Quiz Date: 16th February 2020

Q1. A man sells 3 article P, Q and R for Rs. 5200 each. He earns profit of $16\frac{2}{3}\%$ on article P, and he sells article Q at the loss of $14\frac{2}{7}\%$ but in the whole transaction there is no profit and no loss. find out the profit percentage of the article R?
(a) $\frac{50}{21}\%$
(b) $\frac{100}{41}\%$
(c) $\frac{100}{31}\%$
(d) $\frac{100}{7}\%$
(e) $\frac{100}{39}\%$

Q2. Shivam sells sweets at Rs 72 per kg which is made up of flour and sugar in the ratio of 5 : 3. The ratio of price of flour and price of sugar is 3 : 7 in one kg and he made a profit of $33\frac{1}{3}\%$ on selling 1kg sweets. What is the cost price of sugar?
(a) Rs 72 per kg
(b) Rs 80 per kg
(c) Rs 90 per kg
(d) Rs 84 per kg
(e) None of these.

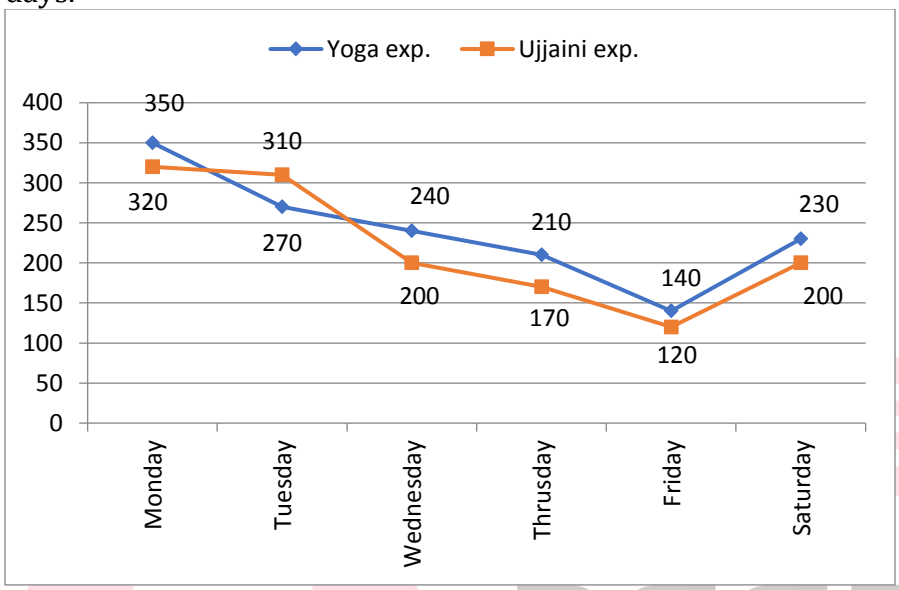
Q3. A shopkeeper marks up price of an article '3X'% above its cost price and difference between marked price & cost price is Rs. 360. Shopkeeper allows 'X' % discount and difference between marked price and selling price is Rs. 156, find the overall profit of shopkeeper on selling the article?
(a) Rs. 184
(b) Rs. 204
(c) Rs. 324
(d) Rs. 285
(e) Rs. 384

Q4. If the digits of a two digits number are reversed then the number so obtained becomes 3/8th times of original number. Then find sum of square of digits of the number.
(a) 48
(b) 51
(c) 53
(d) 56
(e) 62

Q5. A sold an article to B at 20% profit. B then sold it to C at 25% profit and then C sold it to D for Rs. 2210 and thus earning same amount of loss that A has earned as profit. Then, find the loss percentage of C.
(a) $\frac{40}{3}\%$

(b) $\frac{41}{3}\%$
(c) $\frac{40}{7}\%$
(d) $\frac{30}{7}\%$
(e) $\frac{31}{3}\%$

Directions (6-10): Given below is the graph which shows the number of people who travelled from Delhi to Dehradun by two trains Yoga exp. and Ujjaini exp. on six different days.



Q6. The number of people who travelled by Ujjaini exp. on Sunday of the same week are 20% more than those of who travelled by the same train on Saturday. What is the ratio of the number of people who travelled on Sunday to those of who travelled on Tuesday by the same train.
(a) 24 : 31
(b) 23 : 32
(c) 33 : 41
(d) 11 : 19
(e) 5 : 7

Q7. What is the difference between total people who travelled on Monday and Tuesday together by Yoga exp. and total people who travelled on Friday and Saturday by Ujjaini exp.
(a) 250
(b) 300
(c) 350
(d) 200
(e) 400

Q8. What is the difference between average of people who travelled by Yoga exp. on Tuesday, Wednesday and Thursday and average of people travelled by Ujjaini exp. on Wednesday, Monday and Friday.

(a) $26\frac{2}{3}$

(b) $33\frac{1}{3}$

(c) $14\frac{2}{7}$

(d) $66\frac{2}{3}$

(e) $28\frac{1}{3}$

Q9. If on Sunday people who travel by Yoga exp. and who travel by Ujjaini exp. are increased by 10% and $\frac{25}{2}$% respectively over Saturday, then the total people travelling on Sunday by both trains is what percent of total people who travel on Monday by both trains.

(a) $37\frac{2}{35}$%

(b) $72\frac{7}{68}$%

(c) $71\frac{23}{67}$%

(d) $48\frac{5}{6}$%

(e) None of these

Q10. If fare per person of Ujjaini exp. is 90% of fare per person of Yoga exp.on all days and difference between total fare of Yoga exp. and Ujjaini exp. on Monday is 1240 then find the total fare of both trains on Friday.

(a) 2025

(b) 5550

(c) 4960

(d) 5354

(e) 3885

Directions (11-15): What will come in place of the "x" in the following questions

Q11. 24% of 480 + 30% of 270 + 48% of 10 = x

(a) 190

(b) 195

(c) 198
(d) 201
(e) 205

Q12. $\sqrt{361} \times \frac{4}{38}\ of\ 26 + 1024 \times 5 \div 4 = x$
(a) 1261
(b) 1332
(c) 1164
(d) 1020
(e) 1380

Q13. x% of $360 \div 72 + \frac{2}{7}$ of $315 = 28\%$ of 625
(a) 1600
(b) 1700
(c) 1800
(d) 1750
(e) 1850

Q14. $841 \div 116 \times 4 + 256\ \sqrt{x} = 1082 \div 2$
(a) 4
(b) 9
(c) 16
(d) 25
(e) 36

Q15. $68 \times 24 - 2\%$ of $1600 = x^2$
(a) 36
(b) 38
(c) 32
(d) 29
(e) 40

Solutions

S1. Ans. (b)
Sol.
Let selling price of each article is Rs. 42x
So, selling price of all three article is Rs.126x
So, cost price of all three article is also Rs. 126x
Cost price of article P = $\frac{6}{7} \times 42 = Rs\ 36x$
Cost price of article Q = $\frac{7}{6} \times 42 = Rs\ 49x$
So, cost price of article R = $[126 - 36 - 49]$x
Cost price of article R = Rs. 41x

So, profit %= $\frac{42-41}{41} \times 100$

$= \frac{100}{41}\%$

S2. Ans.(e)

Sol.

CP of sweet per kg = $72 \times \frac{3}{4}$

= Rs 54 per kg

Price of sugar in sweet = $54 \times \frac{7}{10}$

Hence, cost price of 1 kg of sugar = $54 \times \frac{7}{10} \times \frac{8}{3}$

= Rs.100.8

S3. Ans(b)

Sol.

Let CP = a

So, MP $= \left(\frac{100+3x}{100}\right) a$

and, SP $= \left(\frac{100-x}{100}\right)\left(\frac{100+3x}{100}\right) \times a$

$\left(\frac{100+3x}{100}\right) a - a = 360$

$a\left(\frac{100+3x}{100} - 1\right) = 360 \Rightarrow a \times \frac{3x}{100} = 360$ ...(i)

And,

$\left(\frac{100+3x}{100}\right) \times a - \left(\frac{100-x}{100}\right)\left(\frac{100+3x}{100}\right) \times a = 156$

$\left(\frac{100+3x}{100}\right) a \left[1 - \frac{(100-x)}{100}\right] = 156$ ...(ii)

From (i) & (ii)

$\frac{\frac{3x}{100}}{\frac{(100+3x)}{100} \times \frac{x}{100}} = \frac{360}{156}$

$\frac{100}{100+3x} = \frac{10}{13}$

x = 10

CP of article $= \left(\frac{100+3\times10}{100}\right) a - a = 360$

1.3a – a =360

A = 1200 Rs

Marked price of article = 1.3 × 1200

= 1560 Rs

Selling price of article $= 1560 \times \frac{(100-10)}{100}$

= 1404 Rs

Required profit = 1404 – 1200 = Rs. 204

S4. Ans.(c)
Sol. Let the digit at tens place & units place be 'x' & 'y' respectively
So, original Number = 10 × x + y
Resultant Number = 10 × y + x
ATQ,
$\frac{3}{8} \times (10 \times x + y) = (10 \times y + x)$
$22x = 77y$
$\frac{x}{y} = \frac{7}{2}$
Since number is 2 digits so, only one possible case in this case
Original number =72
And reversed number =27
Required sum = 49+4=53

S5. Ans.(a)
Sol.
Let C.P. of an article for A be Rs x
So,

Persons	CP	SP
A	X	1.2x
B	1.2x	1.5x
C	1.5x	Rs. 2210

ATQ,
1.2x – x = 1.5x – 2210
0.2x = 1.5x – 2210
1.3x = 2210
x = Rs 1700
Required % == $\frac{1700 \times \frac{20}{100}}{\frac{150}{100} \times 1700} \times 100$
$= 13\frac{1}{3}\%$

S6. Ans.(a)
Sol.

People who travelled by Ujjaini exp. on Sunday $= \frac{120}{100} \times 200 = 240$

Required ratio $= \frac{240}{310}$

$= 24 : 31$

S7. Ans.(b)

Sol.

Total people who travelled on Monday and Tuesday together by Yoga exp.= 350 + 270 = 620

Total people who travelled on Friday and Saturday by Ujjaini exp. = 120 + 200 = 320

Required difference = 620 – 320 = 300

S8. Ans.(a)

Sol.

Average of people who travelled by Yoga exp. on Tuesday, Wednesday and Thursday

$= \frac{270 + 240 + 210}{3}$

$= \frac{720}{3} = 240$

Average of people travelled by Ujjaini exp. on Wednesday, Monday and Friday

$= \frac{(320 + 200 + 120)}{3}$

$= \frac{640}{3}$

Required difference $= 240 - \frac{640}{3}$

$= \frac{80}{3} = 26\frac{2}{3}$

S9. Ans.(c)

Sol.

Total people who travel by both trains (Yoga & Ujjaini exp.) on Sunday

$= \frac{110}{100} \times 230 + \left(\frac{25}{200} \times 200 + 200\right)$

$= 253 + 225$

$= 478$

Required percentage $= \frac{478}{670} \times 100$

$= 71\frac{23}{67}\%$

S10. Ans.(c)

Sol.

Let fare per person of Yoga exp. = x

Then, fare per person of Ujjaini exp.= $0.9x$

According to question

$350x - 320 \times 0.9x = 1240$

$62x = 1240$
$x = 20$
Required fare $= 140 \times 20 + 120 \times 18$
$= 2800 + 2160$
$= 4960$

S11. Ans.(d)
Sol.
$\frac{24}{100} \times 480 + \frac{30}{100} \times 270 + \frac{48}{100} \times 10 = x$
$x = 24 \times 4.8 + 3 \times 27 + 4.8$`
$x = 115.2 + 81 + 4.8$
$x = 201$

S12. Ans.(b)
Sol.
$x = 19 \times \frac{4}{38} \times 26 + \frac{1024 \times 5}{4}$
$x = 4 \times 13 + 1280$
$x = 1332$

S13. Ans.(b)
Sol.
$\frac{x}{100} \times \frac{360}{72} + \frac{2}{7} \times 315 = \frac{28}{100} \times 625$
$\frac{x}{20} + 2 \times 45 = \frac{7}{25} \times 625$
$\frac{x}{20} + 90 = 175$
$\frac{x}{20} = 85$
$x = 1700$

S14. Ans.(a)
Sol.
$\frac{841}{116} \times 4 + 256\sqrt{x} = 541$

$\frac{841}{29} + 256\sqrt{x} = 541$
$256\sqrt{x} = 541 - 29$
$256\sqrt{x} = 512$
$\sqrt{x} = 2$
x= 4

S15. Ans.(e)
Sol.
$68 \times 24 - \frac{2}{100} \times 1600 = x^2$
$x^2 = 1632 - 32$
$x = 40$