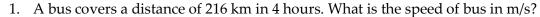


Time and Distance

Model 1: Basic Time and Distance

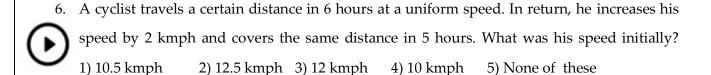




- 1) 5 m/s
- 2) 20 m/s
- 3) 15 m/s
- 4) 18 m/s
- 5) None of these
- 2. A bus covers a distance of 172 km in 4 hours. What is the speed of bus?
 - 1) 52 kmph
- 2) 47 kmph
- 3) 43 kmph
- 4) 38 kmph
- 5) None of these
- 3. A man walks at the speed of 5 kmph and runs at the speed of 10 kmph. How much time will the man require to cover the distance of 28 km, if he covers half (first 14 km) his journey walking and half his journey running?
 - 1) 8.4 hours
- 2) 6 hours
- 3) 5 hours
- 4) 4.2 hours
- 5) None of these
- 4. A man takes 6 hours in walking to a certain place and riding back. He would have taken 2 hours less by riding both ways. What would be the time he would take to walk both ways?
- 1) 4 hours
- 2) 8 hours
- 3) 10 hours
- 4) 12 hours
- 5) None of these
- 5. Anna left for the city A from city B at 5.20 a.m. She traveled at the speed of 80 kmph for hours 15 min. After that the speed was reduced to 60 kmph. If the distance between the two cities is 350 km, at what time did Anna reach City A?
 - 1) 9.20 am
- 2) 9.25 am
- 3) 9.35 am
- 4) 10.05 am
- 5) None of these



Model 2: Constant Distance



- 7. Two buses travel to a place at speed of 95 kmph and 60 kmph respectively. If the second bus takes 52 hours more than the first for the journey, then what is the length of the journey?
 - 1) 1910 km
- 2) 1980 km
- 3)1900 km
- 4) 1400 km
- 5) None of these
- 8. A student walks to school at the rate of 2.5 kmph and reaches 6 min too late. Next day he increases his speed by 2 kmph and then reaches school 10 min early. What is the distance of the school from his home?
 - 1) 1.5 km
- 2) 3 km
- 3) 6 km
- 4) 12 km
- 5) None of these

Model 3: Distance between Meeting Point and Source

- 9. Two trains start at the same time from A & B and proceed towards B & A at 36 kmph & 42 kmph respectively. When they meet, it is found that one train has moved 48 km more than the other. What is the distance between A and B?
 - 1) 624 km
- 2) 636 km
- 3) 544 km
- 4) 460 km
- 5) None of these
- 10. The distance between two stations A and B is 300 km. A train leaves station A at the speed of 30 kmph. At the same time another train departs from station B at the speed of 45 kmph. What will be the distance of the point where both the trains meet from the point A?
 - 1) 100 km
- 2) 120 km
- 3) 130 km
- 4) 200 km
- 5) None of these





11. A thief spots a policeman 100 m away and takes to his heels. If the police man gives a chase immediately, then how far would the thief have run before he is over taken? The speeds of the theif and policeman are 8 kmph and 10 kmph respectively.

- 1) 500 m
- 2) 200 m
- 3) 400 m
- 4) 2 km
- 5) None of these

Model 4: Average Speed

12. A car covers the first 35 km of its journey in 45 minutes and the remaining 69 km in 75 minutes. What is the average speed of the car for the whole journey?

- \odot
- 1) 42 kmph
- 2) 50 kmph
- 3) 52 kmph
- 4) 60 kmph
- 5) None of these

13. Train covers a distance of 3735 km in 20 hours 45 minutes. What is the average speed of the train in kmph?

1) 160

2) 140

3) 190

4) Cannot decide

5) None of these

14. Prathiba covers a distance of 24 km at the speed of 8 kmph and a distance of 18 km at the speed of 9 kmph. Further, she covers a distance of 12 km at the speed of 3 kmph. What is her average speed in covering the whole distance?

- 1) 8 kmph
- 2) 5.5 kmph
- 3) 3 kmph
- 4) 6 kmph
- 5) None of these

15. Praveen travelled from city A to city B at the speed of 60 kmph and back from city B to city A, via the same route at the speed of 40 kmph. Find his average speed for the round trip?



1) 48 kmph

- 2) 50 kmph
- 3) 36 kmph
- 4) 40 kmph
- 5) None of these



- 16. Arjun travelled from A to B by a bus at the speed of 30 kmph and from B to C by a car at the speed of 70 kmph. What is his average speed for the whole journey from A to C if the distance between A and B is same as that between B and C?
 - 1) 48 kmph
- 2) 50 kmph
- 3) 40 kmph
- 4) 42 kmph
- 5) None of these
- 17. Aniruddh covered a certain distance in 4 hours, where he travelled at the speed of 48 kmph for the first 2 hours and 60 kmph for the next 2 hours. Find his average speed for the total journey?
 - 1) 52 kmph
- 2) 55 kmph
- 3) 53 kmph
- 4) 54 kmph
- 5) None of these
- 18. Ankit covered some part of his journey in 6 hours at the speed of 54 kmph and the remaining part of the journey in another 6 hours at the speed of 60 kmph. Find his average speed for the whole journey
 - 1) 55 kmph
- 2) 56 kmph
- 3) 57 kmph
- 4) 58 kmph
- 5) None of these

Model 5: Relation between Speed and Post-crossing Time

- 19. Two trains start from two stations A and B at the same time and proceed towards each other to reach B and A respectively. After crossing each other, they take 36 and 49 hours respectively to reach their destinations. Find the speed of the second train, if the first train runs at 140 kmph?
 - 1) 60 kmph
- 2) 120 kmph 3) 70 kmph
- 4) 160 kmph 5) None of these



- 20. A car starts from Hyderabad and moves towards Bangalore and at the same time, another car starts from Bangalore and moves towards Hyderabad. After crossing each other, they take 361 and 400 mins respectively to reach their destinations. What will be the speed of the first car, if the speed of second car is 76 kmph?
 - 1) 90 kmph
- 2) 120 kmph 3) 80 kmph
- 4) 60 kmph
- 5) None of these

Model 6: Stoppage Time

- 21. Excluding the stoppages, the speed of a bus is 64 kmph and including the stoppages, the speed of the bus is 48 kmph. For how many minutes does the bus stop per hour?
 - 1) 12.5 min
- 2) 15 min
- 3) 10 min
- 4) 18 min
- 5) None of these
- 22. Without stoppages a train travels a certain distance at an average speed of 80 kmph and with stoppages it covers the same distance with an average speed of 60 kmph. What is the time in minutes per hour for which train stops?
 - 1) 15 min/hr

- 2) 10 min/hr 3) 20 min/hr 4) 25 min/hr 5) None of these

Model 7: Relative Speed

- 23. Two cars starting from the same point and moving in the opposite directions will be 227.5 km apart in 3 hours 15 mins. Had they been travelling in the same direction, they would have been 32.5 km apart in the same time. Find the speed of both the cars?
 - 1) 45 kmph, 25 kmph

- 2) 40 kmph, 30 kmph
- 3) 55 kmph, 15 kmph

4) 80 kmph, 70 kmph

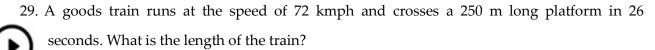
5) None of these



24.	Anita and Veena are running in opposite direction. Speed of Anita and Veena are 8 kmp									
	and 10 kmph res	pectively. Wh	at will be the d	will be the distance between them after 2.5 hours if both of						
	them start from t	he same point	. ?							
	1) 36 km		2) 5 k	cm	3) 45 km					
	4) Cannot be dete	ermined	5) No	one of these						
Mo	odel 8: Two Trai	ns Crossinç	g Each Other							
25.	A 270 m long tra	ain running a	t the speed of 1	120 kmph cro	sses another train running at the					
•	speed of 80 kmph	n in 9 seconds	. What is the le	ngth of the oth	ner train?					
	1) 230 m	2) 240 m	3) 260 m	4) 320 m	5) None of these					
26.	A train running	at the speed	of 48 kmph cro	osses another	train coming from the opposite					
	direction in 18 se	conds. What i	s the length of 1	first train?						
	1) 200 m		2) 100	0 m	3) 150 m					
	4) Cannot be dete	ermined	5) No	one of these						
27.	A train running	at the speed	of 72 kmph cro	osses another	train coming from the opposite					
	direction at the speed of 54 kmph in 10 seconds. What is the length of first train if the length									
	of the second trai	n is 150 m?								
	1) 200 m	2) 10	00 m	3) 150 m						
	4) Cannot be dete	5) No	one of these							
28.	A 270 m long tra	ain running at	the speed of 1	20 kmph pass	es another train running in same					
	direction at the sp	peed of 80 km	ph in 36 second	ls. What is the	length of the other train?					
	1) 130 m	2) 240 m	3) 260 m	4) 320 m	5) None of these					



Model 9: Train Crossing a Platform



- 1) 230 m
- 2) 240 m
- 3) 260 m
- 4) 270 m
- 5) None of these
- 30. A train of length 170 m running at 72 kmph cleared a tunnel in 18 sec. What is the length of the tunnel?
 - 1) 200 m
- 2)190 m
- 3) 185 m
- 4) 206 m
- 5) None of these

Model 10: Train Crossing a Pole

31. A 180 m long train crosses a man standing on a platform in 20 seconds. What is the speed of train (in kmph)?

- 1) 24
- 2) 18
- 3) 32.4
- 4) 28.6
- 5) None of these
- 32. A 340 m long train crosses a pole in 20 seconds. What is the speed of train (in m/s)?
 - 1) 15
- 2) 9
- 3) 17
- 4) 12
- 5) None of these
- 33. 400 m long train crosses a flag post in half a minute. What is its speed?
 - 1) 102 kmph
- 2) 48 kmph
- 3) 96 kmph
- 4) 84 kmph
- 5) None of these
- 34. A 240 m long train crosses a man, standing on a platform of length 400 m, in 8 seconds. What is the speed of the train?
 - 1) 60 kmph
- 2) 108 kmph 3) 288 kmph 4) 90 kmph
- 5) None of these



35	A train of length 120 m long crosses a pole in 3 sec. How long will it takes to cross a railway										
	platform of leng	C	•	·	,						
	1) 4.5 sec	2) 3.5 sec	3) 5 sec	4) 9 sec	5) None of these						
36	A train 100 m lo	ng passes a tele	graph pole in	4 sec. How lon	g will it takes to cross a railway						
	platform of leng	th 150 m?									
	1) 4.5 sec	2) 3.5 sec	3) 5 sec	4) 10 sec	5) None of these						
37	A train running	at 60 kmph cros	sses a man run	ning parallel to	the track in 6 seconds. What is						
	the length of the	train?									
	1) 200 m		2) 110) m	3) 100 m						
	4) Cannot be det	ermined	5) No	ne of these							
Me	odel 11: Boats a	and Stream									
				1(2 ll-	and assigned the store of the						
	. A man can swi	im with the st		•	and against the stream at the						
	A man can swi	im with the st	t take him to sv	vim 7.5 km in s	still water?						
	. A man can swi	im with the st	t take him to sv	•	<u> </u>						
38	A man can swi rate of 2 kmph. I 1) 3 hours	im with the sta How long will in 2) 2.8 hours	t take him to sv 3) 2.6 hours	vim 7.5 km in s 4) 3.2 hours	still water? 5) None of these						
38	A man can swi rate of 2 kmph. I 1) 3 hours	im with the sta How long will in 2) 2.8 hours 9 km in 3 hou	t take him to sv 3) 2.6 hours rs against a str	vim 7.5 km in s 4) 3.2 hours ream running a	still water?						
38	A man can swing rate of 2 kmph. In the same of 2 kmph. In the same and the same can row take in rowing the same can same	im with the standard will in the standard with t	t take him to sw 3) 2.6 hours rs against a str e down the str	vim 7.5 km in s 4) 3.2 hours ream running a eam?	still water? 5) None of these at 2 kmph. How long would he						
38	A man can swi rate of 2 kmph. I 1) 3 hours	im with the sta How long will in 2) 2.8 hours 9 km in 3 hou	t take him to sv 3) 2.6 hours rs against a str	vim 7.5 km in s 4) 3.2 hours ream running a	still water? 5) None of these						
38 39 ••••	A man can swing rate of 2 kmph. If a line of 2 kmph	im with the standard will in the standard with the standard will in 2) 2.8 hours of 9 km in 3 hours are same distance 2) 7/9 hours	t take him to sv 3) 2.6 hours rs against a str e down the str 3) 1.5 hours	vim 7.5 km in s 4) 3.2 hours eam running a eam? 4) 3 hours	5) None of these at 2 kmph. How long would he 5) None of these						
38 39 ••••	A man can swirate of 2 kmph. If 1) 3 hours A man can row take in rowing th 1) 9/7 hours A boat goes up a	im with the standard will in the standard with the standard will in the same distance a river 20 km and a river 20 km and with the same with t	t take him to swant a structure against a structure down the structure 3) 1.5 hours	vim 7.5 km in s 4) 3.2 hours ream running a eam? 4) 3 hours ver 24 km in 8	5) None of these 12 kmph. How long would he 5) None of these hours. It also goes up the river						
38 39 ••••	A man can swirate of 2 kmph. If 1) 3 hours A man can row take in rowing th 1) 9/7 hours A boat goes up a 30 km and down	im with the strain with the strain with the strain 2) 2.8 hours 9 km in 3 hours 19 km in 3 hours 2) 7/9 hours 10 river 20 km are the river 28 km	t take him to swant as the down the street of the street o	vim 7.5 km in s 4) 3.2 hours ream running a eam? 4) 3 hours ver 24 km in 8 What is the spec	5) None of these at 2 kmph. How long would he 5) None of these hours. It also goes up the river ed of the boat and the river?						
38 39 ••••	A man can swirate of 2 kmph. If 1) 3 hours A man can row take in rowing th 1) 9/7 hours A boat goes up a	im with the strain with the strain with the strain 2) 2.8 hours 9 km in 3 hours 19 km in 3 hours 2) 7/9 hours 2 river 20 km are the river 28 km	t take him to swant as the down the strain of the strain in 11 hours. Value 13 and 2	vim 7.5 km in s 4) 3.2 hours ream running a eam? 4) 3 hours ver 24 km in 8	5) None of these 12 kmph. How long would he 5) None of these hours. It also goes up the river						



Answers

1 - 3	2 - 3	3 - 4	4 - 2	5 - 5	6 - 4	7 - 5	8 - 1	9 - 1	10 - 2
11 - 3	12 - 3	13 - 5	14 - 4	15 - 1	16 - 4	17 - 4	18 - 3	19 - 2	20 - 3
21 - 2	22 - 1	23 - 2	24 - 3	25 - 1	26 - 4	27 - 1	28 - 1	29 - 4	30 - 2
31 - 3	32 - 3	33 - 2	34 - 2	35 - 4	36 - 4	37 - 4	38 - 1	39 - 1	40 - 1

Additional Examples

- 1. A person travels 285km in 6 h. In the first part of the journey, he travels at 40km/h by bus. In the second part, he travels at 55km/h by train. The distance travelled by train is
- a) 165km
- b) 615km
- c) 561km
- d) 156km
- 2. A boat running upstream takes 528 min to cover a certain distance, while it takes 240 mins to cover the same distance running downstream. What is the ratio between the speed of the boat and speed of water current, respectively?
 - a) 2:1
- b) 3:2
- c) 8:3
- d) Cannot be determined
- 3. Walking at 5 km/hr a student reaches his school from his house 15 minutes early and walking at 3 km/hr he is late by 9 minutes. What is the distance between his school and his house?
 - a) 5 km
- b) 8 km
- c) 3 km
- d) 2 km



- 4. Two cars are moving with speeds v1, v2 towards a crossing along two roads. If their distances from the crossing be 40 metres and 50 metres at an instant of time then they do not collide if their speeds are such that
 - a) $v_1:v_2 \neq 16:25$

- b) $v_1:v_2 \neq 4:5$ c) $v_1:v_2 \neq 5:4$ d) $v_1:v_2 = 25:16$
- 5. A, B, and C walk 1 km in 5 min, 8 min and 10 min, respectively, C starts walking from a point, at a certain time, B starts from the same point 1 min later and A starts from the same point 2 min later than C. Then, A meet B and C at times
 - a) 2m, 3m

- b) $\frac{4}{3}$ m, 3m c) 2m, $\frac{5}{3}$ m d) 1m, 2m
- 6. Buses start forms a bus terminal with a speed of 20 km/hr at intervals of 10 minutes. What is the speed of a man coming from the opposite direction towards the bus terminal if he meets his buses at intervals of 8 minutes?
 - a) 3 km/hr
- b) 4 km/hr
- c) 5 km/hr
- d) 7 km/hr
- A man rides at the rate of 18km/h but stops for 6 min, to change horses at the end of every 7th km. The time that he will take to cover a distance of 90km is
 - A) 6 h
- b) 6 h 12 min c) 6h 18min
- d) 6 h 24 min
- 8. A, B and C are situated at the bank of the river which is flowing at a constant rate. B is at an equal distance with A and C. A swimmer Avinash takes 10 hr to swim from A to B and B to A. Also he takes 4hr to swim from A to C. What is the ratio of speed of Avinash in still water and speed of stream?
 - a) 5:3
- b) 3:5
- c) 2:5
- d) 1:2
- 9. Ram travelled 1200 km by air which formed $\frac{2}{5}$ of his trip. He travelled one-third of the trip by car and the rest by train. The distance (in km) travelled by train was
 - a) 480
- b) 800
- c) 1600
- d) 1800



- 10. A man can swim 3 km/hr in still water. If the velocity of the stream is 2 km/hr, the time taken by him to swim to a place 10 km upstream and back is
 - a) $9\frac{1}{3}$
- b) 10 hr
- c) 12 hr d) $8\frac{1}{3}$ hr
- 11. With average speed of 40 km/hr, a train reaches its destination in time. If it goes with an average speed of 35 km/hr it is late by 15 minutes. The total journey is_
 - a) 30 km
- b) 40 km
- c) 70 km
- d) 80 km
- 12. A ship is moving at a speed of 30 km/hr. to know the depth of the ocean beneath it, it sends a radio wave which travels at a speed of 200 m/s. The ship receives the signal after it has moved 500m. The depth of the ocean is_
 - a) $\frac{\sqrt{143}}{2}$ km
- b) 12 km c) $\sqrt{6}$ km
- d) 8 km
- 13. A man performs $\frac{2}{15}$ of the total journey by train, $\frac{9}{20}$ by bus and the remaining 10 km on foot. His total journey in km is –
 - a) 15.6
- b) 24
- c) 16.4
- d) 12.8
- 14. By walking at $\frac{3}{4}$ of his usual speed, a man reaches his office 20 minutes later than usual. His usual time is
 - a) 30 min
- b) 75 min
- c) 90 min
- d) 60 min
- 15. Walking $\frac{6}{7}$ th of his usual speed, a man is 12 minutes too late. The usual time taken by him to cover that distance is
 - a) 1h
- b) 1h 12m
- c) 1h 15m
- d) 1h 20m



- 16. If I walk at 5 km/hr, I miss a train by 7 minutes. If, however, I walk at 6 km/hr, I reach the station 5 minutes before the departure of the train. The distance (in km) between my house and the station is
 - a) 6
- b) 5
- c) 4
- d) 3
- 17. A man can row 6 km/hr in still water. If the speed of the current is 2 km/hr, it takes 3 hours 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
- 18. A student goes to school at the rate of $2\frac{1}{2}$ km/hr and reaches 6 minutes late. If he travels at the speed of 3 km/hr, he is 10 minutes early. The distance (in km) between the school and his house is
 - a) 5
- b) 4
- c) 3
- d) 1
- 19. Walking at $\frac{6}{7}$ th of his usual speed of man is 25 minutes too late. His usual time to cover this distance is
 - a) 2h 30m
- b) 2h 15m
- c) 2h 25m
- d) 2h 10m
- 20. Shri X goes to his office by scooter at a speed of 30 km/hr and reaches 6 minutes earlier. If he goes at a speed of 24 km/hr, he reaches 5 minutes late. The distance to his office is
 - a) 20 km
- b) 21 km
- c) 22 km
- d) 24 km
- 21. A train 300 m long passed a man walking along the line in the same direction at the rate of 3 km/hr in 33 seconds. The speed of the train is
 - a) 30 km/hr
- b) 32 km/hr
- c) $32\frac{8}{11}$ km/hr d) $35\frac{8}{11}$ km/hr



Answers

1 – a	2 - c	3 - c	4 - b	5 - c	6 - c	7 - b	8 - a	9 - b	10 - с
11 - с	12 - b	13 - b	14 - d	15 - b	16 - a	17 - b	18 - b	19 - a	20 - c
21 - d									