

Quiz Date: 15th May 2020

Q1. Three filling pipes P, Q and R can fill an empty tank in 16 hr, 24 hr and 32 hr respectively. They start filling together the tank. After 4 hours pipe R gets closed and other two pipes continue to fill the tank. In how much time the tank will be filled?

- (a) 8.4 hr
- (b) 7.2 hr
- (c) 9.4 hr
- (d) 4.4 hr
- (e) 8 hr

Q2. In how many different ways can the letters of the word DESIGN be arranged so that the vowels are at the two ends?

- (a) 48
- (b) 72
- (c) 36
- (d) 24
- (e) 60

Q3. 8 men and 4 women together can complete a piece of work in 6 days. The work done by a man in one day is double the work done by a woman in one day. If 8 men and 4 women started working and after 2 days 4 men left and 4 new women joined, in how many more days will the work be completed?

- (a) 5 days
- (b) 8 days
- (c) 6 days
- (d) 4 days
- (e) 9 days

Q4. If the compound interest on a sum for 2 years at $12\frac{1}{2}\%$ per annum is Rs. 510, the simple interest on the same sum at the same rate for the same period of time is:

- (a) Rs. 400
- (b) Rs. 480
- (c) Rs. 450
- (d) Rs. 460
- (e) Rs. 420

Q5. A man can row 6 km/hr in still water. If the speed of the current is 2 km/hr, he takes 4 hours more in upstream than in the downstream to cover a certain distance. The distance is:

- (a) 30 km
- (b) 24 km
- (c) 20 km
- (d) 32 km
- (e) 36 km

Q6. A train 300 meters long is running at a speed of 25 metre per second. It will cross a bridge of 200 metre long in

- (a) 5 seconds
- (b) $41\frac{2}{3}$ seconds
- (c) 20 seconds
- (d) 25 seconds
- (e) 30 seconds

Q7. A person sells a table at a profit of 10%. If he had bought the table at 5% less cost and sold for Rs. 80 more, he would have gained 20%. The original cost price of the table is

- (a) Rs. 3,200
- (b) Rs. 2,500
- (c) Rs. 2,000
- (d) Rs. 200
- (e) Rs. 2800



Q8. A man takes twice as long to row a distance against the stream as to row the same distance in favour of the stream. The ratio of the speed of the boat (in still water) and the stream is:

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

Q9. The ratio of number of balls in bags x, y is 2 : 3. Five balls are taken from bag y and 3 balls are dropped in bag x. Number of balls are equal in each bag now. Number of balls in each bag now is

- (a) 45
- (b) 19
- (c) 30
- (d) 25
- (e) 24

Q10. In a certain examination, the number of those who passed was 4 times the number of those who failed. If there had been 35 fewer candidates and 9 more had failed, the ratio of passed and failed candidates would have been 2 : 1, then find the total number of candidates initially.

- (a) 135
- (b) 155
- (c) 145
- (d) 150
- (e) 160

Q11. Seema sold a mobile phone at the cost of Rs. 1,950 at a loss of 25%. At what cost will she have to sell it to get a profit of 30%

- (a) Rs. 3,300
- (b) Rs. 2,600
- (c) Rs. 3,535
- (d) Rs. 3,380
- (e) None of these

Q12. The sum of the squares of two consecutive positive odd numbers is 514. What is the larger number ?

- (a) 13
- (b) 15
- (c) 17
- (d) 19
- (e) 21

Q13. A and B are two numbers. Six times square of B is 540 more than square of A. The ratio of A and B is 3 : 2. Find the number B?

- (a) 12
- (b) 18
- (c) 14
- (d) 21
- (e) 24

Q14. If a train 280-metre-long runs at the speed of 7.4 m/second, how much time will it take to cross a platform 460 meter long ?

- (a) 95 sec.
- (b) $62\frac{6}{37}$ sec.
- (c) 98 sec.
- (d) 99 sec.
- (e) 100 sec.

Q15. If numerator and denominator are increased by 20% and 30% respectively the fraction becomes $\frac{9}{13}$. What was the original fraction?

- (a) $\frac{3}{5}$

- (b) $\frac{2}{5}$
 (c) $\frac{4}{7}$
 (d) $\frac{3}{4}$
 (e) None of these

Solutions

S1. Ans.(a)

Sol.

Ratio of efficiency of pipes P, Q and R respectively

$$= \frac{1}{16} : \frac{1}{24} : \frac{1}{32}$$

$$= 6 : 4 : 3$$

Let total work = 96 units

$$\therefore \text{work done in 4 h} = (6 + 4 + 3) \times 4 = 52 \text{ units}$$

$$\text{Remaining work} = 96 - 52 = 44 \text{ units}$$

$$\therefore \text{Required time} = 4 + \frac{44}{10} = 8.4 \text{ hours}$$

S2. Ans.(a)

Sol.

Required no. of ways

$$= {}^2P_2 \times {}^4P_4 = 48$$

S3. Ans.(a)

Sol.

A man does work equal to two women in a day.

Hence,

$$16w + 4w \rightarrow 6 \text{ days}$$

$$1w \rightarrow \frac{6}{20} \text{ days}$$

$$\text{In 2 days, work done by 20 women} = \frac{1}{3}$$

$$\text{Work remaining} = \frac{2}{3}$$

Now,

$$20w \rightarrow 1 \rightarrow 6 \text{ days}$$

$$20w \rightarrow \frac{2}{3} \rightarrow 6 \times \frac{2}{3} \text{ days}$$

$$16w \rightarrow \frac{2}{3} \rightarrow 6 \times \frac{2}{3} \times \frac{20}{16} = 5 \text{ days}$$

S4. Ans.(b)

Sol.

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Let P be the sum

$$P \left[1 + \frac{25}{200} \right]^2 - P = 510$$

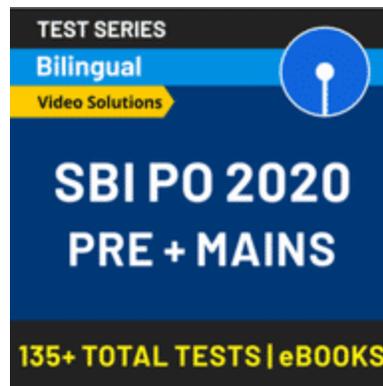
$$P \times \left(\frac{9}{8} \right)^2 - P = 510$$

$$P \times \frac{81}{64} - P = 510$$

$$\frac{17P}{64} = 510$$

$$P = 64 \times 30 = 1920$$

$$SI = \frac{1920 \times 2 \times 25}{100 \times 2} = 480$$



S5. Ans.(d)

Sol.

Speed of man in still water
= 6 km/h

Speed of current
= 2 km/h

Let Distance = D

Upstream time = Downstream time + 4

$$\frac{D}{4} = \frac{D}{8} + 4$$

$$\frac{D}{4} = \frac{D+32}{8}$$

$$\frac{D}{1} = \frac{D+32}{2}$$

$$D = 32$$

∴ Distance = 32 km.

S6. Ans.(c)

Sol.

$$\text{Time} = \frac{D}{S} = \frac{300+200}{25} = 20 \text{ sec.}$$

S7. Ans.(c)

Sol.

Let, C.P. of table = x

Person Sells table at a profit of 10%

$$\Rightarrow \text{S.P.} = 1.1x$$

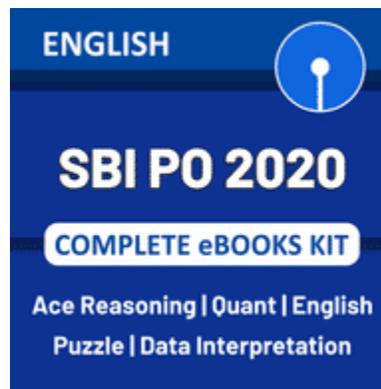
ATQ,

$$\frac{120}{100} \left[\frac{95}{100} \right] \times x = 1.1x + 80$$

$$1.14x - 1.1x = 80$$

$$0.04x = 80$$

$$x = 2,000$$



S8. Ans.(b)

Sol.

Let speed of boat in still water = v

Speed of stream = s

ATQ,

$$(v - s) \times 2 = (v + s)$$

$$\Rightarrow 2v - 2s = v + s$$

$$\Rightarrow v = 3s$$

$$\Rightarrow v : s = 3 : 1$$

S9. Ans.(b)

Sol.

Let no. of balls in bag X = 2a

No. of balls in bag Y = 3a

ATQ,

$$3a - 5 = 2a + 3$$

$$\Rightarrow a = 8$$

\therefore No. of balls in each bag now

$$= 24 - 5$$

$$= 19$$

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S10. Ans.(b)

Sol.

Let total no. students who failed = x Total students who passed = $4x$

ATQ,

Total students = $5x - 35$ Total failed students = $x + 9$ \therefore Total passed students

$$= 5x - 35 - x - 9$$

$$= 4x - 44$$

$$\therefore \frac{4x - 44}{x + 9} = \frac{2}{1}$$

$$\Rightarrow 4x - 44 = 2x + 18$$

$$\Rightarrow x = 31$$

 \therefore Total students = 155

S11. Ans.(d)

Sol.

Let the CP of the mobile phone be Rs. x .

$$\therefore \frac{x \times 75}{100} = 1950$$

$$\Rightarrow x = \frac{1950 \times 100}{75} = \text{Rs. } 2600$$

 \therefore Required selling price

$$= \frac{2600 \times 130}{100} = \text{Rs. } 3380$$

S12. Ans.(c)

Sol.

From the options,

$$15^2 + 17^2 = 255 + 289 = 514$$

Or,

Let the numbers are $(x - 1)$ and $(x + 1)$

ATQ,

$$(x - 1)^2 + (x + 1)^2 = 514$$

$$2x^2 + 2 = 514$$

$$x^2 = 256$$

$$x = 16$$

Numbers are 15 and 17

S13. Ans.(a)

Sol.

$$\begin{aligned}
 A &= 3x ; B = 2x \\
 \therefore 6 \times B^2 - A^2 &= 540 \\
 \Rightarrow 6 \times 4x^2 - 9x^2 &= 540 \\
 \Rightarrow 15x^2 &= 540 \\
 \Rightarrow x^2 &= \frac{540}{15} = 36 \\
 \Rightarrow x &= \pm 6 \\
 \therefore B = 2x &= 2 \times 6 = 12
 \end{aligned}$$

S14. Ans.(e)

Sol.

$$\begin{aligned}
 \text{Total length to be covered} \\
 &= 280 + 460 = 740 \text{ metre} \\
 \therefore \text{Time taken} &= \frac{740}{7.4} = 100 \text{ second}
 \end{aligned}$$

S15. Ans.(d)

Sol.

Let the original fraction be $\frac{x}{y}$.

According to question,

$$\frac{\frac{120}{100}x}{\frac{130}{100}y} = \frac{9}{13}$$

$$\Rightarrow \frac{12x}{13y} = \frac{9}{13} \Rightarrow \frac{x}{y} = \frac{9}{13} \times \frac{13}{12}$$

$$\therefore \frac{x}{y} = \frac{3}{4}$$



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