

Quiz Date: 15<sup>th</sup> August 2020

Q1. If a man reduces the selling price of a fan from Rs. 4000 to Rs. 3750, his loss increases by 5%. The cost price of the fan in (in Rs):-

- (a) 7500
- (b) 7000
- (c) 5500
- (d) 4500
- (e) None of these

Q2. A shopkeeper sells an article at a loss of  $12\frac{1}{2}\%$ . Had he sold it for Rs. 155.4 more, he would have earned a profit of 6%. The cost Price of the article is (in Rs):-

- (a) 800
- (b) 780
- (c) 770
- (d) 840
- (e) 820

Q3. Raju purchased 100 books at a rate of Rs. 137 per book. He sold  $\frac{1}{4}$ <sup>th</sup> of books at a profit of Rs. 10 per book and  $\frac{1}{2}$ <sup>th</sup> books at a profit of Rs. 20 per book. The remaining books were sold at a loss of Rs. 10 per book. What is the average profit per book.

- (a) Rs. 7
- (b) Rs. 8
- (c) Rs. 9
- (d) Rs. 10
- (e) Rs. 11

Q4. The ratio of two positive number is 5:7 and average of the same two number is 222 then find out the difference between both numbers?

- (a) 36
- (b) 72
- (c) 64
- (d) 74
- (e) 38

Q5. The average age of some males and 24 females together is 20 years. The average age of females is 18 years. The average age of males is  $\frac{4}{3}$  times that of females. Then find out the number of males?

- (a) 18
- (b) 20
- (c) 12
- (d) 24
- (e) 22

Q6. The average age of the mother and her three children is 19. The average age reduced to 10 years if the age of mother is excluded. How old is mother?

- (a) 32 years
- (b) 40 years
- (c) 38 years
- (d) 42 years
- (e) 46 years

Q7. Twenty years ago, the age of father and his son in the ratio of 8:3. Presently, the father is only  $\frac{12}{7}$ th times of his son then find out the present age of son?

- (a) 28 years
- (b) 32 years
- (c) 35 years
- (d) 21 years
- (e) none of these

**Directions (8-10): What will come in the place of question (?) mark:**

Q8.  $3\frac{2}{3}$  of  $2\frac{2}{11}$  of 130 - 40% of 350 = ?

- (a) 850
- (b) 900
- (c) 960
- (d) 1000
- (e) 1050

Q9. 23% of 600 + 33% of 800 = ? + 53% of 400

- (a) 170
- (b) 180
- (c) 190
- (d) 210
- (e) 150

Q10.  $2\frac{1}{2} + 4\frac{3}{4} - 3\frac{2}{3} = ? - 3\frac{5}{6}$

- (a)  $5\frac{3}{4}$
- (b)  $6\frac{5}{12}$
- (c)  $5\frac{7}{12}$
- (d)  $7\frac{5}{12}$
- (e)  $8\frac{4}{7}$

Direction (11-15):- In each of these questions, two equations are given. You have to solve these equations and find out the values of x and y and give answer.

Q11. (i)  $24x - \frac{11}{x} = -25$

(ii)  $45y^2 + 36y + 7 = 0$

- (a) if  $x > y$
- (b) if  $x \leq y$
- (c) if  $x \geq y$
- (d) if  $x < y$
- (e) if  $x = y$  or no relation.

Q12. (i)  $15x + \frac{2}{x} = 11$

(ii)  $10y + \frac{2}{y} = 9$

- (a) if  $x > y$
- (b) if  $x < y$
- (c) if  $x \leq y$
- (d) if  $x \geq y$
- (e) if  $x = y$  or no relation

Q13. (i)  $x^2 - 2x - 3 = 0$

(ii)  $y^2 + 6 = -5y$

- (a) if  $x > y$
- (b) if  $x < y$
- (c) if  $x \geq y$
- (d) if  $x \leq y$
- (e) if  $x = y$  or no relation

Q14. (i)  $x^2 - 7x + 12 = 0$

(ii)  $2y^2 - 15y + 28 = 0$

- (a) if  $x > y$
- (b) if  $x < y$
- (c) if  $x \geq y$
- (d) if  $x \leq y$
- (e) if  $x = y$  or no relation between  $x$  and  $y$ .

Q15. (i)  $x^3 = 12167$

(ii)  $y^2 = 625$

- (a) if  $x > y$
- (b) if  $x < y$
- (c) if  $x \geq y$
- (d) if  $x \leq y$
- (e) if  $x = y$  or no relation between  $x$  and  $y$ .

A pink rectangular box containing the word "BANKERS" in white, bold, uppercase letters.The word "adda247" in a grey, lowercase, sans-serif font. The "247" is larger and has a pink outline.

### Solutions

S1. Ans.(e)

Sol. Let C.P = Rs x

A.T.Q

5% of x = 4000 - 3750 (loss always calculate on C.P)

$$\frac{5}{100} \times x = 250$$

$$x = 250 \times 20 = \text{Rs } 5000$$

S2. Ans.(d)

Sol. Let C.P = Rs. X

A.T.Q

$$106\% x - \left(100 - 12\frac{1}{2}\right)\%x = 155.4$$

$$18\frac{1}{2}\% x = 155.4$$

$$\frac{37}{2 \times 100} x = 155.4$$

$$x = \frac{155.4 \times 200}{37} = \text{Rs. } 840$$

S3. Ans.(d)

Sol. Total Books = 100

$\frac{1}{4}$ th books  $\left(\frac{1}{4} \times 100 = 25\right)$  at profit of Rs. 10 per book.

$$25 \times 10 = \text{Rs. } 250$$

$\frac{1}{2}$ th books  $\left(\frac{1}{2} \times 100 = 50\right)$  at profit of Rs. 20 per book.

$$50 \times 20 = \text{Rs. } 1000$$

Rest  $(100 - 25 - 50)$  at loss of Rs. 10 per book.

$$25 \times (-10) = -\text{Rs. } 250$$

$$\text{Total profit} = 250 + 1000 - 250$$

$$= 1000 \text{ (in Rs.)}$$

$$\text{Average profit} = \frac{\text{Total profit}}{\text{Total quantity}} = \frac{1000}{100} = \text{Rs. } 10 \text{ per book}$$

S4. Ans (d)

Sol.

Let two number =  $5x$  and  $7x$

$$\text{Average} = \frac{5x+7x}{2} = 6x$$

$$x = \frac{222}{6} = 37$$

So, difference between number =  $7x - 5x = 2x$

$$2 \times 37 = 74$$

S5. Ans (c)

Sol.

Let number of males = m

Average age of females = 18 years

And average age of males =  $\frac{4}{3} \times 18 = 24 \text{ years}$

ATQ,

$$\text{Average} = \frac{m \times 24 + 24 \times 18}{m + 24}$$

$$20 = \frac{m \times 24 + 24 \times 18}{m + 24}$$

$$m = 12$$

S6. Ans (e)

Sol.

Average of mother and her three children =  $\frac{\text{sum of age of mother and her 3 children}}{4}$

Sum of age of mother and her three children =  $19 \times 4 = 76 \text{ years}$

Similarly, sum of her three children =  $3 \times 10 = 30 \text{ years}$

Mother age's =  $76 - 30 = 46 \text{ years}$

S7. Ans (c)

Sol.

Let the present age of son =  $7x$

Then the present age of father =  $\frac{12}{7} \times 7x = 12x$

ATQ,

$$\frac{12x - 20}{7x - 20} = \frac{8}{3}$$

$$x = 5$$

Present age of son =  $7x = 7 \times 5 = 35 \text{ years}$

S8. Ans.(b)

Sol.

$$? = \frac{11}{3} \times \frac{24}{11} \times 130 - \frac{40}{100} \times 350$$

$$= 1040 - 140$$

$$= 900$$

S9. Ans.(c)

Sol.

$$? = 23 \times 6 + 33 \times 8 - 53 \times 4$$

$$= 138 + 264 - 212$$

$$= 190$$

S10. Ans.(d)

Sol.

$$? = (2 + 4 - 3 + 3) + \left( \frac{1}{2} + \frac{3}{4} - \frac{2}{3} + \frac{5}{6} \right)$$

$$= 6 + \frac{17}{12}$$

$$= 7 \frac{5}{12}$$

S11. Ans.(e)

$$\text{Sol. } 24x - \frac{11}{x} = -25 \Rightarrow 24x^2 + 25x = 11$$

$$24x^2 + 25x - 11 = 0$$

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$$24x^2 - 8x + 33x - 11 = 0$$

$$(3x - 1)(8x + 11) = 0$$

$$x = \frac{1}{3}, \frac{-11}{8}$$

$$45y^2 + 36y + 7 = 0$$

$$(15y + 7)(3y + 1) = 0$$

$$y = -\frac{1}{3}, \frac{-7}{15}$$

There is no relation between x and y.

S12. Ans.(c)

$$\text{Sol. } 15x + \frac{2}{x} = 11 \Rightarrow 15x^2 - 11x + 2 = 0$$

$$10y + \frac{2}{y} = 9 \Rightarrow 10y^2 - 9y + 2 = 0$$

$$15x^2 - 11x + 2 = 0$$

$$(5x - 2)(3x - 1) = 0$$

$$x = \frac{2}{5}, \frac{1}{3}$$

$$10y^2 - 9y + 2 = 0$$

$$(5y - 2)(2y - 1) = 0$$

$$y = \frac{2}{5}, \frac{1}{2}$$

$$x \leq y$$

S13. Ans.(a)

$$\text{Sol. } x^2 - 2x - 3 = 0$$

$$(x + 1)(x - 3) = 0$$

$$x = -1, 3$$

$$y^2 + 5y + 6 = 0$$

$$(y + 3)(y + 2) = 0$$

$$y = -2, -3$$

$$x > y$$

S14. Ans.(e)

$$\text{Sol. } x^2 - 7x + 12 = 0$$

$$(x - 4)(x - 3) = 0$$

$$x = 4, 3$$

$$2y^2 - 15y + 28 = 0$$

$$(2y - 7)(y - 4) = 0$$

$$y = \frac{7}{2}, 4$$

No relation bet<sup>n</sup> x and y

S15. Ans.(e)

$$\text{Sol. } x^3 = 12167 \Rightarrow x = +\sqrt[3]{12167}$$

$$x = +23$$

$$y^2 = 625 \Rightarrow y = \pm \sqrt{625}$$

$$y = \pm 25$$

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No relation bet<sup>n</sup> x and y.

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