

Quiz Date: 29th July 2020

Directions (1-5): In the given questions, two quantities are given, one as '**Quantity I**' and another as '**Quantity II**'. You have to determine relationship between two quantities and choose the appropriate option:

Q1. 'A', 'B' and 'C' together can complete a work in 48 days if they work alternatively. 'A' is 25% more efficient than 'B' who is $33\frac{1}{3}\%$ less efficient than 'C'.

Quantity I: Difference between days taken by 'A' alone and 'C' alone to complete the work.

Quantity II: Days in which 'A', 'B' and 'C' together can complete half of the work.

- (a) Quantity I > Quantity II
- (b) Quantity I < Quantity II
- (c) Quantity I \geq Quantity II
- (d) Quantity I \leq Quantity II
- (e) Quantity I = Quantity II or No relation

Q2. Neeraj invested Rs. X in two different schemes 'A' and 'B' equally. Scheme A offers 10% p.a. at S.I and scheme B offers 20% p.a. at C.I. After 2 years he got total Rs.2560 interest from both the schemes.

Quantity I: Value of 'X'

Quantity II: Rs. 7200

- (a) Quantity I \geq Quantity II
- (b) Quantity I = Quantity II or No relation
- (c) Quantity I > Quantity II
- (d) Quantity I \leq Quantity II
- (e) Quantity I < Quantity II

Q3. Three partners invested capital in the ratio 2 : 7 : 9. The time period for which each of them invested was in the ratio of the reciprocals of the amount invested..

Quantity I: Profit share of the partner who brought in the **highest** capital if the profit is Rs. 1080

Quantity II: Profit share of the partner who brought in the **lowest** capital if the profit is Rs. 1080

- (a) Quantity I > Quantity II
- (b) Quantity I \geq Quantity II
- (c) Quantity I < Quantity II
- (d) Quantity I = Quantity II or No relation
- (e) Quantity I \leq Quantity II

Q4. X started from a point A towards point B. After 2 hours. Y started from B towards A. By the time X travelled one-fifth of the total distance, Y had also travelled the same. Y's speed is thrice of that of X's speed.

Quantity I: Difference in time (in hours) taken by X and Y to reach their respective destinations.

Quantity II: 12 hours

- (a) Quantity I = Quantity II or No relation
- (b) Quantity I \leq Quantity II
- (c) Quantity I \geq Quantity II
- (d) Quantity I < Quantity II
- (e) Quantity I > Quantity II

Q5. A vessel contains 2.5 litres of water and 10 litres of milk. 20% of the contents of the vessel are removed. To the remaining contents, x litres of water is added to reverse the ratio of water and milk. Then y litres of milk is added again to reverse the ratio of water and milk.

Quantity I: Value of 'y'

Quantity II: Value of 'x'

- (a) Quantity I = Quantity II or No relation
- (b) Quantity I \leq Quantity II
- (c) Quantity I \geq Quantity II
- (d) Quantity I < Quantity II
- (e) Quantity I > Quantity II



Q6. Two friends A and B jointly lent out Rs 81,600 at 4% per annum at CI. After 2 years, A gets the same amount as B gets after 3 years. The investment made by B was

- (a) Rs 40,000
- (b) Rs 30,000
- (c) Rs 45,000
- (d) Rs 38,000
- (e) Rs 36,500

Q7. Raman scored 456 marks in an exam and Sita got 54 percent marks in the same exam which is 24 marks less than Raman. If the minimum passing marks in the exam is 34 percent, then how much more marks did Raman score than the minimum passing marks?

- (a) 184
- (b) 196
- (c) 190
- (d) 180
- (e) 148

Q8. Amit borrowed a certain sum of money for 2 years at 8% per annum on simple interest and immediately lent it to Ravi at compound interest at the same rate of interest and for the same time period and gained by Rs 16. What amount did Amit borrow?

- (a) Rs 1600
- (b) Rs 2500
- (c) Rs 2400
- (d) Rs 1800
- (e) Rs 2200

Q9. A man can row 30 km upstream and 44 km downstream in 10 hrs. Also, he can row 40 km upstream and 55 km downstream in 13 hrs. find the rate of the current and the speed of the man in still water.

- (a) 3 km/hr, 8 km/hr
- (b) 5 km/hr, 7 km/hr
- (c) 4 km/hr, 6 km/hr
- (d) 4 km/hr, 7 km/hr
- (e) None of these

Q10. A truck covers a certain distance at certain speed. If speed is 4 km/hr more than the original speed it would take 4 hour less to cover the same distance and if speed is 6 km/hr less than original speed it would take 8 hour more than the normal time. Find distance covered by truck? (in km)

- (a) 1520
- (b) 1360
- (c) 1480
- (d) 1440
- (e) 1260

Direction (11 – 15): Find the wrong value in the given number series:

Q11. 11, 92, 181, 286, 423, 625

- (a) 625
- (b) 11
- (c) 92
- (d) 181
- (e) 423

Q12. 22, 107, 183, 252, 316, 379

- (a) 22
- (b) 379
- (c) 107
- (d) 252
- (e) 316

Q13. 456, 467, 446, 477, 436, 489

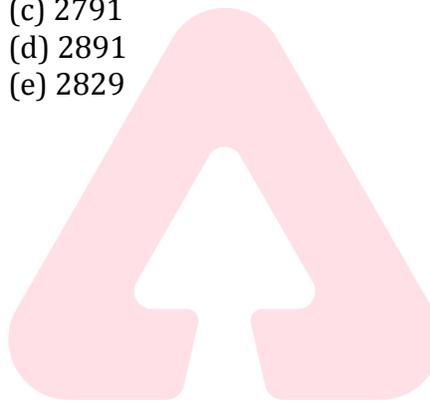
- (a) 489
- (b) 456
- (c) 446
- (d) 436
- (e) 467

Q14. 35, 74, 228, 920, 4612, 27672

- (a) 74
- (b) 228
- (c) 35
- (d) 4612
- (e) 27672

Q15. 451, 2179, 2279, 2791, 2829, 2891

- (a) 451
- (b) 2179
- (c) 2791
- (d) 2891
- (e) 2829



Solutions

S1. Ans.(e)

Sol.

'A', 'B' and 'C' alternatively can complete a work in 48 days

⇒ 'A', 'B' and 'C' together can complete same work in 16 days

Ratio between efficiency of A, B and C is 5 : 4 : 6

Ratio between days taken by A, B and C alone to complete the same work is 12 : 15 : 10

Let A, B and C alone can complete work in 12x, 15x and 10x days respectively.

$$\Rightarrow \frac{1}{12x} + \frac{1}{15x} + \frac{1}{10x} = \frac{1}{16}$$

$$\Rightarrow x = 4$$

Quantity I: Required difference = $(12 - 10)4 = 8$ days

Quantity II: A, B and C together can complete same work in 16 days, so they can complete half work in 8 days.

Quantity I = Quantity II

S2. Ans.(c)

Sol.

ATQ,

$$\frac{X}{2} \times 10 \times \frac{2}{100} + \frac{X}{2} \left[1 + \frac{20}{100} \right]^2 - \frac{X}{2} = 2560$$

$$\Rightarrow X = \text{Rs } 8,000$$

Quantity I = Rs. 8,000

Quantity II = Rs. 7200

Quantity I > Quantity II

S3. Ans.(d)

Sol.

Ratio of capitals = 2 : 7 : 9

Ratio of time period = $\frac{1}{2} : \frac{1}{7} : \frac{1}{9}$

\therefore Ratio of profit = $2 \times \frac{1}{2} : 7 \times \frac{1}{7} : 9 \times \frac{1}{9} = 1 : 1 : 1$

Quantity I : Hence, profit of all the three partners is same and equal to $\frac{1080}{3} = \text{Rs. } 360$.

Quantity II : Hence, profit of all the three partners is same and equal to $\frac{1080}{3} = \text{Rs. } 360$.

Quantity I = Quantity II

S4. Ans.(d)

Sol.

Let the speed of X be x kmph. Distance travelled by X in 2 hours = 2x km.

Suppose X takes 't' hours to travel $\frac{1}{5}$ th of the distance AB.

Y would take (t-2) hours to travel $\frac{1}{5}$ th of the distance AB.

As Y's speed is thrice that of X's speed.

$$\frac{t-2}{t} = \frac{1}{3}$$

$$t = 3$$

$\frac{1}{5}$ th of the distance AB = 3x km.

$$AB = 15x \text{ km}$$

Time taken by x to cover 15x km = $\frac{15x}{x} = 15$ hours

Time taken by Y to cover 15x km = $\frac{15x}{3x} = 5$ hours.

\therefore Difference in the time = 10 hours.

Quantity I : Difference in the time = 10 hours.

Quantity II : 12 hours

Quantity I < Quantity II

S5. Ans.(e)

Sol.

After 20% of the contents of the vessel are removed,

Remaining contents = $\frac{80}{100}(12.5) = 10$ litres.

Ratio of water and milk in it = 1 : 4.

∴ It contains $\frac{4}{5}(10) = 8$ litres of milk and 2 litres of water.

To reverse the ratio, 2 litres of water must be made 32 litres.

∴ $x = 30$ litres of water must be added.

To reverse this ratio again 8 litres of milk must be made $4(32) = 128$ litres.

∴ $y = 128 - 8 = 120$ litres of milk must be added.

Quantity I: 'y' = 120 litres

Quantity II: 'x' = 30 litres

Quantity I > Quantity II

S6. Ans.(a)

Let investment made by B be Rs. x

$$(81,600 - x) \left(1 + \frac{4}{100}\right)^2 = x \left(1 + \frac{4}{100}\right)^3$$

$$\Rightarrow (81,600 - x) = x \left(1 + \frac{1}{25}\right)$$

$$\Rightarrow 25(81,600 - x) = 26x$$

$$\Rightarrow x = \frac{81,600 \times 25}{51}$$

$$\Rightarrow x = \text{Rs } 40,000$$

Sol.

S7. Ans.(a)

Let total marks be x

$$456 = \frac{54x}{100} + 24$$

$$\Rightarrow x = \frac{432 \times 100}{54}$$

$$\Rightarrow x = 800$$

∴ marks obtained by Raman more than minimum passing marks

$$= 456 - \frac{34}{100} \times 800$$

$$= 184$$

Sol.

S8. Ans.(b)

Let Amit borrowed an amount of Rs. P.

$$P \left[\left(1 + \frac{8}{100} \right)^2 - 1 \right] - \frac{P \times 8 \times 2}{100} = 16$$

$$\Rightarrow P \left[\frac{27^2 - 25^2}{625} - \frac{4}{25} \right] = 16$$

$$\Rightarrow P = \text{Rs. } 2,500$$

Sol.

S9. Ans.(a)

Let rate of current be v km/hr and speed of man in still water be s km/hr.

$$\therefore \frac{30}{s-v} + \frac{44}{s+v} = 10$$

Let $\frac{1}{s-v} = a$ and $\frac{1}{s+v} = b$ then

$$30a + 44b = 10 \quad \dots(i)$$

and

$$\frac{40}{s-v} + \frac{55}{s+v} = 13$$

$$\Rightarrow 40a + 55b = 13 \quad \dots(ii)$$

From equation (i) and (ii)

$$a = \frac{1}{5}, b = \frac{1}{11}$$

$$\Rightarrow s - v = 5 \text{ and } s + v = 11$$

$$\therefore s = 8 \text{ km/hr and } v = 3 \text{ km/hr}$$

Sol.

S10. Ans.(d)

We know

$$\text{Distance}(D) = \text{Speed}(S) \times \text{time}(t)$$

Atq,

$$(S + 4)(t - 4) = St$$

$$(S - 6)(t + 8) = st$$

$$-4S + 4t = 16 \quad \dots(i)$$

$$8S - 6t = 48$$

$$+4S - 3t = 24 \quad \dots(ii)$$

Solving (i) & (ii)

$$T = 40 \text{ hours, } S = 36 \text{ km/hour}$$

$$\text{Distance} = 40 \times 36 = 1440 \text{ km}$$

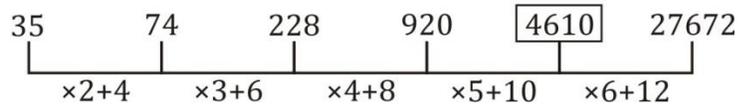
Sol.

S11. Ans.(a)

Sol.

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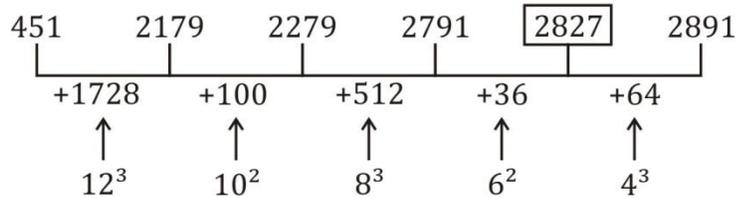
Wrong number = 4612

4610 should be place of 4612

S15. Ans.(e)

Sol.

Pattern of series —



Wrong number = 2829

2827 should be place of 2829



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