Quiz Date: 9th July 2020

Q1. Ravi borrowed some money at the rate of 4 p.c.p.a for the first three years, at the rate of 8 p.c.p.a for the next two years and at the rate of 9 p.c.p.a for the period beyond 5 years. If he pays a total simple interest of Rs 19550 at the end of 7 years, how much money did he borrow?
(a) Rs 39500
(b) Rs 42500
(c) Rs 41900
(d) Rs 43000
(e) Rs 45500

Q2. Mr. X invested an amount for 2 years at 15 percent per annum at simple interest. Had the interest been compounded annually, he would have earned Rs. 450 more as interest. What was the amount invested?
(a) Rs. 22,000
(b) Rs. 24,000
(c) Rs. 25000
(d) Rs. 25500
(e) Rs. 20000

Q3. Two equal sums of money were invested-one at 4 ½ % p.a. and the other at 4% p.a . At the end of 7 years, the simple interest received from the former was exceeded to that received from the latter by Rs 31.50. Each sum was
(a) Rs 100
(b) Rs 500
(c) Rs 750
(d) Rs 900
(e) Rs 950

Q4. A sum of Rs 18,750 is left in will by a father to be divided between two sons, whose present age is 12 and 14 years respectively, such that when they attain maturity at 18, the amount (Principal + interest) received by each at 5% S.I. will be the same. Find the sum allotted at present to each son.
(a) Rs 9500, Rs 9250
(b) Rs 8000, Rs 1750
(c) Rs 9000, Rs 9750
(d) Rs 8500, Rs 10250
(e) None of these

Q5. The difference between CI and SI on a certain sum of money at 10% per annum for 3 years is Rs 620. Find the principal if it is known that the interest is compounded annually.
(a) Rs 2,00,000
(b) Rs 20,000
(c) Rs 10, 000

(d) Rs 1,00, 000
(e) Rs 2,000

Q6. The ratio of efficiencies of A, B and C is 2 : 3 : 4. While A and C work on alternate days and B work for all days. Now the work completed in total 10 days and total amount they get is Rs. 1200. Find the amount of each person respectively.
(a) Rs. 200, Rs. 600, Rs. 400
(b) Rs. 500, Rs. 500, Rs. 200
(c) Rs. 600, Rs. 400, Rs. 200
(d) Rs. 400, Rs. 200, Rs. 600
(e) Rs. 450, Rs. 150, Rs. 600

Q7. 12 men take 36 days to do a work while 12 women complete 3/4th of the same work in 36 days. In how many days 10 men and 8 women together will complete the same work ?
(a) 6 days
(b) 27 days
(c) 12 days
(d) Data Inadequate
(e) None of these

Q8. A, B and C can do a work in 8, 16 and 24 days respectively. They all begin together. A continues to work till it is finished, C leaving off 2 days and B one day before its completion. In what time is the work finished?
(a) 3 days
(b) 4 days
(c) 5 days
(d) 8 days
(e)10 days

Q9. Ravi takes thrice the time of Manish to complete a piece of work, and Manish takes five times of Pawan to complete the same work. If they work together then they can finish the work in 30 days. Then find the time taken by them to complete the work individually.
(a) 570days, 190 days, 57 days
(b) 380days, 190 days, 38 days
(c) 570 days, 190 days, 38 days
(d) 470 days, 290 days, 41 days

(e) None of these

Q10. A man works twice as fast as a woman. A woman works twice as fast as a child. If 16 men can complete a job in 12 days, how many days would be required for 32 women and 64 boys together to complete the same job?
(a) 2 days
(b) 3 days
(c) 4 days
(d) 6 days
(e) 8 days

Directions (11-15): What approximate value will come in place of question mark (?) in the given questions?

Q11. $(36.01)^3 \times (4096)^{\frac{1}{2}} \times (37.99)^2 \div (9^3 \times 75.98^2) = 4^?$
(a) 7
(b) 3
(c) 5
(d) 8
(e) 11

Q12. $\frac{4}{15}\ of\ 393 + \frac{7}{12}\ of\ 478 = ? \times (1.99 + 1.01)$
(a) 128
(b) 138
(c) 158
(d) 178
(e) 148

Q13. $\sqrt{2809.001} \div 7.98 \times (12.01)^2 + 46.002 = ?$
(a) 1300
(b) 900
(c) 1000
(d) 1100
(e) 980

Q14. $27.951\%\ of\ 449.32\ - 81.99\%\ of\ 499.72 = ? - \frac{12}{13}\ of\ 105$
(a) 188
(b) - 208
(c) - 188
(d) 170
(e) – 158

Q15. 1299 ÷ 19.99 × 25.01 + 400.01 = ?
(a) 2025
(b) 2300

(c) 1925
(d) 2200
(e) 1700

Solutions

S1. Ans.(b)
Sol.
Let many borrowed by him was Rs. P
ATQ,
$\frac{P\times4\times3}{100}+\frac{P\times8\times2}{100}+\frac{P\times9\times2}{100}=19550$
$\Rightarrow$ P = Rs. 42,500

S2. Ans.(e)
Sol.
Difference between C.I. & S.I. = 450
So, $450=\frac{p\times15\times15}{100\times100}$
$\Rightarrow p=20000$
So, amount invested = Rs. 20,000

S3. Ans.(d)
Sol.
Let each sum was Rs. P
$\therefore \frac{P\times9\times7}{200}-\frac{P\times4\times7}{100}=31.5$
$\Rightarrow P=\frac{31.5\times200}{7}$
$\Rightarrow$ P = 900 rupees

S4. Ans.(c)
Sol.
Let sum allotted to younger son = Rs x
$\therefore$ Part of elder son = Rs (18750−x)
ATQ,
$x+\frac{x\times6\times5}{100}=(18750-x)+\frac{(18750-x)\times4\times5}{100}$
$\Rightarrow 130x = 18,75,000 - 100x + 3,75,000 - 20x$
$\Rightarrow$ x = Rs 9000
$\therefore$ Part of younger son = Rs 9000
Part of elder son =Rs 9750

S5. Ans.(b)
Sol.

Since,

$$\text{C. I.} - \text{S. I.} = \frac{PR^2(300+R)}{100^3} \quad \text{(for 3 years)}$$

$$\Rightarrow \frac{P\times 100\times 310}{100^3} = 620$$

$$\Rightarrow P = \text{Rs } 20{,}000$$

S6. Ans.(a)

Sol.

Ratio of work done by all of them i.e. by A, B and C respectively.

$= 2 \times 5 : 3 \times 10 : 4 \times 5$

$= 1 : 3 : 2$

$\therefore$ Amount of A $= \frac{1}{6} \times 1200 = Rs.\ 200$

Amount of B $= \frac{3}{6} \times 1200 = \text{Rs. } 600$

Amount of C $= \frac{2}{6} \times 1200 = \text{Rs. } 400$

S7. Ans.(b)

Sol.

Work completed by one man = 12 × 36 days

Work completed by one woman

$= \frac{4}{3} \times 36 \times 12$

$= 48 \times 12$ days

$\therefore$ 1 woman is equivalent to $\frac{12 \times 36}{48 \times 12} = \frac{3}{4}$ man

$\therefore (10M + 8W) = 10M + 8 \times \frac{3}{4}M = 16M$

$\therefore$ work completed by given no. of persons

$$= \frac{12 \times 36}{16}$$

$= 27$ days

S8. Ans.(c)
Sol.

One day work of A, B and C $= \left(\frac{1}{8}+\frac{1}{16}+\frac{1}{24}\right)$

Let work is completed in x days.

$\therefore \frac{x}{8}+\frac{(x-1)}{16}+\frac{x-2}{24}=1$

$\Rightarrow 6x+3x-3+2x-4=48$

$\Rightarrow 11x=55$

$\Rightarrow x=5$ days

S9. Ans.(c)
Sol.

Let Ravi takes x days to complete the work alone.

$\therefore$ Time taken by Manish $= \frac{x}{3}$ days

And that by Pawan $= x/15$ days

$\therefore \frac{1}{x}+\frac{3}{x}+\frac{15}{x}=\frac{1}{30}$

$\Rightarrow x = 570$ days = time taken by Ravi

$\therefore$ Time taken by Manish $= \frac{570}{3} = 190$ days

Time taken by Pawan $= \frac{570}{15} = 38$ days

S10. Ans.(d)
Sol.

Ratio of efficiencies of man, woman and a child = 4 : 2 : 1

$\therefore$ Let x days are required

$\therefore \left(\frac{32}{2\times12\times16}+\frac{64}{4\times12\times16}\right)\times x = 1$

$\Rightarrow x = 6$ days

S11. Ans.(c)
Sol.

$36.01^3 \times 4096^{\frac{1}{2}} \times 37.99^2 \div (9^3 \times 75.98^2) = 4^?$

or, $4^? = \frac{36^3 \times \sqrt{4096} \times 38^2}{9^3 \times 76^2}$

$= \frac{4^3 \times 9^3 \times 4^3 \times 38 \times 38}{9^3 \times 76 \times 76} = \frac{4^3 \times 4^3}{2 \times 2}$

or, $4^{?} \approx 4^3 \times 4^2 = 4^5$
$\therefore ? \approx 5$

S12. Ans.(a)
Sol.
$\frac{4}{15}$ of $393 + \frac{7}{12}$ of $473 = ? \times (1.99 + 1.01)$
or, $? \times 3 \approx \frac{4}{15} \times 393 + \frac{7}{12} \times 478$
or, $? \times 3 \approx \frac{4}{15} \times 390 + \frac{7}{12} \times 480$
or, $? \times 3 \approx 104 + 280$
or, $? \approx \frac{384}{3}$
$\therefore ? \approx 128$

S13. Ans.(c)
Sol.
$? \approx \sqrt{2809} \div 8 \times (12)^2 + 46$
or, $? \approx \frac{53}{8} \times (12)^2 + 46$
or, $? \approx 954 + 46$
$\therefore ? \approx 1000$

S14. Ans.(c)
Sol.
$? \approx \frac{28\times450}{100} - \frac{82\times500}{100} + \frac{12\times104}{13}$
$? \approx 126 - 410 + 96$
$? \approx -188$

S15. Ans.(a)
Sol.
$? = 1299 \div 19.99 \times 25.01 + 400.01$
$? \approx \frac{1300}{20} \times 25 + 400$
$? \approx 1625 + 400$

$? \approx 2025$