

Quiz Date: 22nd June 2020

Q1. The price of sugar is increased by 20%. If the expenditure on sugar has to be kept the same as earlier, the ratio between the reduction in consumption and the original consumption is:

- (a) 1 : 3
- (b) 1 : 4
- (c) 1 : 6
- (d) 1 : 5
- (e) 2 : 5

Q2. An ore contains 25% of an alloy that has 90% iron. Other than this, in the remaining 75% of the ore, there is no iron. To obtain 60 kg of pure iron, the quantity of the ore needed, in kg, is approximately:

- (a) 250.57
- (b) 266.67
- (c) 275.23
- (d) 300
- (e) 320.67

Q3. A dishonest trader marks up his goods by 80% above its original cost price and gives discount of 25% on mark price. Besides it he gets 20% more amount per kg from wholesaler and sells 10% less per kg to customer. What is the overall profit percentage?

- (a) 80%
- (b) 60%
- (c) 70%
- (d) 85%
- (e) 90%

Q4. Ravi gave Rs. 1200 on loan in which some amount he gave at 4% per annum simple interest and remaining at 5% per annum simple interest. After two years, he got Rs. 110 as total interest. Then the amounts given at 4% and 5% per annum are, respectively:

- (a) Rs. 500, Rs. 700
- (b) Rs. 400, Rs. 800
- (c) Rs. 800, Rs. 400
- (d) Rs. 700, Rs. 500
- (e) None of these

Q5. In three vessels of 10L capacity, mixture of milk and water is filled. The ratio of milk and water are 2 : 1, 3 : 1 and 3 : 2 in the respective vessels. If all the three vessels are emptied into a single large vessel, find the ratio of milk and water in the resultant mixture.

- (a) 121 : 41
- (b) 117 : 22
- (c) 121 : 59
- (d) 127 : 41
- (e) 41 : 121

Q6. 'A' does half as much work as B in three-fourth of the time. If together they take 18 days to complete a work, how much time shall B take to do it alone?

- (a) 30 days
- (b) 35 days
- (c) 40 days
- (d) 45 days
- (e) 50 days

Q7. SBI lent Rs. 1331 lakh to the TATAs group at compound interest and got Rs. 1728 lakh after 3 years. What is the rate of interest charged, if compounded annually?

- (a) 11%
- (b) $9\frac{1}{11}\%$
- (c) 12%
- (d) 8.33%
- (e) 9.33%

Q8. The present age of a father is 3 years more than three times the age of his son. Three years hence, father's age will be 10 years more than twice the age of the son. Find the present age of the father.

- (a) 32 years
- (b) 33 years
- (c) 34 years
- (d) 35 years
- (e) 40 years



Q9. In a coconut grove, $(x + 2)$ trees yield 60 nuts per year, x trees yield 120 nuts per year and $(x - 2)$ trees yield 180 nuts per year. If the average yield per year per tree be 100. Then the value of x is:

- (a) 8
- (b) 4
- (c) 12
- (d) 10
- (e) 16

Q10. A train passes two persons who are walking in the direction opposite to the direction of train at the rate of 10 m/s and 20 m/s respectively in 12 seconds and 10 seconds, respectively. Find the length of the train.

- (a) 500 metre
- (b) 900 metre
- (c) 400 metre
- (d) 600 metre
- (e) 650 metre

Q11. Ankit and Aadarsh invest Rs. 4000 and Rs. 3000 in a business respectively. Ankit receives Rs. 20 per month out of the profit as a remuneration for running the business and the rest of profit is divided in proportion to the investments. If in a year Ankit totally receives Rs. 360, what does Aadarsh receive?

- (a) Rs. 90
- (b) Rs. 100
- (c) Rs. 120
- (d) Rs. 80
- (e) Rs. 110

Q12. A metal cube of edge 12 cm is melted and formed into three smaller cubes. If the edges of two smaller cubes are 6 cm and 8 cm, then find the edge of the third smaller cube.

- (a) 10 cm
- (b) 14 cm
- (c) 12 cm
- (d) 16 cm
- (e) 8 cm

Q13. A boat while travelling upstream covers a distance of 18 km at the speed of 3 km/h, whereas while travelling downstream it covers the same distance at a speed of 9 km/h. What is the speed of the boat in still water?

- (a) 3 km/h
- (b) 5 km/h
- (c) 7 km/h
- (d) Cannot be determined
- (e) 6 km/h

Q14. In how many different ways the letters of word 'COMBINATION' can be arranged in order to keep the consonants always together?

- (a) 58500
- (b) 48000
- (c) 64800
- (d) 64400
- (e) 54800

Q15. A cistern can be filled with water by pipe A in 5 hours and it can be emptied by a second pipe B in 4 hours. If both the pipes are opened when the cistern is full, the time in which it will be emptied is:

- (a) 25 hours
- (b) 20 hours
- (c) 16 hours
- (d) 18 hours
- (e) 28 hours

Solutions

S1. Ans.(c)

Sol.

The raised price = $\frac{120}{100}$ of the former price

∴ The householder must now consume

$\frac{100}{120}$ of the original amount

Reduction in consumption

= $\left(1 - \frac{100}{120}\right)$ of the original consumption

⇒ 1: 6

S2. Ans.(b)

Sol.

In 4 kg of ore, iron = 0.9 kg

∴ Quantity of ore for 60 kg of iron

= $\frac{60 \times 4}{0.9} = 266.67 \text{ kg}$

S3. Ans.(a)

Sol.

$$CP = \frac{100}{120} = \frac{10}{12}$$

(since he purchases 120 g and pays Rs. 100,

By assumption actual CP of 1 g = Rs. 1)

$$SP = \frac{135}{90} = \frac{3}{2} = \frac{18}{12}$$

(Since actual MP = 180, actual SP = 135,

With 25% discount and he sells only

90 g instead of 100 g)

$$\text{Profit (\%)} = \frac{\frac{18}{12} - \frac{10}{12}}{\frac{10}{12}} \times 100 = 80\%$$

S4. Ans.(a)

Sol.

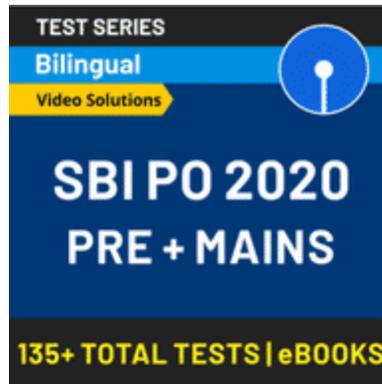
$$\text{S. I. for one years} = \frac{110}{2} = 55$$

$$\frac{55}{1200} \times 100 = \frac{55}{12} \%$$

$$\begin{array}{c} 4 \quad 5 \\ \diagdown \quad \diagup \\ 55 \\ \diagup \quad \diagdown \\ 12 \\ \diagdown \quad \diagup \\ \frac{5}{12} \quad \frac{7}{12} \end{array}$$

5: 7

Amount given at 4% and 5% are respectively
Rs. 500 and Rs. 700.



S5. Ans.(c)

Sol.

$$\begin{aligned} &\text{Quantity of milk: quantity of water} \\ &= \left(\frac{2}{3} + \frac{3}{4} + \frac{3}{5}\right) : \left(\frac{1}{3} + \frac{1}{4} + \frac{2}{5}\right) \\ &= 121 : 59. \end{aligned}$$

S6. Ans.(a)

Sol.

A does half as much work as B in
three fourth of the time.

So, If B takes T time for doing x unit work.

So, A doing $\frac{x}{2}$ unit work in $\frac{3T}{4}$ time.

So, A doing x unit work in $\frac{3T}{2}$ time

$$\text{So, } \Rightarrow \frac{1}{T} + \frac{2}{3T} = \frac{1}{18}$$

By solving T = 30 days

So, time taken by B alone = 30 days.

S7. Ans.(b)

Sol.

Let rate of interest be R%.

$$1728 = 1331 \left(1 + \frac{R}{100}\right)^3$$

$$\frac{1728}{1331} = \left(1 + \frac{R}{100}\right)^3$$

$$\left(\frac{12}{11}\right)^3 = \left(1 + \frac{R}{100}\right)^3$$

$$R = 9.09\%$$

S8. Ans.(b)

Sol.

Let the age of father is x and age of son is y.

So, as per question

$$x - 3y = 3 \quad \dots\dots\dots(i)$$

$$x + 3 - 2(y + 3) = 10$$

$$\text{or } x - 2y = 13 \quad \dots\dots\dots(ii)$$

From (i) and (ii) we get

$$y = 10, x = 33$$

S9. Ans.(b)

Sol.

Given: Average yield per year per tree is 100

$$\Rightarrow 100 = \frac{(x+2)60 + 120x + (x-2) \times 180}{(x+2) + x + x - 2}$$

$$\Rightarrow 100 = \frac{60x + 120 + 120x + 180x - 360}{3x}$$

$$\Rightarrow 300x = 360x - 240$$

$$\Rightarrow 60x = 240$$

$$\Rightarrow x = 4$$

S10. Ans.(d)

Sol.

Let the speed of the train be x m/s

According to the question,

$$(x + 10) \times 12 = (x + 20) \times 10$$

$$\Rightarrow 6x + 60 = 5x + 100$$

$$\Rightarrow x = 100 - 60 = 40 \text{ m/s}$$

$$\therefore \text{Length of the train} = (x + 10) \times 12$$

$$= (40 + 10) \times 12 = 600 \text{ metre}$$

S11. Ans.(a)

Sol.

Total profit - Remuneration = Balance profit.

This balance profit is divided in proportion to their investments

$$\begin{aligned} &= \frac{\text{Balance profit of Ankit}}{\text{Balance profit of Aadarsh}} \\ &= \frac{\text{Investment Ankit}}{\text{Investment Aadarsh}} \\ \Rightarrow & \frac{360 - 20 \times 12}{\text{Balance profit of Aadarsh}} = \frac{4000}{3000} = \frac{4}{3} \end{aligned}$$

(Since remuneration of Ankit is Rs. 20 per month)

\Rightarrow Balance profit of Aadarsh

$$= 3 \times \frac{120}{4} = \text{Rs. } 90$$

Since Aadarsh does not get any remuneration, hence Aadarsh receives Rs. 90 at the end of the years.

S12. Ans.(a)

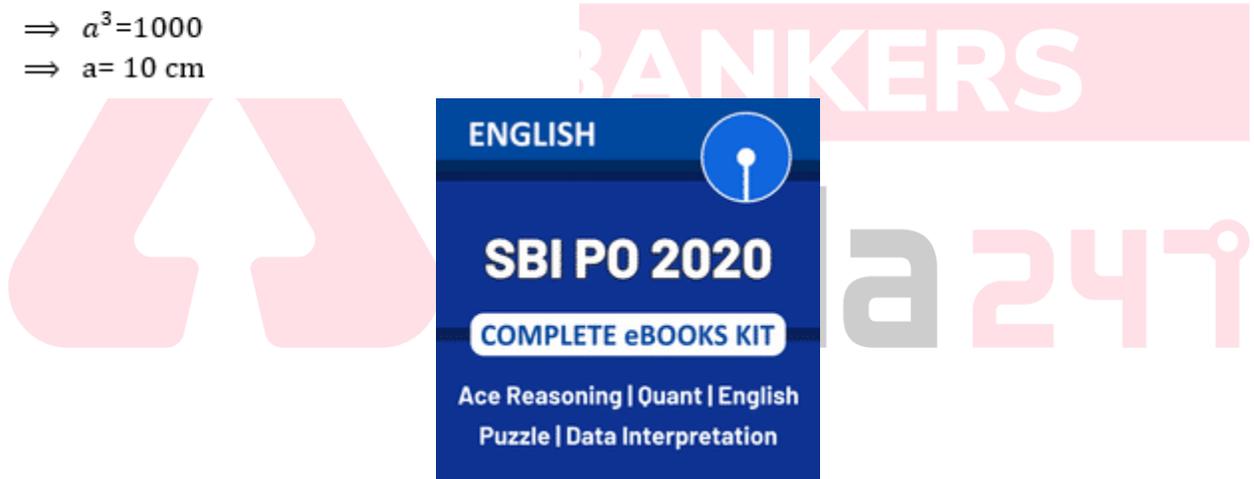
Sol.

Let edge of third smaller cube is a then

$$a^3 + 8^3 + 6^3 = 12^3$$

$$\Rightarrow a^3 = 1000$$

$$\Rightarrow a = 10 \text{ cm}$$



S13. Ans.(e)

Sol.

$$\text{speed of boat in still water} = \frac{1}{2}(9 + 3) = 6 \text{ km/h}$$

S14. Ans.(c)

Sol.

ATQ, CMBNTN are to be kept together and O, I & N are repeated twice

$$\therefore \text{Total no. of different ways} = \frac{6! \times 6!}{2! \times 2! \times 2!} = 64,800$$

S15. Ans.(b)

Sol.

LCM of 5 and 4 = 20 units

Unit work of pipe A = $\frac{20}{5} = 4$ units

Unit work of pipe B = $\frac{20}{4} = 5$ units

When both pipes are opened together, total

unit work of A and B = $4 + (-5) = -1$ unit

So, time taken by both pipes = $\frac{20}{1} = 20$ hours

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