## Quiz Date: $\mathbf{1 8}^{\text {th }}$ March 2020

Directions (1-5): The following line graph shows the average speed ( $\mathrm{m} / \mathrm{sec}$ ) of two trains Kolkata Rajdhani and Sealdah Rajdhani Exp. during six different days of a week between New Delhi to Kolkata. Study the graph carefully to answer the following questions.


Q1. What is the average of average speed of Kolkata Rajdhani express during all the six days? (in km/hr)
(a) 102
(b) 105
(c) 90
(d) 108
(e) 112


Q2. The average speed of Kolkata Rajdhani on Tuesday and Wednesday together is how much percent more than the average speed of Sealdah Rajdhani on Monday and Wednesday together?
(a) $30 \%$
(b) $50 \%$
(c) $45 \%$
(d) $40 \%$
(e) $25 \%$

Q3. If both trains start from New Delhi to Kolkata at same time on Wednesday, then Kolkata Rajdhani reaches Kolkata 4 hours before than Sealdah Rajdhani express. Find distance between New Delhi and Kolkata.
(a) 1440 km
(b) 1728 km
(c) 1628 km
(d) 1640 km
(e) 1240 km

Q4. What is the difference between average of average speed of Kolkata Rajdhani on Tuesday, Wednesday and Saturday and average of average speed of Sealdah Rajdhani express on Tuesday, Thursday \& Saturday (in km/hr)?
(a) 9
(b) 12
(c) 5
(d) 18
(e) 36

Q5. What is the average of average speed of Sealdah Rajdhani express on Monday, Tuesday and Friday (in km/hr)?
(a) 72
(b) 85
(c) 126
(d) 75
(e) 90


Directions (6-10): A dealer purchased 6 old washing machines of 6 different companies from OLX and sold them in market. Given below is the data showing cost price, selling price and profit/loss percentage.

| Washing <br> Machines | C.P. (in <br> Rs.) | Profit\% | Loss\% | S.P. (in <br> Rs.) |
| :--- | :---: | :---: | :---: | :---: |
| Samsung | 9375 | - | - | 7968.75 |
| LG | - | $14 \%$ | - | 21375 |
| Videocon | 12325 | - | $18 \%$ | - |
| Godrej | 10385 | - | - | 14019.75 |
| Panasonic | - | $24 \%$ | - | 5022 |
| Whirlpool | 14360 | - | - | 12924 |

Q6. Cost price of Panasonic washing machine is what percent of selling price of Videocon washing machine? (approximate)
(a) $36 \%$
(b) $40 \%$
(c) $48 \%$
(d) $44 \%$
(e) $52 \%$

Q7. If there have been a profit of $18 \%$ on Videocon washing machine instead of $18 \%$ loss, then the new S.P. is how much more than the original S.P. ?
(a) 4439
(b) 4429
(c) 4427
(d) 4437
(e) 4247

Q8. Profit percentage on Godrej washing machine is what percent more/less than profit percentage on LG washing machine?
(a) $50 \%$ more
(b) $150 \%$ more
(c) $250 \%$ more
(d) $50 \%$ less
(e) $150 \%$ less

Q9. What is the ratio between loss percentage of Whirlpool washing machine to loss percentage of Samsung washing machine?
(a) $2: 3$
(b) $3: 2$
(c) $3: 5$
(d) $2: 5$
(e) None of these


Q10. What is the overall profit/loss percentage? (approximate)
(a) $2.1 \%$ profit
(b) $3.1 \%$ profit
(c) $4.1 \%$ profit
(d) $3.1 \%$ loss
(e) $2.1 \%$ loss

## Solutions

S1. Ans.(a)
Sol.
Required average speed (m/sec)
$=\frac{1}{6} \times(25+30+40+30+25+20)$
$=\frac{170}{6} \mathrm{~m} / \mathrm{sec}$
Required answer $=\frac{170}{6} \times \frac{18}{5} \mathrm{~km} / \mathrm{hr}$
$=102 \mathrm{~km} / \mathrm{hr}$
S2. Ans.(d)
Sol.
Average speed of Kolkata Rajdhani on Tuesday \& Wednesday
$=\frac{1}{2} \times(30+40)$
$=35 \mathrm{~m} / \mathrm{sec}$
Average speed of Sealdah Rajdhani on Monday and Wednesday
$=\frac{1}{2} \times(20+30)$
$=25 \mathrm{~m} / \mathrm{sec}$
$\therefore$ Required $\%=\frac{35-25}{25} \times 100=40 \%$
S3. Ans.(b)
Sol.
Let Kolkata Rajdhani takes ' t ' hours to reach Kolkata
$\therefore$ Time taken by Sealdah Rajdhani $=(\mathrm{t}+4) \mathrm{h}$
ATQ,
$40 \mathrm{t}=30(\mathrm{t}+4)$
$\Rightarrow t=12 \mathrm{~h}$
$\therefore$ Required answer $=40 \times \frac{18}{5} \times 12=1728 \mathrm{~km}$
S4. Ans.(d)
Sol.
Required difference
$=\left[\frac{1}{3}(30+40+20)-\frac{1}{3}(25+35+15)\right]$
= $30-25$
$=5 \mathrm{~m} / \mathrm{sec}$
$=5 \times \frac{18}{5} \mathrm{~km} / \mathrm{hr}$
$=18 \mathrm{~km} / \mathrm{hr}$
S5. Ans.(e)
Sol.
Required average speed of Sealdah Rajdhani
$=\frac{1}{3} \times(20+25+30) \times \frac{18}{5}$
$=90 \mathrm{~km} / \mathrm{hr}$
S6. Ans.(b)
Sol.
Let cost price of Panasonic washing machine
$=x$
$\therefore x \times \frac{(100+24)}{100}=5022$
Or, $x=4050$
Selling price of Videocon washing machine
$=12325 \times \frac{(100-18)}{100}=10106.5$
Required percentage $=\frac{4050}{10106.5} \times 100 \approx 40 \%$

S7. Ans.(d)
Sol.
Original S.P. $=12325 \times \frac{82}{100}=10106.5$
New S.P $=12325 \times \frac{(100+18)}{100}=14543.5$
Difference $=4437$


S8. Ans.(b)
Sol.
Percentage profit on Godrej washing machine
$=\frac{14019.75-10385}{10385} \times 100=35 \%$
Profit percentage on LG washing machine $=14 \%$
Required percentage
$=\frac{(35-14)}{14} \times 100=150 \%$ more

S9. Ans.(a)
Sol.

$$
\begin{aligned}
& \text { Loss percentage on Whirlpool washing machine } \\
& =\frac{14360-12924}{14360} \times 100=10 \% \\
& \text { Loss percentage on Samsung washing machine } \\
& =\frac{9375-7968.75}{9375} \times 100=15 \%
\end{aligned}
$$

Required Ratio $=2: 3$

S10. Ans.(b)
Sol.
Overall cost price of all washing machines together $=9375+18750+12325+10385+4050+14360=69245$
Overall selling price of all washing machines together
$=7968.75+21375+10106.5+14019.75+5022+12924=71416$
Profit percentage
$=\frac{71416-69245}{69245} \times 100 \approx 3.1 \%$ profit

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