Problems On Trains

1. The distance between Gwalior and Delhi is 800 kms. Rajdhani Express starts from Delhi at 80km/h. 60 minutes later Gwalior express leaves Gwalior for Delhi on the parallel tracks at 40km/h. How far from Gwalior will they cross each other?
(A) 250 km **(B)** 360 km
(C) 240 km **(D)** 475 km
(E) None of these

2. A train overtakes two boys who are walking in the opposite direction in which the train is going at the rate of 6 km/h and 12 km/h and passes them completely in 36 seconds and 30 seconds respectively. What is the length of the train (in metres)?
(A) 120 m **(B)** 300 m
(C) 140 m **(D)** 125 m
(E) None of these

3. Two trains, A and B, start from stations X and Y towards each other, they take 4 hours 48 minutes and 3 hours 20 minutes to reach Y and X respectively after they meet. If train A is moving at 45 km/hr., then the speed of the train B is
(A) 60 km/hr **(B)** 64.8 km/hr
(C) 54 km/hr **(D)** 37.5 km/hr
(E) None of these

4. Train A of length 140 m can cross a platform of length 180 m in 16 seconds and the ratio of speed of train B and train A is 3 : 2. Find the length of train B if train B cross a man in 15 seconds.
(A) 350 m **(B)** 450 m
(C) 295 m **(D)** 300 m
(E) 360 m

5. A train of 245 meter length crosses a platform of its double length in 45 second. Another train coming from opposite direction of length 364 meter with speed 63 km/hr cross first train in what second ?
(A) 25 **(B)** 14
(C) 23 **(D)** 10
(E) 18

6. Train A of length 120 m can cross a platform of length 240 m in 18 second the ratio of speed of train A and Train B is 4 : 5. Then find the length of Train B if train B can cross a pole in 12 seconds.
(A) 280 m **(B)** 300 m
(C) 320 m **(D)** 350 m
(E) 240 m

7. A train crosses a platform having a length of 300 m in 30 seconds and a standing pole in 10 seconds. Calculate the length of the train in meters.
(A) 85 m **(B)** 220 m
(C) 150 m **(D)** 200 m
(E) 110 m

8. A 175 meters long train 'P' passed a pole in 8.75 sec. Train 'P' passed an another train 'Q' travelling in a direction opposite to 'P' in 60/7 sec. If length of train 'Q' is 225 meter, then in what time train 'Q' will pass train 'P' when they both runs in same direction ?
(A) 55 sec **(B)** 50 sec
(C) 45 sec **(D)** 60 sec
(E) 35 sec

9. A 30 m long train crosses a person who is walking at a speed of 8 km/hr in the opposite direction and passes him in 8 seconds. Subsequently, it crosses a second person, walking in the same direction as that of the first person, and passes him in 3

seconds. What is the speed of the second person?
(A) 27.5 km/hr **(B)** 30.5 km/hr
(C) 28.5 km/hr **(D)** 25.5 km/hr
(E) 22.5 km/hr

10. A train is 216 m long and it crosses a platform in 19 seconds with speed 21 m/s. If some 21 m long boxes are added in train and it crosses same platform, then it takes 26 seconds to cross the platform with same speed. How many boxes were added to the train?
(A) 7 **(B)** 10
(C) 12 **(D)** 5
(E) 8

11. A train can travel 50% faster than a car. Both start from point A at the same time and reach point B 75 kms away from A at the same time. On the way, however, the train lost about 12.5 minutes while stopping at the stations. The speed of the car is:
(A) 100 km/h **(B)** 110 km/h
(C) 120 km/h **(D)** 130 km/h
(E) None of these

12. The Dehli-Howrah Duranto Express left Delhi for Howrah. Having travelled 1200 km without stopping in between, which constitutes 80% of the distance between Delhi and Howrah, the train was stopped at a technical halt. When the train started again an hour later, its speed was increased by 15 km per hour to make it reach the destination on time. Find the initial speed of the Duranto Express.
(A) 60 kmph **(B)** 50 kmph
(C) 70 kmph **(D)** 80 kmph
(E) 100 kmph

Direction (13-14): Two trains start together from a Station A in the same direction. The second train can cover 1.25 times the distance of first train in the same time. Half an hour later, a third train starts from same station and in the same direction. It overtakes the second train exactly 90 minutes after it overtakes the first train.

13. What is the speed of third train, if the speed of the first train is 40 Km/hr?
(A) 20 Km/hr **(B)** 50 Km/hr
(C) 60 Km/hr **(D)** 80 Km/hr
(E) none of these

14. What is the distance covered by third train till the time it overtakes the second train?
(A) 160 kms. **(B)** 150 kms.
(C) 140 kms. **(D)** 130 kms.
(E) None of these

15. Train A with 40 km/h of speed started from point P for Q and another train B with 50 km/h of speed started simultaneously from point Q for P. They first met at point R. After reaching Q and P respectively, both the trains started their return journey without any delay. This time, they met at point S. The distance between point P and Q is 360 km.
Quantity I: The distance between point R and Q.
Quantity II: The distance between point P and S.
(A) Quantity I > Quantity II
(B) Quantity I < Quantity II
(C) Quantity I ≥ Quantity II
(D) Quantity I ≤ Quantity II
(E) Quantity I = Quantity II or No relation

16. A train moves at the speed of 108 km/hr, passes a platform and a bridge in 15 sec and 18 sec respectively. If the length of platform is 50% of length of bridge, then find the length of train.
(A) 280 m **(B)** 360 m
(C) 340 m **(D)** 320 m
(E) 300 m

17. A train travelling at 72 km/hr crosses an another train having half its length and travelling in opposite direction at 63 km/hr in 15 seconds. Faster train also passed a railway platform in 50 second. find length of smaller train is what percent of length of platform ?

(A) 40% **(B)** 35%
(C) 25% **(D)** 30%
(E) 45%

18. The distance between 2 stations x and y in 650 km. If two trains (A and B) start together at the same time from both stations towards each other and meet after 10 hrs but if train A is started 4 hrs 20 min after the train B then they meet after 8 hours. Find the speed of trains.

(A) 35 km/hr, 30 km/hr
(B) 35 km/hr, 40 km/hr
(C) 25 km/hr, 40 km/hr
(D) 20 km/hr, 45 km/hr
(E) 32.5 km/hr, 32.5 km/hr

19. Train X crosses a pole with a speed of 24 m/s in 't' seconds. Train Y crosses a platform of 60 m length in '2t' seconds with a speed of 30 m/s. if Length of train Y is twice then that of train X. Find the length of train Y?

(A) 60 m **(B)** 120 m
(C) 240 m **(D)** 90 m
(E) 150 m

20. Two trains A and B cross each other in 12 seconds when they move towards each other. Speed of train A and train B is 81 km/hr and 54 km/hr respectively. Length of train A is 150 metre more than length of train B.

→ Which of the following can be obtained from the above given information.

(i) Time taken by train B to cross a man moving in same direction as of train B.
(ii) Time taken by train A to cross a platform of half of its length.
(iii) Length of train A.
(iv) Speed of another train C whose length is equal to average of length of train A and B.

(A) (i) and (iii)
(B) (i), (ii) and (iii)
(C) (ii) and (iii)
(D) All (i), (ii), (iii) and (iv)
(E) (i) and (iv)