Quiz Date: 9th April 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. Nandita scored 80% marks in five subjects together Hindi, Science, Mathematics, English and Sanskrit, where the maximum marks of each subject were 105. How many marks did Nandita scored in Science, if she scored 89 marks in Hindi 92 marks in Sanskrit, 98 marks in Mathematics and 81 marks in English?
(a) 60
(b) 75
(c) 65
(d) 70
(e) 80

Q3. For admission in a graduation program of Delhi University, 90% of the candidates who appeared for the written test were males and the rest were females, 60% of the males and 80% of the females passed in the written test. What is the total number of students who appeared for the written test, if the total number of passed candidates were 1240?
(a) 2,500
(b) 2,000
(c) 2,750
(d) 3,500
(e) None of these

Q4. Neha's weight is 140% of Tina's weight. Mina's weight is 90% of Lina's weight. Lina weighs twice as much as Tina. If Neha's weight is x% of Mina's weight, then x is equal to:
(a) $64\frac{2}{9}$
(b) $77\frac{7}{9}$
(c) 90
(d) $128\frac{4}{7}$
(e) 87

Q5. A number is divided into two parts in such a way that 80% of 1st part is 3 more than 60% of 2nd part and 80% of 2nd part is 6 more than 90% of the 1st part. Then the number is:
(a) 125
(b) 130

(c) 135
(d) 145
(e) 155

Q6. Ratio of the earnings (in Rs.) of P and Q is 4 : 7. If the earnings of P increases by 50% and those of Q decreases by 25%, the new ratio of their earnings becomes 8 : 7. How much is P's earning?
(a) Rs 28000
(b) Rs. 21000
(c) Rs. 26000
(d) Data inadequate
(e) None of these

Q7. In an examination, 40% marks are required to pass. 'A' obtains 10% less than the number of marks required to pass. B obtains $\frac{100}{9}$% less than A, and C obtains $\frac{700}{17}$% less than the number of marks obtained by A and B together. Marks obtains by C (in percentage) is:
(a) 42%
(b) 40%
(c) 38%
(d) 36%
(e) 32%

Q8. The ratio of the quantities of an acid and water in a mixture is 1 : 3. If 5 litres of acid is further added to the mixture, the new ratio becomes 1 : 2, the quantity of new mixture in litre is:
(a) 30
(b) 40
(c) 35
(d) 45
(e) 50

Q9. Mahesh starts working as a sales representative on an annual salary of Rs. 160000. If he receives a 15% pay-rise each year, the number of years he has worked for the company, when his annual salary became Rs. 279841 is:
(a) 4 years
(b) 5 years

(c) 2 years
(d) 3 years
(e) 6 years

Q10. Out of the total population of 5000 people in a village, men increased by 10% and women by 15%. Now the total population becomes 5600 in a year. The women population in the village was originally.
(a) 4000
(b) 3500
(c) 2000
(d) 3000
(e) 4500

Directions (11-15): What will come at the place of question mark in the following questions? (You are not expected to find exact value)

Q11. $499.97 \div 4.95 + (5.99)^3 - 207.94 =?$
(a) 100
(b) 108
(c) 122
(d) 186
(e) 160

Q12. $\sqrt{1849} \times 242.97 \div 26.99 - 40.97 =?$
(a) 355
(b) 369
(c) 346
(d) 326
(e) 384

Q13. 59.97% of 849.97 – 38.98% of 599.98 = ?
(a) 276
(b) 225
(c) 256
(d) 295
(e) 246

Q14. $\frac{2}{5}$ of $524.98 \div \sqrt{4901} + \sqrt[4]{625} =?$
(a) 13
(b) 15
(c) 12
(d) 8
(e) 4

Q15. $\frac{14}{399} \div \frac{7}{15} \div \frac{3}{160} + 171 =?$

(a) 106
(b) 175
(c) 150
(d) 125
(e) 205

Solutions

S1. Ans.(c)

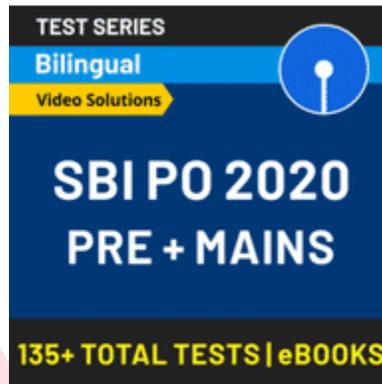Sol. The raised price = $\frac{120}{100}$ of the former price

∴ 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

$\Rightarrow 1 : 6$

S2. Ans.(a)

Sol. Total of maximum marks of all subjects = 105 × 5 = 525

80% of 525 = $\frac{525 \times 80}{100} = 420$

Obtained marks of four subjects (Hindi, Sanskrit, Mathematics and English) = 89 + 92 + 98 + 81 = 360

So, the obtained marks in Science = 420 – 360 = 60

S3. Ans.(b)

Sol. Let total no. of appeared candidates = 100

Males = 90

Females = 10

Males passed= $\frac{90}{100} \times 60 = 54$

females passed = $\frac{80}{100} \times 10 = 8$

Total passed = 54 + 8 = 62 → 1240

Total candidates, $100 \to \frac{1240}{62} \times 100 = 2000$

S4. Ans.(b)

Sol. Let Tina's weight = 1 kg
Lina's weight = 2 kg
Neha' weight = 1.4 kg
Mina's weight = 1.8 kg
Now, according to question,
$\therefore \frac{1.8x}{100} = 1.4$
$\Rightarrow x = \frac{1.4 \times 100}{1.8} = \frac{700}{9} = 77\frac{7}{9}$

S5. Ans.(c)
Sol. First part = x and second part = y.
$\therefore \frac{x \times 80}{100} = \frac{y \times 60}{100} + 3$
$\Rightarrow \frac{4x}{5} = \frac{3y}{5} + 3$
$\Rightarrow 4x - 3y = 15$ ....(i)
Again,
$\frac{4y}{5} = \frac{9x}{10} + 6$
$\Rightarrow 8y = 9x + 60$
$8y - 9x = 60$
By equation (i) × 8 + (ii) × 3,
$32x - 24y = 120$
$24y - 27x = 180$
$5x = 300 \Rightarrow x = 60$
From equation (i)
$4 \times 60 - 3y = 15$
$\Rightarrow 3y = 240 - 15 = 225$
$\Rightarrow y = \frac{225}{3} = 75$
$\therefore$ Required number = x + y = 60 + 75 = 135

S6. Ans. (d)
Sol. No information about total earnings so, data inadequate.

S7. Ans.(b)
Sol. Suppose the maximum marks = 100
$\therefore$ Marks required to pass = 40
$\because$ A gets 10% less than the marks required to pass.
$\therefore$ Marks secured by A = $\frac{40 \times 90}{100} = 36$
$\because$ B gets $11\frac{1}{9}$% marks less than A.
$\therefore$ Marks secured by B
$= \frac{36 \times \left(100 - \frac{100}{9}\right)}{100}$
$= \frac{36 \times \left(\frac{900 - 100}{9}\right)}{100}$
$= 36 \times \frac{800}{9} \times \frac{1}{100} = 32$

Total marks obtained by A and B together.
= 36 + 32 = 68
∵ C gets $41\frac{3}{17}$% marks less than marks obtained by A and B together
∴ Marks obtained by C
$= \frac{68 \times \left(100 - \frac{700}{17}\right)}{100}$
$= \frac{68 \times \frac{1000}{17}}{100} = 68 \times \frac{1000}{17} \times \frac{1}{100} = 40$
$Required\ \% = \frac{40}{100} \times 100 = 40\%$

S8. Ans.(d)
Sol. Let the quantities of acid and water be x litre and 3x litre respectively
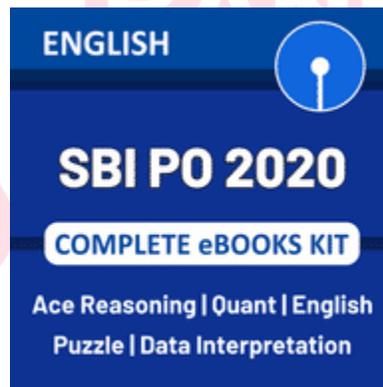(x + 5) : 3x = 1 : 2
3x × 1 = (x + 5) 2 ⇒ x = 10
The quantity of new mixture = x + 3x + 5 = 4x + 5 = 40 + 5 = 45 litre

S9. Ans.(a)
Sol. $279841 = 160000 \times \left(1 + \frac{15}{100}\right)^t$
$t = 4\ years$

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S10. Ans.(c)
Sol. Let the women were x and men were (5000–x).
$(5000 - x) \times \frac{110}{100} + x \times \frac{115}{100} = 5600$
$\frac{550000 - 110x + 115x}{100} = 5600$
$\Rightarrow x = 2000$

S11. Ans.(b)
Sol.
$? \simeq \frac{500}{5} + 6^3 - 208$
$? \simeq 108$

S12. Ans.(c)
Sol.

$? \simeq \dfrac{43 \times 243}{27} - 41$

$\simeq 387 - 41$

$\simeq 346$

S13. Ans.(a)
Sol.

$? \simeq \dfrac{60}{100} \times 850 - \dfrac{39}{100} \times 600$

$\simeq 276$

S14. Ans.(d)
Sol.

$? \simeq \dfrac{210}{70} + 5$

$\simeq 8$

S15. Ans.(b)
Sol.

$? \simeq \dfrac{14}{400} \times \dfrac{15}{7} \times \dfrac{160}{3} + 171$

$\simeq 4 + 171$

$\simeq 175$

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