

Quiz Date: 19th May 2020

Q1. Two trains one 160 m and the other 140 m long are running in opposite directions on parallel track, the first at 77 km an hour and the other at 67 km an hour. How long will they take to cross each other?

- (a) 7 seconds
- (b) 7.5 seconds
- (c) 90 seconds
- (d) 10 seconds
- (e) 108 seconds

Q2. The respective ratio between the speed of the boat upstream and speed of the boat downstream is 2 : 3. What is the speed of the boat in still water if it covers 42 km downstream in 2 hours 20 minutes? (in km/h)

- (a) 13.5
- (b) 15
- (c) 12
- (d) 11
- (e) 10

Q3. The sum of the radius and height of a cylinder is 18m. The total surface area of the cylinder is 792 m^2 , what is the volume of the cylinder ? (in m^3)

- (a) 1848
- (b) 1440
- (c) 1716
- (d) 1724
- (e) 1694

Q4. A certain sum is divided among A, B and C in such a way that A gets Rs 40/- more than the $\frac{1}{2}$ of the sum. B gets Rs 120/- less than $\frac{3}{8}$ th of the sum and C gets Rs 200/- . What is the total sum?

- (a) Rs 1,100/-
- (b) Rs 850/-
- (c) Rs 960/-
- (d) Rs 1,200/-
- (e) None of these

Q5. A bag contains 3 red balls, 5 yellow balls and 7 pink balls. If one ball is drawn at random from the bag, what is the probability that it is either pink or red?

- (a) $\frac{1}{7}$
- (b) $\frac{2}{3}$
- (c) $\frac{4}{9}$
- (d) $\frac{5}{7}$
- (e) $\frac{1}{3}$

Q6. The average sale of a car dealership was 15 cars per week. After a promotional scheme, the average sale increased to 21 cars per week. The percentage increases in the sale of cars was:

- (a) 40%
- (b) 140%
- (c) $42\frac{6}{7}\%$
- (d) 39.33%
- (e) 45%

Q7. The prices of a room air conditioner and an automatic washing machine are in the ratio of 3 : 2. What would be the price of the washing machine if it costs Rs. 6000 less than the air conditioner?

- (a) Rs. 18000
- (b) Rs. 10000
- (c) Rs. 12000
- (d) Rs. 6000
- (e) Rs. 16000



Q8. A property dealer sells a house for Rs. 6,30,000 and in the bargain makes a profit of 5%. Had he sold it for Rs. 5,00,000, then what percentage of loss or gain he would have made?

- (a) 15% loss
- (b) 15% gain
- (c) $16\frac{2}{3}\%$ gain
- (d) $16\frac{2}{3}\%$ loss
- (e) $14\frac{2}{7}\%$ loss

Q9. A and B together can do a piece of work in 30 days. A and B worked for 16 days and B finished the remaining work alone in 28 days. In how many days will B finish the whole work alone?

- (a) 24 days

- (b) 10 days
- (c) 32 days
- (d) 60 days
- (e) 45 days

Q10. Three taps A, B and C can fill a tank in 12, 15 and 20 hrs, respectively. If A is open all the time and B and C are open for one hour each alternatively, the tank will be filled in:

- (a) 6 hrs
- (b) 7 hrs
- (c) 5 hrs
- (d) 8 hrs
- (e) 4 hrs

Q11. If train runs at 40 Km/h, it reaches its destination late by 11 minutes but if it runs at 50 Km/h it is late by 5 minutes only. The correct time for the train to complete its journey is

- (a) 13 minutes
- (b) 15 minutes
- (c) 19 minutes
- (d) 21 minutes
- (e) 16 minutes

Q12. Three vessels contain equal mixtures of milk and water in the ratio 6 : 1, 5 : 2 and 3 : 1 respectively. If all the solutions are mixed together, the ratio of milk to water in the final mixture will be:

- (a) 64 : 65
- (b) 65 : 64
- (c) 19 : 65
- (d) 65 : 19
- (e) 65 : 23

Q13. 1 year ago, a mother was 4 times older to her son. After 6 years, her age becomes more than double her son's age by 5 years. The present ratio of mother and son age will be:

- (a) 13 : 12
- (b) 3 : 1
- (c) 11 : 3
- (d) 25 : 7
- (e) 7:25

Q14. A man divided his share to his sons A and B in such a way that the interest received by A at 15% per annum for 3 years is double the interest received by B at 12% per annum for 5 years. At what ratio was his share divided?

- (a) $\frac{2}{3}$
- (b) $\frac{8}{3}$
- (c) $\frac{3}{8}$
- (d) $\frac{3}{2}$

(e) $8/5$

Q15. A cistern contains 50 litres of water. 5 litres of water is taken out of it and replaced by wine. The process is repeated again. Find the proportion of wine and water in the resulting mixture.

- (a) 1 : 4
 (b) 41 : 50
 (c) 19 : 81
 (d) 81 : 19
 (e) None of these

Solutions

S1. Ans.(b)

Sol.

$$\begin{aligned} \text{Relative speed} &= (77 + 67) \text{ km/h} \\ &= 144 \text{ km/hr} \\ &= 144 \times \frac{5}{18} \text{ m/sec} \\ &= 40 \text{ m/sec} \\ \therefore \text{Required time} &= \frac{160+140}{40} \\ &= 7.5 \text{ sec.} \end{aligned}$$

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S2. Ans.(b)

Sol.

$$\begin{aligned} \text{Speed of boat in downstream} &= \frac{42}{2 + \frac{20}{60}} = \frac{42}{2 + \frac{1}{3}} \\ &= \frac{42 \times 3}{6 + 1} = \frac{42 \times 3}{7} \\ &= 18 \text{ km/h} \\ \therefore \text{Speed of boat in upstream} &= 18 \times \frac{2}{3} = 12 \text{ km/h} \\ \therefore \text{Speed of boat in still water} \\ &= \frac{\text{Speed of boat in downstream} + \text{speed of boat in upstream}}{2} \\ &= \frac{12+18}{2} = 15 \text{ km/h} \end{aligned}$$

S3. Ans.(e)

Sol.

let radius and height of cylinder be r and h respectively.

Given, $h + r = 18$ m

According to question,

$$2\pi r (h + r) = 792$$

$$2 \times \frac{22}{7} \times r \times 18 = 792$$

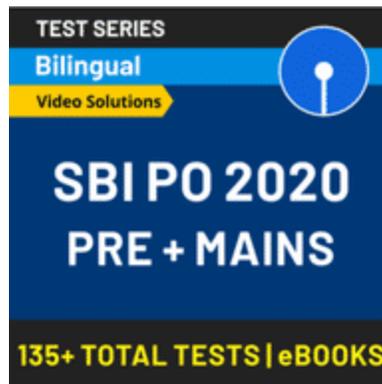
$$r = 7\text{m}$$

And $h = 11\text{m}$

\therefore Volume of the cylinder = $\pi r^2 h$

$$= \frac{22}{7} \times 7 \times 7 \times 11$$

$$= 22 \times 77 = 1694 \text{ m}^3$$



S4. Ans.(c)

Sol.

Let total amount = Rs x

$$\text{Amount received by A} = \frac{x}{2} + 40$$

$$\text{Amount received by B} = \frac{3x}{8} - 120$$

According to question,

$$x - \left(\frac{x}{2} + 40\right) - \left(\frac{3x}{8} - 120\right) = 200$$

$$\Rightarrow \frac{8x - 4x - 3x}{8} - 40 + 120 = 200$$

$$\Rightarrow \frac{x}{8} = 200 - 80$$

$$\Rightarrow x = 120 \times 8$$

$$\Rightarrow x = \text{Rs } 960 /-$$

S5. Ans.(b)

Sol.

Total number of balls = $3 + 5 + 7 = 15$

\therefore Probability of either pink or red ball

$$= \frac{{}^7C_1 + {}^3C_1}{{}^{15}C_1} = \frac{7 + 3}{15} = \frac{10}{15} = \frac{2}{3}$$

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S6. Ans.(a)

Sol.

∴ Required percentage

$$= \frac{21-15}{15} \times 100$$

$$= \frac{600}{15} = 40\%$$

S7. Ans.(c)

Sol.

$$\frac{AC}{W} = \frac{3}{2}$$

$$W = AC - 6000$$

$$\Rightarrow W = \frac{3W}{2} - 6000$$

$$\Rightarrow W = \frac{3W}{2} - 6000$$

$$\Rightarrow 2W = 3W - 12000$$

$$\Rightarrow W = 12000$$

S8. Ans.(d)

Sol.

$$S.P. = Rs. 630000$$

$$\text{So, C.P.} = 630000 \times \frac{100}{105} = Rs. 600000$$

If S.P. would have been Rs. 500000

$$\text{Then loss\%} = \frac{600000 - 500000}{600000} \times 100$$

$$= 16\frac{2}{3}\%$$

S9. Ans.(d)

Sol.

$$16 \text{ days (A+B) work} = 16 \times \frac{1}{30} = \frac{8}{15}$$

$$\text{Remaining work} = 1 - \frac{8}{15} = \frac{7}{15}$$

$$B \text{ alone} = \frac{15 \times 28}{7} = 60 \text{ days}$$

S10. Ans.(b)

Sol.

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Filling done by pipe A and B in 1 hr

$$= \frac{1}{12} + \frac{1}{15} = \frac{3}{20}$$

Filling done by pipe A and C in 1 hr

$$= \frac{1}{12} + \frac{1}{20} = \frac{2}{15}$$

Filling done in 2 hrs = $\frac{3}{20} + \frac{2}{15} = \frac{17}{60}$

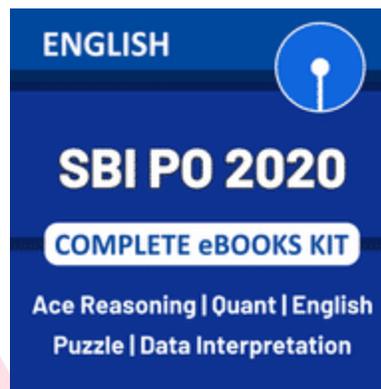
Filling done in 6 hrs = $\frac{17}{60} \times 3 = \frac{51}{60}$

Remaining filling = $1 - \frac{51}{60} = \frac{3}{20}$

Now in 7th hour, filling done by pipes

A and B, so time = $\frac{3/20}{3/20} = 1$ hr

So, total time = 7 hrs.



S11. Ans.(c)

Sol.

Let the correct time to complete the journey be x minutes.

Distance covered in (x + 11) minutes at 40 km/h

= distance covered in (x+5) minutes at 50 km/h

$$\therefore \frac{x+11}{60} \times 40 = \frac{x+5}{60} \times 50$$

$$\Rightarrow x = 19 \text{ minutes}$$

S12. Ans.(d)

Sol.

Given that all vessels contain equal amount of mixture say 1.

So in the first vessel → water : milk = 1/7 : 6/7

In the second water : milk → 2/7 : 5/7

In the third vessel water : milk → 1/4 : 3/4.

Hence, the final ratio is milk : water

$$= \frac{\left(\frac{6}{7}\right) + \left(\frac{5}{7}\right) + \left(\frac{3}{4}\right)}{\left(\frac{1}{7}\right) + \left(\frac{2}{7}\right) + \left(\frac{1}{4}\right)} = \frac{65}{19}$$

S13. Ans.(d)

Sol.

Let present age of mother and son be x and y years respectively.

Then, $x-1 = 4(y-1)$

$$\Rightarrow x = 4y - 3 \quad \text{..(i)}$$

$$\text{And, } x + 6 = 2(y+6)+5 \quad \text{..(ii)}$$

$$\Rightarrow 4y - 3 = 2y + 11$$

$$\Rightarrow y = \frac{14}{2} = 7 \text{ years}$$

$$\text{And, } x = 25 \text{ years}$$

$$\text{And, Required ratio} = 25 : 7$$

S14. Ans.(b)

Sol.

Let A and B received x and y amount respectively.

$$\text{Then } \frac{x \times 15 \times 3}{100} = 2 \times \frac{y \times 12 \times 5}{100}$$

$$\Rightarrow \frac{x}{y} = \frac{2 \times 12 \times 5}{15 \times 3} = \frac{8}{3}$$

S15. Ans.(c)

Sol.

Amount of water left
 $= 50 \times 9/10 \times 9/10 = 40.5$ litres.

Hence, wine = 9.5 litres.

$$\text{Ratio of wine and water} = \frac{9.5}{40.5} = 19:81.$$

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