Quiz Date: 26th April 2020

Direction (1 – 5): Read the direction carefully and answer the questions give below.
Maanik opened a 'Hen reproductive' firm in 2017 and in his firm, there are four types of hens , i.e. P, Q, R & S. Out of total hens some are good quality & some are bad quality. 40% of total hens in firm are S types and total type Q & type R hens together in firm are 12.5% more than total type S hens in the firm. Total type S hens in firm are 960 and bad quality type S hens in firm are 12.5 % less than total good quality same type of hens, while ratio of total good quality of type S hens in firm to total bad quality of type Q hens in firm is 64 : 27. Total good quality of type R hens in firm are 50% of total bad quality of type S hens and total bad quality of type R hens are 320 less than total good quality of type Q hens in firm. Total good quality of type P hens in firm are 40% more than that of total bad quality of type P hens.

Q1. Total bad quality type S hens are what percent more or less than total good quality of type Q hens ?
(a) $2\frac{2}{3}$%
(b) $3\frac{1}{3}$%
(c) $6\frac{1}{3}$%
(d) $5\frac{2}{3}$%
(e) $6\frac{2}{3}$%

Q2. Find difference between average number of good quality type P & type R hens and average number of bad quality type Q & type S hens?
(a) 115
(b) 125
(c) 130
(d) 135
(e) 145

Q3. Find the ratio of total bad quality type Q hens to total good quality type R hens?
(a) 26 : 27
(b) 27 : 31
(c) 27 : 29
(d) 27 : 28
(e) None of these

Q4. Find average of good quality hens of all type?
(a) 327
(b) None of these
(c) 356.5
(d)355
(e)345.5

Q5. Total all four types of good quality hens in firm is approximately what percent of total all four types of bad quality hens in firm?
(a) 130%
(b) 140%
(c) 136%
(d) 156%
(e) 146%

Directions (6-10): Read the given data carefully and answer the given question
Pie chart shows the percentage distribution of time taken by 8 different persons namely A, B, C, D, E, F, G and H to reach a particular point but the starting point is not same and total time taken by all of them together is 500 hr. (partly by car and remaining by train)
The line graph shows percentage distribution of distance travelled by car out of total distance travelled by them individually.

% Distance travelled by car
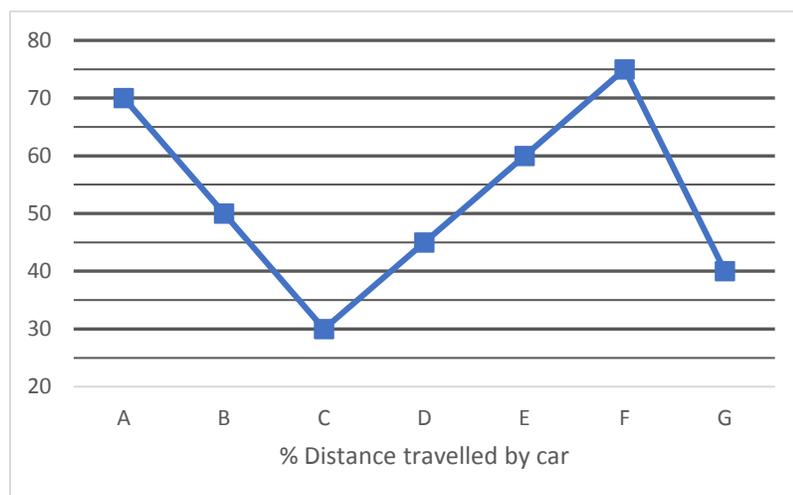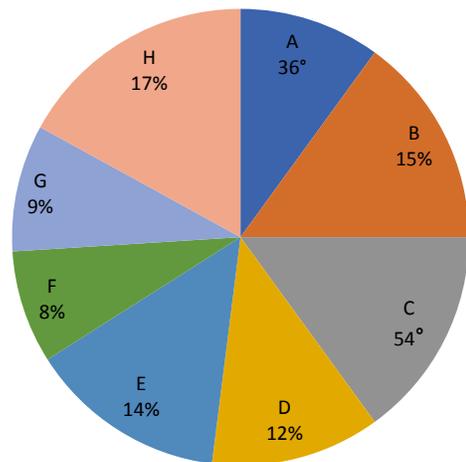
Q6. Find speed of E by train, if the speed of car is 60 km/hr and time taken by car and train are in the ratio of 4 : 3.
(a) 50 km/hr
(b) 45 km/hr
(c) $53\frac{1}{3}$ km/hr
(d) $56\frac{2}{3}$ km/hr
(e) $51\frac{2}{3}$ km/hr

Q7. Find the speed of D by car. If the speed by train is 22 km/hr and time taken by car is 50% less than the train.
(a) 45 km/hr
(b) 54 km/hr
(c) 36 km/hr
(d) 65 km/hr
(e) 48 km/hr

Q8. If the distance travelled by B, C and D together and E, F, G and H together is same. Then find the ratio of speed of B, C and D together and that of E, F, G and H together.
(a) 6 : 5
(b) 8 : 7
(c) 7 : 8
(d) 5 : 6
(e) 7 : 9

Q9. Average speed of A and C are in the ratio of 4 : 3 and C have travelled 500 km more than A. Find the speed of A by car if the speed of A by train is 120 km/hr.
(a) 80 km/hr
(b) 60 km/hr
(c) 65 km/hr
(d) 75 km/hr
(e) None of these

Q10. Total distance travelled by G is 2250 and the speed by train is 45 km/hr. Find the speed of G by car.
(a) 50 km/hr

(b) 60 km/hr
(c) 70 km/hr
(d) 40 km/hr
(e) 80 km/hr

Directions (11-15): Study the following pie-chart and answer the questions.
Pie-chart given below shows the percentage distribution of students who applied for IBPS exam in 5 different year.
And table shows the percentage of student who paid the fees by debit card.

Note: Fees is paid only through debit and credit card.

Total number of student who applied = 12 lakh
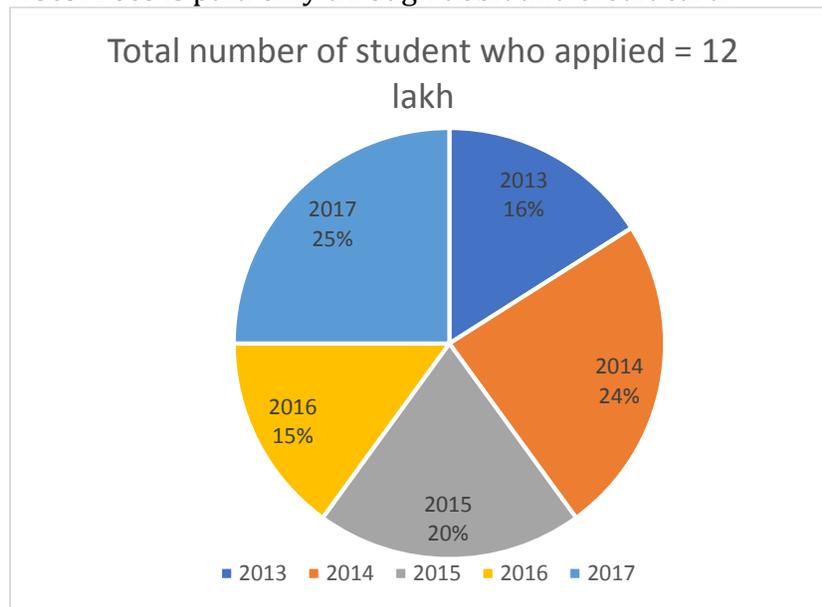
Year	% of student who paid through debit card
2013	37.5%
2014	25%
2015	62.5%
2016	42.5%
2017	20%

Q11. Number of students who paid their fees through credit card in year 2013 and 2014 together is how much more/less than number of students who paid through debit card in year 2015 and 2016 together ?
(a) 109500
(b) 112500
(c) 109600
(d) None of these
(e) 129500

Q12. Number of students who paid through debit card in 2012 is equal to average of students who paid through debit card in 2016 and 2017 and students who paid through debit card is ⅔rd of total student in 2012. Then find total students in 2012 ?
(a) None of these
(b) 1,04,225
(c) 1,02,375
(d) 1,22,345
(e) 1,11,320

Q13. Students who paid fees through credit card in 2017 is what percent of students who paid fees through debit card in 2015 ?
(a)110%
(b)175%
(c)125%
(d)160%
(e)None of these

Q14. Find the average number of students who paid their fees through debit card in year 2013, 2014 and 2016 ?
(a)71250
(b)73500
(c)75300
(d)None of these
(e)71750

Q15. If the fees is paid through credit card then each student has to pay Rs. 20 extra inclusive of fees. Then find the total extra amount paid by students in year 2015 and 2017 together ?
(a)58 lakh
(b)54 lakh
(c)None of these
(d)68 lakh
(e)66 lakh

Solutions

S (1 – 5) :

Let total hens in firm = 100a

Total type S hens in firm = $100a \times \frac{40}{100} = 40a$

Total type Q & type R hens in firm = $40a \times \frac{9}{8} = 45a$

Total type P hens = 100a – (40a + 45a) = 15a

Given, 40a = 960

      a = 24

Total good quality of type S hens = $40 \times 24 \times \frac{8}{15} = 512$

Total bad quality of type S hens = 960 – 512 = 448

Total bad quality of type Q hens = $512 \times \frac{27}{64} = 216$

Total good quality of type R hens = $448 \times \frac{1}{2} = 224$

Let total bad quality of type R hens be x

So, total good quality of type Q hens be (x + 320)

Given, $x + x + 320 = 45 \times 24 - (216 + 224)$

2x = 320

x = 160

Total bad quality of type R hens = 160

Total good quality of type Q hens = 160 + 320 = 480

Total type P hens in firm = $24 \times 100 - (960 + 1080) = 360$

Let total bad quality type P hens = 5x

So, total good quality type P hens = 7x

Total good quality type P hens = $360 \times \frac{7x}{12x} = 210$

Total bad quality type Q hens = $360 - 210 = 150$

Types	Good quality	Bad quality
P	210	150
Q	480	216
R	224	160
S	512	448

S1. Ans(e)

Sol.

Required percentage = $\frac{480-448}{480} \times 100$

= $\frac{32}{480} \times 100 = 6\frac{2}{3}\%$

S2. Ans(a)

Sol.

Average number of good quality type P & type R = $\frac{210+224}{2}$ = 217

Average number of bad quality type Q & type S hens = $\frac{216+448}{2}$ = 332

Required difference = 332 − 217 = 115

S3. Ans(d)
Sol.
Required ratio = $\frac{216}{224}$
　　　　　　= 27 : 28

S4. Ans(c)
Sol.
Required average = $\frac{210+480+224+512}{4} = \frac{1426}{4} = 356.5$

S5. Ans(e)
Sol.
Total all four types good quality hens in firm = 210 + 480 + 224 + 512 = 1426
Total all four types of bad quality hens in firm = 150 + 216 + 160 + 448 = 974
Required percentage = $\frac{1426}{974} \times 100$
　= 146.40 ≈ 146%

S6. Ans.(c)
Sol.
Total time taken by E = $500 \times \frac{14}{100}$ = 70 hr
Time taken by car = $70 \times \frac{4}{7}$ = 40 hr
So time taken by train = 30 hr
Distance travelled by car = $40 \times 60 = 2400$
Distance travelled by train = $\frac{2400}{60} \times 100 \times \frac{40}{100}$ = 1600 km
Speed of train = $\frac{1600}{30} = 53\frac{1}{3}$ km/hr

S7. Ans.(c)
Sol.
Total time taken by D = $500 \times \frac{12}{100}$ = 60 hr
Now
ATQ,
$x + \frac{x}{2} = 60$　Where x = time taken by train
$\Rightarrow x = 40$
Time taken by car = $60 - 40 = 20$ hr
Distance travelled by train = $22 \times 40 = 880$ km
Distance travelled by car = $\frac{880}{55} \times \frac{45}{100} \times 100 = 720$ km
Speed of D by car = $\frac{720}{20}$ = 36 km/hr

S8. Ans.(b)
Sol.
Time taken by B, C and D together = $500 \times \frac{42}{100} = 210$ hr

Time taken by E, F, G and H together = $500 \times \frac{48}{100} = 240$ hr

Let Avg. speed of B, C and D = x
Let Avg. Speed of E, F, G and H = y
ATQ,
$210 \times x = 240 \times y$
$\frac{x}{y} = \frac{240}{210} = \frac{8}{7}$
Required answer = 8 : 7

S9. Ans.(e)
Sol.
Time taken by A = $500 \times \frac{10}{100} = 50$ hr

Time taken by C = $500 \times \frac{15}{100} = 75$ hr

Let Avg. speed of A = $4x$
Let Avg. speed of B = $3x$
ATQ,
$75 \times 3x - 50 \times 4x = 500$
$x = 20$
Avg. speed of A = $40 \times 20 = 80$ km/hr
Total distance travelled by A = $80 \times 50 = 4000$ km
Let the speed of A by car = s km/hr
ATQ,
$\frac{4000}{\frac{2800}{s} + \frac{1200}{120}} = 80$
S = 70 km/hr

S10. Ans.(b)
Sol.
Time taken by G = $500 \times \frac{9}{100} = 45$

Distance travelled by train = $2250 \times \frac{60}{100} = 1350$

Time taken by train = $\frac{1350}{45}$ = 30 hr

Time taken by car = 45 – 30 = 15 hr

Distance travelled by car = 2250 – 1350 = 900

Speed of G by car = $\frac{900}{15}$ = 60 km/hr

S11. Ans.(a)

Sol.

No. of students who paid fees through credit card in 2013 and 2014 together

= 12,00,000 × $\left[\frac{16}{100} \times \frac{62.5}{100} + \frac{24}{100} \times \frac{75}{100}\right]$

= 120 × [1000 + 1800]

= 3,36,000

No. of students who paid fees through debit card in 2015 and 2016 together.

= 12,00,000 × $\left[\frac{20}{100} \times \frac{62.5}{100} + \frac{15}{100} \times \frac{42.5}{100}\right]$

= 120× [1250 + 637.5]

= 2,26,500

Required difference = 3,36,000 – 2,26,500 = 1,09,500

S12. Ans.(c)

Sol.

No. of students who paid through debit card in 2012

= $\frac{1}{2}$ × 12,00,000 × $\left[\frac{15}{100} \times \frac{42.5}{100} + \frac{25}{100} \times \frac{20}{100}\right]$

= 60 × [637.5 + 500]

= 68250

∴ Total number of students in 2012 = 68250 × 3/2 = 1,02,375

S13. Ans.(d)

Sol.

Required % = $\frac{12,00,000 \times \frac{25}{100} \times \frac{80}{100}}{12,00,000 \times \frac{20}{100} \times \frac{62.5}{100}}$ × 100 = 160%

S14. Ans.(b)

Sol.

Required Avg. = $\frac{1}{3}$ × 12,00,000 $\left[\frac{16}{100} \times \frac{37.5}{100} + \frac{24}{100} \times \frac{25}{100} + \frac{15}{100} \times \frac{42.5}{100}\right]$

= 73500

S15. Ans.(e)

Sol.

Required amount = 12,00,000 × $\left[\frac{20}{100} \times \frac{37.5}{100} + \frac{25}{100} \times \frac{80}{100}\right]$ × 20

= 120 × 2750 × 20

= Rs. 66,00,000

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