Quiz Date: 10th May 2020

Q1. The radius of a circular wheel is $\frac{7}{4}$ metre. How many revolutions will it make in travelling 22 kilometres?
(a) 1500
(b) 2500
(c) 1800
(d) 2000
(e) 2400

Q2. A trader marks his goods 30% above the cost price and gives a discount of 15% on the marked price. What gain% does he make?
(a)10.5%
(b)12%
(c)10%
(d)14.5%
(e) 16.5%

Q3. 30 laborer's working 7 hours a day can finish a piece of work in 18 days. If the laborer's work 6 hours a day, then the number of laborers required to finish the same piece of work in 30 days will be
(a) 15
(b) 21
(c) 25
(d) 22
(e) 28

Q4. Rahul purchased 124 notebooks. Sunil purchased 86 notebooks. Manish purchased 132 notebooks and Mona purchased 146 notebooks. What was the average number of notebooks they purchased?
(a) 112
(b) 122
(c) 488
(d) 98
(e) 102

Q5. The labeled price of a product is Rs 750. If it is sold at a 20% discount and the dealer earns a 25% profit, what is the cost price?
(a) Rs 550
(b) Rs 450
(c) Rs 435
(d) Rs 480
(e) Rs 520

Q6. If two men or six women or four boys can finish a work in 99 days, then how many days will one man, one woman and one boy together take to finish the same work?
(a) 54 days
(b) 64 days
(c) 44 days
(d) 104 days
(e) 108 days

Q7. The side of a square is equal to the diameter of a circle. The area of the square is 441 sq. cm. What is the area of the circle?
(a) 112 sq. cm
(b) 356.8 sq. cm
(c) 346.5 sq. cm
(d) 132 sq. cm
(e) 264 sq. cm

Q8. A and B start a business with Rs. 2500 and Rs. 3500 respectively. After 4 months C joins the business with Rs. 4500. At the end of the year, C gets Rs. 900 as his share of profit then find the difference between profit got by B and A?
(a) Rs. 600
(b) Rs. 300
(c) Rs. 450
(d) Rs. 750
(e) Rs. 1250

Q9. A plane left 30 min later than its scheduled time to reach its destination 1500 km away. In order to reach in time, it increases its speed by 250 km/hr. What is its original speed?
(a) 1000 km/hr
(b) 750 km/hr
(c) 600 km/hr
(d) 800 km/hr
(e) 650 km/hr

Q10. Ratio of ages of A to B, 4 year before from now was 8 : 5 and ratio of ages of B to C 3 years hence will be 9 : 11. If the present average age of B and C is 27 years then, find the present age of A.

(a) 36 years
(b) 32 years
(c) 22 years
(d) 40 years
(e) 20 years

Q11. A box contains 2 blue caps, 4 red caps, 5 green caps and 1 yellow cap, If one cap is picked at random, what is the probability that it is either blue or yellow ?
(a) $\frac{2}{9}$
(b) $\frac{1}{4}$
(c) $\frac{3}{8}$
(d) $\frac{6}{11}$
(e) $\frac{3}{4}$

Q12. I can finish a work in 15 days working 8 hrs a day. You can finish it in $6\frac{2}{3}$ days at 9 hrs a day. Find in how many days we can finish the work together, if we work 12 hrs a day ?
(a) $3\frac{1}{3}$ days
(b) 4 days
(c) $3\frac{2}{3}$ days
(d) 5 days
(e) $2\frac{1}{2}$ days

Q13. A bottle contains three-fourths of milk and the rest water. How much of the mixture must be taken away and replaced by an equal quantity of water so that the mixture has half milk and half water ?
(a) 25%
(b) 33.33%
(c) 45%
(d) 50%
(e) 66.67%

Q14. Three Science classes A, B and C take a Life Science test. The average score of class A is 83. The average score of class B is 76. The average score of class C is 85. The average score of class A and B is 79 and average score of class B and C is 81. Then the average score of classes A, B and C is
(a) 80
(b) 80.5
(c) 81
(d) 81.5
(e) None of these

Q15. The ratio of the ages of the father and the son at present is 5 : 2. After 3 years the ratio will become 7 : 3. What is the sum of the present ages of the father and the son?
(a) 64 years
(b) 74 years
(c) 84 years
(d) 88 years
(e) 78 years

Solutions

S1. Ans.(d)
Sol. Number of revolutions $= \frac{22000}{2 \times \frac{22}{7} \times \frac{7}{4}} = 2000$ revolutions.
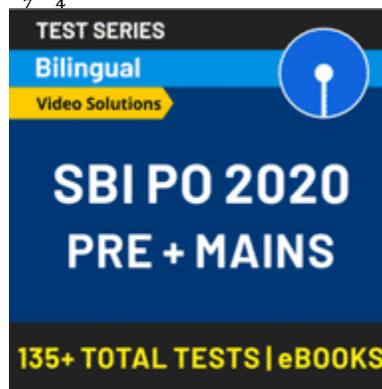
S2. Ans.(a)
Sol. Let C.P. be Rs. 100
$\therefore$ S.P. $= \frac{85}{100} \times 130 =$ Rs. 110.5
$\therefore$ Profit% $= \frac{10.5}{100} \times 100 = 10.5\%$

S3. Ans.(b)
Sol. Required number of laborer's $= \frac{30 \times 7 \times 18}{6 \times 30} = 21$

S4. Ans.(b)
Sol. Average number of notebooks
$= \frac{124 + 86 + 132 + 146}{4}$
$= \frac{488}{4} = 122$

S5. Ans.(d)
Sol. SP of the product
$=$ Rs $\left(\frac{80}{100} \times 750\right) =$ Rs 600
Profit = 25%
$\therefore$ CP $= \frac{100}{125} \times 600 =$ Rs 480

S6. Ans.(e)
Sol. Tricky Approach
2 men = 6 women = 4 boys
∴ 1 man = 3 women = 2 boys
∴ 1 man + 1 woman + 1 boy
$= \left(2 + \frac{2}{3} + 1\right)$ boys $= \frac{11}{3}$ boys
$\therefore M_1 D_1 = M_2 D_2 \Rightarrow 4 \times 99 = \frac{11}{3} \times D_2$
$\Rightarrow D_2 = \frac{4 \times 3 \times 99}{11} = 108$ days

S7. Ans.(c)
Sol. Side of a square $= \sqrt{Area} = \sqrt{441} = 21$
Diameter of circle = 21 cm $\Rightarrow$ Radius $= \frac{21}{2}$ cm
∴ Area of circle $= \pi r^2 = \frac{22}{7} \times \frac{21}{2} \times \frac{21}{2}$
= 346.5 sq. cm

S8. Ans.(b)
Sol. Investment of A = 2500 × 12
Investment of B = 3500 × 12
Investment of C = 4500 × 8
So, the profit ratio is 5 : 7 : 6
$\Rightarrow \frac{6}{18} \times x = 900 \Rightarrow x = 2700$
So, difference of profit of A and B is
$\frac{2}{18} \times 2700 = $ Rs. 300

S9. Ans.(b)
Sol.
Let the original time be T hours and original speed be x km/h
$\frac{1500}{x} = T$ ... (i)
$\frac{1500}{x + 250} = T - \frac{30}{60}$ ... (ii)
Solving equations (i) and (ii), we get
Speed of plane $= x = 750$ or -1000 (not possible)
$\therefore x = 750$ km/hr.

S10. Ans.(a)
Sol.
Let ages of B and C, 3 years hence is $9x$ and $11x$ respectively.
ATQ,
(9x – 3) + (11x – 3) = 27 × 2
20x = 60

$x = 3$
So present age of B = (3 × 9 – 3) = 24 years
Let present age of A = y years
$$\frac{y-4}{24-4} = \frac{8}{5}$$
y = 36 years

S11. Ans. (b)
Sol. Reqd. Probability $= \frac{2c_1 + 1c_1}{12c_1} = \frac{3}{12} = \frac{1}{4}$
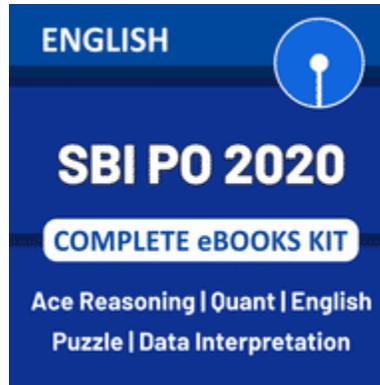
S12. Ans. (a)
Sol. My per hour work $= \frac{1}{15 \times 8} = \frac{1}{120}$
Your per hour work $= \frac{1}{\frac{20}{3} \times 9} = \frac{1}{60}$
Our per hour work $= \frac{1}{120} + \frac{1}{60} = \frac{1}{40}$
Our per day work $= 12 \times \frac{1}{40} = \frac{3}{10}$
No. of days to complete the work $= \frac{10}{3}$ days or $3\frac{1}{3}$ days

S13. Ans.(b)
Sol.
Let amount of mixture removed ='x'
And, Milk = 3litre, Water = 1litre
ATQ,
$$\frac{1}{1} = \frac{3 - \frac{3x}{4}}{1 - \frac{x}{4} + x}$$
$$\Rightarrow 1 + \frac{3x}{4} = 3 - \frac{3x}{4}$$
$$\Rightarrow 2 = \frac{6x}{4}$$
$$\Rightarrow x = \frac{4}{3}$$
Required percentage$= \frac{\frac{4}{3}}{4} \times 100 = 33.33\%$

S14. Ans. (d)
Sol. Let no. of students in class A, B and C be x, y and z

$\therefore$ A = 83x

B = 76y

C = 85z

Now, A + B = 79x + 79y

B + C = 81(y + z) = 81y + 81z

$\therefore$ 83x + 76y = 79x + 79y

4x = 3y

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

And, 76y + 85z = 81y + 81z

5y = 4z

$\frac{y}{z} = \frac{4}{5}$

$\therefore$ x : y : z = 3 : 4 : 5

$\therefore$ Required average = $\frac{83 \times 3 + 76 \times 4 + 85 \times 5}{12}$

$= \frac{249 + 304 + 425}{12}$

$= \frac{978}{12}$

= 81.5

S15. Ans.(c)

Sol. $\frac{f}{s} = \frac{5x}{2x}$

$\frac{5x+3}{2x+3} = \frac{7}{3}$

$15x + 9 = 14x + 21$

$x = 12$

Sum of present age of father and Son $= (5x + 2x)$

$= 7x = 84$ years

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