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# Mixed questions-1

1) Mixture Ratio (Milk : Water = 3 : 1)

Let Bottle 1 = 7:2 ⇒ Milk % = 7/9

Bottle 2 = 9:4 ⇒ Milk % = 9/13
Final = 3:1 ⇒ Milk % = 3/4

∴ Ratio = $\frac{3/4 - 9/13}{7/9 - 3/4} = \frac{(39-36)/52}{(28-27)/36}$

$= \frac{3/52}{1/36} = \frac{3 \times 36}{52} = \frac{108}{52}$

$= \frac{27}{13}$ //

2) Defective Shirt problem

Let total Shirts = x
Defective = 15% ⇒ 0.15x
Remaining = 0.85x
Sold in domestic = 20% of 0.85x = 0.17x
Exported = 0.85x − 0.17x = 0.68x

0.68x = 8840 ⇒ x = $\frac{8840}{0.68}$ = 13000 //

3. Divisibility by 11

Number = 78826A
Alternate Sum = 7 − 3 + 8 − A + 6 − A = 18 − 2A
For divisibility by 11 ⇒ divisible by 11
Try A = 3:
18 − 2(3) = 12 ⇒ Not divisible
A = 6 ⇒ 18 − 12 = 6

A - 9 : 18 - 18 = 0 ✓
→ divisible
Ans: B. 9 ✓

4) Bus stops per hour

Speed without Stop = 80
Speed with Stops = 60
So, bus is running 60/80 = 3/4 of time

That means it stops 1/4 of time per hour
= 15 minutes

5) Train Late problem

Let distance = x
Time = x/speed

$$\frac{x}{48} - \frac{x}{64} = 9$$

$$x\left(\frac{4-3}{192}\right) = 9$$

$$x\left(\frac{1}{192}\right) = 9$$

$$x = 9 \times 192$$

$$x = 1728$$

$x = 28.8$ Km

∴ Time at correct speed = 28.8/60
= 0.48 hr
= 28.8 min

6) Income and Saving

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Let incomes be A, B, C → A+B+C = 30000

A Saved 25% → 0.25A
B Saved 30% → 0.30B
C Saved 38% → 0.38C

Given:

0.25A : 0.30B : 0.38C = 20 : 21 : 19

∴ A = 120000, B = 10500, C = 7500

7) Work problem

A does 80% in 20 days → 100% in 25 days
So work left = 20% in 3 days by A+B
20% in 3 days → full work in 15 days together

A's rate = 1/25, A+B = 1/15 → B = 1/15 − 1/25
B = 37.5 days

8) Shooting Average

Total Score = 8 × 87 = 696
6 players avg = 85 → total = 510
Remaining 2 = 696 − 510 = 186
Let winner = x, runner-up = x − 2
x + x − 2 = 186 → 2x = 188
→ x = 94, x − 2 = 92

9) Overall profit %

Cost price ratio: A : B : C = 1 : 2 : 4
Let CPs = 1, 2, 4

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Profit% = 10%, 20%, 25%
Selling price = 1.1, 1.4, 5
items sold ratio = 2:5:2

∴ Total CP = 2×1 + 5×2 + 2×4 = 2+10+8
= 20

Total SP = 2×1.1 + 5×2.4 + 2×5 = 2.2+12
10 = 24.2 //

Profit = 4.2/20 = 21% //

10) CT - ST Difference

Difference for 2 yrs = $P(R^2)/100^2$

$$96 = \frac{15000 R^2}{100^2}$$

$$R^2 = \frac{96 \times 10000}{15000}$$

$$\Rightarrow R^2 = 64 \Rightarrow R = 8$$

11) Syllogism

only conclusion I & III have possibility
so only either I or III follows //

12) Syllogism

Conclusion I → boxes → Poles = No relation

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II fans → boxes - no relation
IV - lines → fans = no such statement
only III is possible. (not follow)

13) Direction

Path:
East 24
Right (South) 10
Right (west) 10 → now at 14 East.
left (South) 8 → total South = 18
Right (west) 14 → now at 0 East → 14 - 14 = 0

So → 18 Km South.

14) Maternal Uncle logic

Maternal uncle - mother's brother
Option C: P - M + N × Q
P is brother of M, M is mother of N, N is sister of Q → P is maternal uncle of Q.

Ans:- C. P → M + N × Q

15) Series: 10, 11, 13, 21, 69, ?

Check pattern:
+1, +2, +8, +48 → multiplying pattern.

Try difference method:
11 - 10 = 1, 13 - 11 = 2, 21 - 13 = 8, 69 - 21 = 48

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Next: x3 or x4 → 48 x 3 = 144 + 144 = 213 //

Try better approach:

10
10+1=11
11+2=13
13+8=21
21+48=69
69+(48×3) = 69+144 = 213 → not matching

Check option match → A. 324 //

16) Series: 3, 5, 14, ?, 107

Check pattern:
3 → 5 (+2)
5 → 14 (+9)
Next: maybe +27? → 14+27 = 41
Then 41+66 = 107

Ans - A. 42

17) Position

From left = 38
From right = 26
Total = 38+26-1 = 63 // B. 63

18) Wine: Grapes → Vodka is ?
Wind from Grapes Vodka from

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C) Potatoes.

19) Triangles in a Figure

No, image, So can't answer precisely

C.22 (Standard triangular puzzle)

20) Lady is nephew's maternal grandmother.

Nephew → sister's Son

Maternal grandmother → mam's mother.

So the lady is mam's mother.