



TURNING POINT

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SO Crash Batch

Lecture-02

Teacher Work's

Speed + Time + Distance

1. A person riding a bike crosses a bridge with a speed of 54 km/h. What is the length of the bridge, if he takes 4 min to cross the bridge?
a) 3600m b) 2800 m c) 3500m d) 4500m
2. A person travels a certain distance at 3 km/hr and reaches 15 min late. If he travels at 4 km/hr, he reaches 15 min earlier. The distance he has to travel is:
a) 4.5 km b) 6 km c) 7.2 km d) 12 km
3. In a 100 meter race, Jami beats Rony by 4 sec. If Jami allowed Rony to start 16 meter ahead of him, then Jami and Rony reach the finishing point at the same time. How long does Jami take to run the 100 meter race?
a) 24 sec b) 21 sec c) 20 sec d) 20.5 sec
4. A motor-cycle covers 40 km with a speed of 20 km/hr. Find the speed of the motor-cycle for the next 40 km journey so that the average speed of the whole journey will be 30 km/hr.
a) 70 km/hr b) 52.5 km/hr c) 60 km/hr d) 60.5 km/hr
5. A motorist travels to a place 150 km away at an average speed of 50 km and returns at 30 km per hour. What is his average speed for the whole journey in km per hour?
a) 35 b) 37 c) 37.5 d) 40
6. A thief steals a car at 1.30 p.m. and drives it at 60 km per hour. The theft is discovered at 2 p.m. and the owner sets off in another car at 80 km per hour. At what time will he overtake the thief?
a) 3pm b) 3:30pm c) 3.40 pm d) 3.50 pm
7. A train starts from city Y at 2 PM and travels towards city X at 75 km/hr. Another train starts from city X at 1 PM and travels towards Y at 60 km/hr. If the distance between these two cities is 330 km then at what time will they meet?
a) 4:00 PM b) 5:00 PM c) 5:30 PM d) 6:00 PM
8. Distance between Dhaka and Chittagong is 450 km. Turna Nishita started from Dhaka at 11:30 pm meanwhile Subarna express started from Chittagong at the same time. They meet each other in Comilla. Find the distance between Chittagong & Comilla if the speed of Turna Nishitha and Subarna Express is 60 kph & 40 kph respectively.
a) 150km b) 180km c) 200km d) 220km
9. A man sets out to cycle from points P to Q and at the same time, another man starts to cycle from points Q to P. After passing each other, they complete their journeys in 9 h and 4 h, respectively. Find the ratio of speeds of 1st man to that of 2nd man.
a) 1:2 b) 2:3 c) 3:2 d) 2:1
10. Two bikers A and B had started simultaneously in the opposite direction from two points P and Q and arrived at their destinations 16 and 9 hours respectively after their meeting each other. At what speed does the second biker B travel if the first bike had traveled at 120 km/h.
a) 150kph b) 160kph c) 200kph d) 220kph

Train

11. A 55 meter long train passes a 220 meter long railway station in 10 seconds. How many seconds will it take to pass another train 110 meter long?
a) 2 b) 2.5 c) 4 d) 6
12. A train 125m long passes a man, running at 5 km/hr in the same direction in which the train is going in 10 seconds. The speed of the train is:
a) 45 km/h b) 50 km/h c) 54 km/h d) 60 km/h
13. A jogger running at 9 km/hr alongside a railway track is 240 metres ahead of the engine of a 120 meters long train running at 45 km/hr in the same direction. In how much time will the train pass the jogger?
a) 3.6 sec b) 18 sec c) 36 sec d) None
14. A 270 m long train running at the speed of 120 km/hr crosses another train running in opposite direction at the speed of 80 km/hr in 9 seconds. What is the length of the other train?
a) 230 m b) 240 m c) 260 m d) 320 m

Boat

15. A man can row 18 kmph in still water. It takes him thrice as long to row up as to row down the river. Find the rate of the stream:
a) 12 km/hr b) 9 km/hr c) 17 km/hr d) 6 km/hr
16. The speed of a boat in still water is 10 km/hr. If it can travel 26 km downstream and 14 km upstream in the same time, the speed of the stream is:
a) 2 km/hr b) 2.5 km/hr c) 3 km/hr d) 4 km/hr
17. A boat sailing against a stream of river takes 6 hours to travel 24 kms, while sailing with the stream it takes 4 hours to travel the same distance. What is the speed of the stream?
a) 2.5 km/hr b) 1.5 km/hr c) 1 km/hr d) 0.5 km/hr
18. A man rows to a place 48 km distance and come back in 14 hours. He finds that he can row 4 km with the stream in the same time as 3 km against the stream. The rate of the stream is:
a. 1 km/hr b. 1.5 km/hr c. 2 km/hr d. 2.5 km/hr

Homework

Speed + Time + Distance

01. Sujana travelled 114 miles in 2 hours. If she keeps going at the same rate, how long will it take her to go the remaining 285 miles of her trip?
a. 5 hours b. 3 hours c. 7 hours d. 4 hours
02. If it is 300 kilometers from Dhaka to Chittagong and 180 kilometers from Dhaka to Comilla, What percentage of the distance from Dhaka to Chittagong is the distance from Dhaka to Comilla?
a. 40 b. 50 c. 60 d. 70
03. The speed of three cars is in the ratio of 2 : 3 : 4. The Ratio of the times taken by these cars to travel the same distance is-
a. 2: 3: 4 b. 4: 3: 2 c. 4: 3: 6 d. 6: 4: 3
04. One day, Mr. Karim started 30 minutes late from home and reached his office 50 minutes late, while driving 25% slower than his usual speed? How much time in minutes does Mr. Karim usually take to reach his office from home?
a. 20 b. 40 c. 60 d. 80
05. Sunny walks from point A to point B at an average speed of 5 kilometers per hour. At what speed in kilometers per hour must sunny walk from point B to point A so that her average speed for the entire trip is 6 kilometers per hour?
a. 8 b. 7.5 c. 7 d. 9

06. Zaman, cycling along the boundary of a rectangular field at the speed of 12 km/hr, completes one round in 8 minutes. If the ratio between the length and the breadth of the field is 3:2, then what is the area of the field (in sq. m)?
 a. 15,360 b. 1,53,600 c. 30,720 d. 3,07,200
07. A car travels 330 miles in 6 hours. While the return trip takes 5 hours. What is the average speed in mile per hour for the entire trip?
 a. 50 b. 55 c. 60 d. 65
08. In a 500m race, the ratio of speeds of two contestants A and B is: 3:4. A has a start of 140m. Then A win by-
 a. 60m b. 40m c. 20m d. 10m
09. Two people start jogging at the same point and time but in opposite directions. If the rate of one jogger is 2 mp/h faster than the other and after 3 hours they are 30 miles apart, what is the rate of the faster jogger?
 a. 3 b. 4 c. 5 d. 6
10. A person riding a bike crosses a bridge with a speed of 54 km/h. What is the length of the bridge, if he takes 4 min to cross the bridge?
 a. 3600 m b. 2800 m c. 3500 m d. 4500 m
11. A is twice as fast as B and B is thrice as fast as C. The journey covered by C in 56 min will be covered by A in
 a. $5\frac{1}{3}$ min b. $2\frac{1}{3}$ min c. $7\frac{1}{3}$ min d. $9\frac{1}{3}$ min
12. Nilu covers a distance by walking for 6 h, while returning, his speed decreases by 2 km/h and he takes 9 h to cover the same distance. What was her speed while returning?
 a. 2 km/h b. 5km/h c. 4km/h d. 7km/h
13. A boy goes to his school from his house at a speed of 3 km/h and returns at a speed of 2 km/h. If he takes 5 h in going and coming, the distance between his house and school is-
 a. 6 km b. 5 km c. 5.5km d. 6.5km
14. Two cities A and B are 360 km apart. A car goes form A to B with a speed of 40 km/h and returns to A with a speed of 60 km/h. What is the average speed of the car?
 a. 45 km/h b. 48 km/h c. 50 km/h d. 55 km/h
15. A man walks at a rate of 10 mph. After every ten miles, he rests for 6 minutes. How much time does he take to walk 50 miles?
 a. 300 b. 318 c. 322 d. 324
16. The distance between two cities is 185 miles. If a bus takes 2 hours to travel the first 85 miles, how long must the bus take to travel the last 100 miles in order to average 50 miles an hour for the entire trip?
 a. 100 b. 102 c. 120 d. 117
17. Rehan travels to his office from his residence at a speed of 10 km/hour and returns at the rate of 15 km/hour. What is the average speed during the entire journey?
 a. 12.5 b. 12 c. 14 d. 13
18. If Tuba walks at 5 km/hr, she reaches the bus stop 5 min late and if she walks at 6 km/hr, she reaches the bus stop 5 min earlier. The bus stop is at a distance
 a. 3 km b. 5 km c. 6 km d. 10 km
19. If a man runs at 40 kmph, it reaches its destination late by 11 minutes but if it runs at 50 kmph, is late by 5 minutes only. The correct time for the man to complete its journey is;
 a. 16 minutes b. 19 minutes c. 22 minutes d. 25 minutes
20. A person walking $\frac{5}{6}$ of his usual rate is 40 minutes late. What is his usual time?
 a. 2hrs, 20m b. 3hrs, 20m c. 2hrs d. 4hrs, 10m

Train

21. A train running at 36 kmph passes another train completely in 12 see, which is half of it length, running in the opposite direction at 54 kmph. If it also passes a railway platform in 1.5m. what is the length of the platform (in meters)?
 a. 700 b. 860 c. 900 d. 1000
22. Two train running in parallel line in the same direction at 40km/hour and 22 km/hour respectively completely pass one another in 75 seconds. If the length of the first train is 255 meters, how long will it take the second train to pass a platform that is 100 meters long?
 a. 18 seconds b. 20 seconds c. 36 seconds d. 30 seconds
23. A jogger running at 9 km/hr alongside a railway track is 240 meters ahead of the engine of a 120 meters long train running at 45 km/hr in the same direction. In how much time will the train pass the jogger?

- a. 3.6 sec b. 18 sec c. 36 sec d. 72 sec
24. A train 120 meter long is travelling at a speed of 60 km/h. The time in which it will pass a passerby, walking at 6 km/h in the same direction is-
- a. 3 sec b. 8 sec c. 9 sec d. 6 sec
25. A train which travels at a uniform speed due to some mechanical fault after traveling for an hour goes at $\frac{3}{5}$ th of the original speed and reached the destination 2 hours late. if the fault had occurred after traveling another 50 miles, the train would have reached 40 min earlier. what is the distance between two stations.
- a. 280 b. 200 c. 310 d. 320
26. A train of 220m long is moving at 45 km/h. What is the time taken by the train to cross a tunnel of 260 m long?
- a. 25 sec b. 35 sec c. 38 sec d. 40 sec
27. with a speed of 60 km/h. If the length of the
- a. 420 m b. 500 m c. 300 m d. 250 m
28. A train travelling with uniform speed crosses two bridges of lengths 300 m and 240 m in 21 s and 18 s, respectively. Find the speed of the train.
- a. 72 km/h b. 68 km/h c. 65 km/h d. 60 km/h
29. P and Q are 27 km away. Two trains will having speeds of 24 km/h and 18 km/h respectively start simultaneously from P and Q and travel in the same direction. They meet at a point R beyond Q. Distance QR is
- a. 126 km b. 81 km c. 48 km d. 36 km
30. Two trains of same length are running in parallel tracks in opposite directions with speeds 65 km/h and 85 km/h, respectively. They cross each other in 6 s. The length of each train is
- a. 100 m b. 115 m c. 125 m d. 150 m
31. Excluding stoppages, the speed of a train is 108 km/h and including stoppages, it is 90 km/h. For how many minutes does the train stop per hour?
- a. 5 b. 9 c. 10 d. 6
32. Length of a train is 170 meters and speed of train is 63 km/hours. This train can pass a bridge in 30 seconds, then find the length of bridge.
- a. 355 m b. 325 m c. 365 m d. 312 m
33. A 240 m long train passed a pole in 24 second. How long will it take to pass a 650 m long platform?
- a. 65 sec b. 89 sec c. 100 sec d. 130 sec
34. Two trains P and Q are moving in opposite direction at a rate of 36km/hr and 45 km/hr respectively. A passenger is sitting in train P, finds that his train passes train Q in 8 seconds. What is the length train Q?
- a. 195 m b. 175 m c. 190 m d. 180 m
35. A train can cross another train of equal length comin from the opposite direction with the speed of 108 km/h in 3 minutes. The speed of the other train is 90 km/h. Find the length of the train.
- a. 5940 m b. 5490 m c. 4950 m d. 4590 m
36. A train 100 m long travelling at 60 km/hr passes another train, twice as fast as this train and travelling in opposite direction, in 10 seconds. Find the length of the scnd train.
- a. 400 m b. 500m c. 600 m d. 650 m

Boat and Stream

37. A boat sailing against a stream of river takes 6 hours to travel 24 kms, while sailing with the stream it takes 4 hours to travel the same distance. What is the speed of the stream?
- a. $\frac{1}{2}$ km/hr b. 1km/hr c. 2km/hr d. 1.5 km/hr
38. A certain river has a current of 4 miles per hour. A boat takes twice as long to travel upstream between two points as it does to travel downstream between the same two points. What is the speed of the boat in still water?
- a. 6 miles per hour b. 8 miles per hour c. 12 miles per hour d. cannot be determined
39. A man's speed with the current of a river is 15km/h and the speed of the current is 2.5km/hr. What is the man's speed against the current?
- a. 8.5 km/hr b. 9km/hr c. 10km/hr d. 12.5km/hr
40. A boat goes 13km upstream in 39 minutes. The speed of stream is 3km/hr. What is the speed of boat in still water?
- a. 27km/hr b. 25km/hr c. 20km/hr d. 23km/hr

41. A man rows a certain distance along the stream and against the stream in 1 hour and 1.5 hours respectively. If the velocity of the current is 3 km/hr. what is the speed of a man in still water?
a. 19 b. 15 c. 13 d. 11
42. In still water, a boat can travel at 5 km/hr. It takes 1 hour to row to a place and come back. If the velocity of the stream is 1 km/hr, how far is the place?
a. 3.5 km b. 2.6 km c. 2.4 km d. None
43. A man can row 6 km/h in still water. If the speed of the current is 2 km/h, it takes 3 h more in upstream than in the downstream for the same distance. The distance is
a. 30 km b. 24 km c. 20 km d. 32 km
44. Speed of a boat in standing water is 9 km/hr and the speed of the stream is 1.5 km/hr. A man rows to a place at a distance of 105 km and comes back to the starting point. The total time taken by him is:
a. 18 b. 16 c. 24 d. 20
45. A certain river has a current of 3 miles per hour. A boat takes twice as long travel upstream between two points as it does to travel downstream between the same two points. What is the speed of the boat in still water?
a. 3 mph b. 6 mph c. 9 mph d. 12 mph
46. A man can row at the rate of 4 km/hr. in still water. If the time taken to row a certain distance upstream is 3 times as much as to row the same distance downstream, find the speed of the current.
a. 15 b. 6 c. 20 d. 2
47. A boat running downstream covers a distance of 16 km in 2 hours while for covering the same distance upstream, it takes 4 hours. What is the speed of the boat in still water?
a. 4 km/hr b. 6 km/hr c. 8 km/hr d. data inadequate
48. A boat can travel with a speed of 16 km/h in still water. If the rate of stream is 5 km/h, then what is the time taken by the boat to cover distance of 84 km downstream?
a. 4 h b. 5 h c. 6 h d. 7 h
49. A boat's speed in still water is 5 km/h, while river is flowing with a speed of 2 km/h and time taken to cover a certain distance upstream is 2 h more than time taken to cover the same distance downstream. Find the distance.
a. 10.5 km b. 11 km c. 10.9 km d. 15 km
50. A boat travel with a speed of 10 km/hr in still water. If the speed of the stream is 3 km/hr then find time taken by boat to travel 52 km downstream.
a. 2hrs b. 4 hrs c. 6 hrs d. 9 hrs