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Date Interpretation Mixed Chart Questions for SBI Clerk Mains, IBPS Clerk Mains, RBI Grade B, LIC AAO, Canara Bank PO and Syndicate Bank PO Exams.

DI Mixed Chart Quiz 64

Directions : Study the following pie and table chart carefully and answer the questions given beside.

The pie-chart shows the percentage distribution of the total distance covered by five trains (A, B, C, D and E) from source to the destination. Let the source be point X and the destination be point Y for all trains.

Percentage of the distance covered
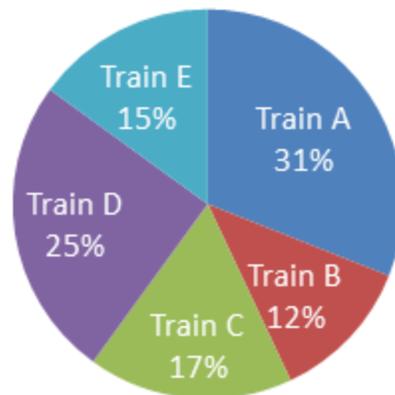
Each trains starts from X but takes a different route to reach Y and follows the same route when it returns to X from Y.

Note: The total distance covered by all the trains together to reach Y from X is 3100 km.
The table below shows the running speed of all the trains (excluding their stoppage time) while going from source (X) to destination (Y) and the ratio of the time taken (including stoppage time) by all the trains while going from X-to-Y to the time taken (including stoppage time) while returning from Y-to-X. The number of stoppages for each train on its route is given in the table and the average stoppage time taken at each stop is also given.
The respective number of stoppages and stoppage time for each train is same for its journey from X-to-Y and Y-to-X.
Note: Average speed of train for a journey = Distance of the journey ÷ Total time taken to complete the journey

Train	Running speed of train from X-to-Y (in km/hr)	Number of stoppages	The average time taken by the train on each stoppage (in minutes)	Time taken from X-to-Y: Time taken from Y-to-X
A	74.4	25	5	5 : 6
B	80	3	7	10 : 7
C	62	5	6	9 : 10
D	75	16	10	13 : 12
E	60	9	5	17 : 15

1. For which two trains their average speeds for the journey from X-to-Y is the closest to each other?

A. Train A and Train B   B. Train C and Train E   C. Train D and Train E
D. Train C and Train D   E. Train A and Train D

2. While returning from Y-to-X, the average speed of which train is the third highest?

A. Train A   B. Train B   C. Train C   D. Train D   E. Train E

3. For which train, the difference between the running speed from X-to-Y and the running speed from Y-to-X is the second highest?

A. Train A   B. Train B   C. Train C   D. Train D   E. Train E

4. While going from X-to-Y, if train D and train E passes a pole in 24 seconds and 27 seconds, respectively, then find the ratio of the length of train D to the length of train E.

A. 9 : 8   B. 10 : 9   C. 4 : 3   D. 6 : 5   E. None of these

5. Running speed of train F from X-to-Y is 20% less than the running speed of train B from X-to-Y. The total time taken by train F, including stoppages, to cover 400 km is equal to the time taken by train C to cover 446.4 km from X-to-Y without stoppage. Find the number of stoppages train F stops at, if each stoppage is of 3 minutes.

A. 17   B. 21   C. 18   D. 22   E. None of these

Correct Answers:

1	2	3	4	5
D	E	A	B	E

Explanations:

1. Distance covered by train A from source (X) to destination (Y) = 31% of 3100 = 961 km
Distance covered by train B from source (X) to destination (Y) = 12% of 3100 = 372 km
Distance covered by train C from source (X) to destination (Y) = 17% of 3100 = 527 km
Distance covered by train D from source (X) to destination (Y) = 25% of 3100 = 775 km
Distance covered by train E from source (X) to destination (Y) = 15% of 3100 = 465 km

Total time taken by train A going from X to Y = $\dfrac{961}{74.4} \times 60 + 25 \times 5$ = 900 minutes = 15 hours

Total time taken by train B going from X to Y = $\dfrac{372}{80} \times 60 + 3 \times 7$ = 300 minutes = 5 hours

Total time taken by train C going from X to Y = $\dfrac{527}{62} \times 60 + 5 \times 6$ = 540 minutes = 9 hours

Total time taken by train D going from X to Y = $\dfrac{775}{75} \times 60 + 16 \times 10$ = 780 minutes = 13 hours

Total time taken by train E going from X to Y = $\dfrac{465}{60} \times 60 + 9 \times 5$ = 510 minutes = 8.5 hours

Train	Distance travelled (in km)	Running speed of train from X-to-Y (in km/hr)	Number of stoppages	The average time taken by the train on each stoppage (in minutes)	Time taken from X-to-Y (in hours)
A	961	74.4	25	5	15
B	372	80	3	7	5
C	527	62	5	6	9
D	775	75	16	10	13
E	465	60	9	5	8.5

Average speed of train A going from X to Y = $\dfrac{961}{15}$ = 64.07 km/hr

Average speed of train B going from X to Y = $\dfrac{372}{5}$ = 74.4 km/hr

Average speed of train C going from X to Y = $\dfrac{527}{9}$ = 58.6 km/hr

Average speed of train D going from X to Y = $\dfrac{775}{13}$ = 59.6 km/hr

Average speed of train E going from X to Y = $\dfrac{465}{8.5}$ = 54.7 km/hr

The average speeds of train C and train D are closest to each other.
Hence, option D is correct.

2.

Distance covered by train A from source (X) to destination (Y) = 31% of 3100 = 961 km
Distance covered by train B from source (X) to destination (Y) = 12% of 3100 = 372 km
Distance covered by train C from source (X) to destination (Y) = 17% of 3100 = 527 km
Distance covered by train D from source (X) to destination (Y) = 25% of 3100 = 775 km
Distance covered by train E from source (X) to destination (Y) = 15% of 3100 = 465 km

Total time taken by train A going from X to Y = $\dfrac{961}{74.4} \times 60 + 25 \times 5$ = 900 minutes = 15 hours

Total time taken by train B going from X to Y = $\dfrac{372}{80} \times 60 + 3 \times 7$ = 300 minutes = 5 hours

Total time taken by train C going from X to Y = $\dfrac{527}{62} \times 60 + 5 \times 6$ = 540 minutes = 9 hours

Total time taken by train D going from X to Y = $\dfrac{775}{75} \times 60 + 16 \times 10$ = 780 minutes = 13 hours

Total time taken by train E going from X to Y = $\dfrac{465}{60} \times 60 + 9 \times 5$ = 510 minutes = 8.5 hours

Total time taken by train A going through Y to X = $\dfrac{6}{5} \times 15$ = 18 hours

Total time taken by train B going through Y to X = $\dfrac{7}{10} \times 5$ = 3.5 hours

Total time taken by train C going through Y to X = $\dfrac{10}{9} \times 9$ = 10 hours

Total time taken by train D going through Y to X = $\dfrac{12}{13} \times 13$ = 12 hours

Total time taken by train E going through Y to X = $\dfrac{15}{17} \times 8.5$ = 7.5 hours

Train	Distance travelled (in km)	Running speed of train from X-to-Y (in km/hr)	Number of stoppages	The average time taken by the train on each stoppage (in minutes)	Time taken from X-to-Y (in hours)	Time taken from Y-to-X (in hours)
A	961	74.4	25	5	15	18
B	372	80	3	7	5	3.5
C	527	62	5	6	9	10
D	775	75	16	10	13	12
E	465	60	9	5	8.5	7.5

Average speed of train A going from Y to X = $\dfrac{961}{18}$ = 53.4 km/hr

Average speed of train B going from Y to X = $\dfrac{372}{3.5}$ = 106.3 km/hr

Average speed of train C going from Y to X = $\dfrac{527}{10}$ = 52.7 km/hr

Average speed of train D going from Y to X = $\dfrac{775}{12}$ = 64.6 km/hr

Average speed of train E going from Y to X = $\dfrac{465}{7.5}$ = 62 km/hr

Thus, the average speed of train E is the third highest.

Hence, option E is correct.

3.

Train	Distance travelled (in km)	Running speed of train from X-to-Y (in km/hr)	Number of stoppages	The average time taken by the train on each stoppage (in minutes)	Time taken from X-to-Y (in hours)	Time taken from Y-to-X (in hours)
A	961	74.4	25	5	15	18
B	372	80	3	7	5	3.5
C	527	62	5	6	9	10
D	775	75	16	10	13	12
E	465	60	9	5	8.5	7.5

Running time of train A from Y to X = 18 × 60 − 25 × 5 = 955 minutes = 15.9 hours
Running time of train B from Y to X = 3.5 × 60 − 3 × 7 = 189 minutes = 3.15 hours
Running time of train C from Y to X = 10 × 60 − 5 × 6 = 570 minutes = 9.5 hours
Running time of train D from Y to X = 12 × 60 − 16 × 10 = 560 minutes = 9.33 hours
Running time of train E from Y to X = 7.5 × 60 − 9 × 5 = 405 minutes = 6.75 hours

Running speed of train A from Y to X = $\dfrac{961}{15.9}$ = 60.4 km/hr

Running speed of train B from Y to X = $\dfrac{372}{3.15}$ = 118.1 km/hr

Running speed of train C from Y to X = $\dfrac{527}{9.5}$ = 55.5 km/hr

Running speed of train D from Y to X = $\dfrac{775}{9.33}$ = 83 km/hr

Running speed of train E from Y to X = $\dfrac{465}{6.75}$ = 68.9 km/hr

Train A: Difference = 74.4 – 60.4 = 14 km/hr (second highest)

Train B: Difference = 118 – 80 = 38 km/hr

Train C: Difference = 62 – 55.5 = 6.5 km/hr

Train D: Difference = 83 – 75 = 8 km/hr

Train E: Difference = 68.9 – 60 = 8.9 km/hr

Hence, option A is correct.

4. Running speed of train D going from X-to-Y

= 75 km/hr = $\dfrac{125}{6}$ m/s

Running speed of train E going from X-to-Y

= 60 km/hr = $\dfrac{50}{3}$ m/s

Length of train D = $\dfrac{125}{6}$ × 24 = 500 meters

Length of train E = $\dfrac{50}{3}$ × 27 = 450 meters

Required ratio = 500 : 450 = 10 : 9

Hence, option B is correct.

5. Running speed of train F = 80% of 80 = 64 km/hr

Time taken by train F without stoppage to cover 400 km

$= \dfrac{400}{64}$ = 6 hours 15 minutes

Time taken by train C with stoppage to cover 446.4 km

$= \dfrac{446.4}{62}$ = 7 hours 12 minutes

Time taken by train F in all the stoppages together = 45 + 12 = 57 minutes

So, number of stoppages $= \dfrac{57}{3}$ = 19 stops

Hence, option E is correct.