₹' ms/kg for each additional kg. Price for 33 kg
is given as ₹1284 & 36 kg is ₹1284.

Then cost of 1st 10 kg of apple is

a) 117

b) 1053

c) 350

d) 281

Since $S_J + S_P = 7$

$T_J + T_P = 14$

So 3×8 and 4×6 satisfy

$3 + 4 = 7$ Speeds

$8 + 6 = 14$ Time's

$S_J = 4 \text{ km/hr}$

(5) The cost of apples for first 30 Kgs is Rs L / Kg and Rs a / Kg for every additional Kg. The cost of 33 Kgs is given as Rs 1167 and 36 Kgs is given as Rs 1284. Find the cost of first 10 Kgs of apples.

Solution

33 Kgs \rightarrow Rs 1167

36 Kgs \rightarrow Rs 1284

~~3 Kgs \rightarrow 1167~~

3 Kgs \Rightarrow Rs (1284 - 1167)

1 Kg $\Rightarrow \frac{117}{3} = 39$

$(30L) + (39 \times 3) = 1167$

$L = \frac{1167 - 117}{30} = \frac{1050}{30} = 35$

Cost of first 10 Kgs = Rs $35 \times 10 = \boxed{\text{Rs } 350}$

- (13) The average marks of three students A, B and C is 48. When another student D joins the group, the average becomes 46. If another student E, who has 3 more marks than D, joins the group, the average of four students B, C, D and E becomes 45. How many marks did A get in the exam -

Solution

$$A + B + C = 48 \times 3 = 144$$

$$A + B + C + D = 46 \times 4 = 184$$

$$D = 184 - 144 = 40$$

$$E = D + 3 = 40 + 3 = 43$$

$$B + C + D + E = 45 \times 4 = 180$$

$$A = (A + B + C + D) + E - (B + C + D + E)$$

$$= 184 + 43 - 180$$

$$\boxed{A = 47}$$

- (14) Jack is faster than Paul. Jack and Paul each walk 24 km. The sum of their speeds is 7 km/hr and sum of their times is 14 hours. Find Speed of Jack.

Solution

$$S_J + S_P = 7$$

$$T_J + T_P = 14$$

$$\text{Distance} = 24 \text{ km}$$

$$24 = S_J T_J$$

$$24 = S_P T_P$$

By Hit and Trial method

$$24 = 1 \times 24 = 4 \times 6$$

$$= 2 \times 12$$

$$= 3 \times 8$$

Since $S_J + S_P = 7$

$$T_J + T_P = 14$$

So 3×8 and 4×6 satisfy

$$3 + 4 = 7 \quad \text{Speeds}$$

$$8 + 6 = 14 \quad \text{Time's}$$

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Solution

$$\text{Rs } 33 \text{ Kgs} \rightarrow \text{Rs } 1167$$

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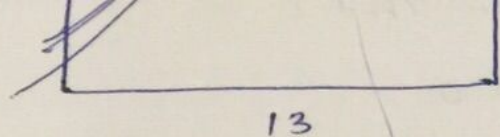
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$$L = \frac{1167 - 117}{30} = \frac{1050}{30} = 35$$

$$\text{Cost of first 10 Kgs} = \text{Rs } 35 \times 10 = \boxed{\text{Rs } 350}$$



13

Q3

7		9				8		5
	8				5		4	3
5								
			5					
9				4				7
4			7	1				6
1			4			5	6	
		4			3	9	1	
			6	5			x	y

Find $8x + 9y$.

Solution

$$x = 7$$

$$y = 4$$

(a) 112

(b) 52

(c) 95

(d) 92 ✓

$2s^2 +$

⑥ Find the highest possible number which when divides 148, 246 and 623 gives remainders of 4, 6 and 11 respectively.

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$t-s = 1.5$
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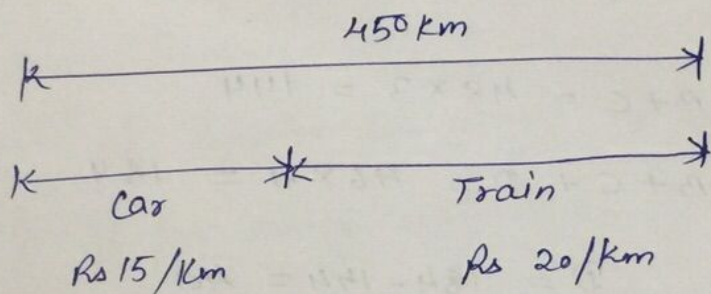
② $10 = st$

substituting $t = s+1.5$ in equation ②

$10 = s(1.5+s)$
 $s^2 + 1.5s - 10 = 0$
 $10s^2 + 15s - 100 = 0$
 $2s^2 + 3s - 20 = 0$

- ⑪ Raj travels a distance of 450 km partly by car and partly by train. The cost of travelling by car is Rs 15 per km and by train is Rs 20 per km. Total amount paid by Raj is Rs 8130. Find the distance travelled by train. ?

Solution



$$15C + 20T = 8130 \Rightarrow 3C + 4T = 1626$$

$$C + T = 450 \Rightarrow \begin{array}{r} 3C + 3T = 1350 \\ \hline \end{array}$$

$$T = 276$$

Distance travelled
by Train = 276 km

- ⑫ Two dice are rolled together. Find the probability of getting a sum of 3 or 7

Sum (3) → 1, 2
 2, 1

Sum (7) → 1, 6
 6, 1
 2, 5
 5, 2
 4, 3
 3, 4

Solution

$$\frac{\text{Sum}(3) + \text{Sum}(7)}{\text{Total cases}} = \frac{8}{36} = \left(\frac{2}{9}\right)$$

⑥ A number which successively divided by 5, 3, 2 gives remainders of 0, 2 & 1 respectively in that order. What will be the remainder when the same number is divided successively by 2, 3 & 5 in that order

- a) 4, 3, 2 b) 1, 0, 4 c) 2, 1, 3 d) 4, 1, 2

⑦ Find the remainder last digit in decimal place for number $2^{1999} \times 5^{2001}$

⑧ A team of 11 members is to be selected out of which 5 are men, 11 are women. What is the probability of finding selecting team ~~3 or more~~ not more than 3 men?

Ans \rightarrow 2256

⑨ A can complete a piece of work in 8 hours, B can complete work in 10 hours & C in 12 hours. If ABC starts the work together but A leaves after 2 hours. Find the time taken by B & C to complete remaining work

Ans $\Rightarrow 2 \frac{1}{11}$ hours.