



Speed Distance and Time Questions with detailed Solutions PDF

Speed Distance and Time questions are the very popular type of questions in competitive exams. These questions carry a weightage of 2-3 questions (4-6 marks) in SSC exams and 1-2 questions in bank exams. To get a good rank in competitive exams, it is important to be know the distance speed time formula quickly and accurately.

Here are some tips for solving Speed Distance and Time questions: Know the formulas and relationships, be careful with units, work with the given information to find the unknown, use a diagram or table to help visualize the problem.

So, we have attached 10 questions of Speed Distance and Time for you to practice with. You should aim to solve these questions in less than half a minute for each.

Practice Questions on Speed Distance and Time

You can also download the Speed Distance and Time questions and answers pdf. Just click on the **Download PDF** button. So let's start with the very first question.

Q:1 A motorboat goes 6 km upstream and back again to the starting point in 2 hours. Find the speed of the motorboat in still water. if the current of the stream runs at the rate of 4 km/hr.

1. 10 km/hr
2. 6.5 km/hr
3. 6 km/hr
4. 8 km/hr

(**Difficulty:** 2, **Estimated Time:** 15 Seconds) It was very easy, right?

Q:2 A train covers 197.5 km in 2 hours and 30 minutes. A girl is running towards the train with a speed of 3 km per hour. when the train meets with the girl, her speed reduces by 1 km/hr due to wind pressure. Find the time taken by train to cross the girl if the train is 405 meters long:

1. 18 sec
2. 12 sec
3. 24 sec
4. 20 sec

(**Difficulty:** 4, **Estimated Time:** 30 Seconds) Try decreasing your time used in calculations!

Q:3 A man walks from his house to the office at a speed of 20 km/hr in 1.5 hr and comes back from his office to his house at a speed of 15 km/hr in 2 hr. Find the average speed of his going to the office and coming back to the house.

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1. 17 km/hr
2. 120/7 km/hr
3. (121/8) km/hr
4. 22 km/hr

(**Difficulty:** 3, **Estimated Time:** 20 Seconds) This was quite easier than the previous one but not that much easy.

Q:4 Two trains P & Q started from stations A & B respectively to reach destination stations B & A respectively. After meeting at any point C they took 9 hours and 16 hours each to reach stations B & A respectively. Find the time at which they met.

1. 15 hours
2. 16 hours
3. 9 hours
4. 12 hours

(**Difficulty:** 3, **Estimated Time:** 20 Seconds) Now you have a good practice of such questions.

Q:5 In a 300 m race, the ratio of speeds of E and F is 5 : 2. If F is given a headstart of 100 m then who will win the race and by how many meters?

1. F, by 50 m
2. F, by 20 m
3. E, by 30 m
4. E, by 80 m

(**Difficulty:** 3, **Estimated Time:** 20 Seconds) We're halfway through. We will increase the difficulty level from now.

Q:6 A 250 m long passenger train moves with a speed of 60 km/hr and a 200 m superfast long train moves with a speed of 90 km/hr in the same direction. In how much time superfast train will overtake the passenger train?

1. 1 minute
2. 54 seconds
3. 1 minute and 12 seconds
4. 48 seconds

(**Difficulty:** 3, **Estimated Time:** 20 Seconds) Have you got all your questions correct so far?

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Q:7 There are two different tracks to reach Delhi from Meerut. A passenger train can't go from the same track for two consecutive days and the train runs Monday to Friday in a week. To reach Delhi from Meerut on Monday and Tuesday, the train takes 2 hours and 2 hours 24 minutes respectively. Find the total distance covered by the passenger train in a week if the train travels constantly at 60 km/hr.

1. 792 km
2. 264 km
3. 648 km
4. 528 km

(**Difficulty:** 2, **Estimated Time:** 15 Seconds) This was a piece of cake!

Q:8 A and B (initially 159 km apart) start exactly at 10 : 12 am to meet each other. If the speed of A is 15 m/s and B is 10 m/s then, exactly at what time will they meet?

1. 11 : 35 am
2. 11 : 58 am
3. 12 : 03 am
4. 12 : 11 am

(**Difficulty:** 2, **Estimated Time:** 15 Seconds) You might have wrapped it up in 10 seconds!

Q:9 Amish and Bopanna are traveling from city A to B. Amish started from city A at 2 pm at the speed of 50 km/h and reached at 6 pm. At what speed Bopanna should travel to reach the destination at 8 pm who started at 12 pm?

1. 15km/h
2. 40km/h
3. 20km/h
4. 25km/h

(**Difficulty:** 4, **Estimated Time:** 25 Seconds) It is different type of question. But you'll get these type of questions in the exam too. So, prepare yourself!

Q:10 Radha can swim at 6 km/hr in still water. If the speed of the stream will be 4 km/hr, then find out the time taken by her to swim 15 km upstream and downstream both.

1. 10 hours
2. 9.9 hours

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3. 11 hours

4. 9 hours

(Difficulty: 3, Estimated Time: 20 Seconds) Did you guess them all correctly?

Answer Key

Let's check out your score in this test.

1. (4)	2. (1)	3. (2)	4. (4)	5. (4)
6. (2)	7. (3)	8. (2)	9. (4)	10. (4)

Comment below your score, considering each question has 1 mark only. If you scored 8 to 10, congratulations! You are one step closer to selection. If you have scored 5 to 8 marks, then you are doing well, keep it up. If you have scored less than 5 marks then you need to work a little harder on this subject. But don't worry, we are here to help you master the subject.

Let's check the answers and solutions and try to find out what went wrong.

Answers and Solutions

Q:1 The correct answer is **option 4** i.e. **8 km/hr**

Speed downstream = $(a + b)$ km/hr

Speed upstream = $(a - b)$ km/hr

Where:

a = Speed of boat

b = speed of stream

Let, speed of boat is x

$T_1 = 6/(x + 4)$

$T_2 = 6/(x - 4)$

$T_1 + T_2 = 2$ hours (given)

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$$\{6/(x+4)\} + \{6/(x-4)\}$$

$$= 2 \text{ hours}$$

speed of motorboat

$$= \{x/(a+b)\} + \{x/(a-b)\} = \text{Total time taken}$$

$$6[x-4+x+4] = 2(x^2-16)$$

$$x^2 - 16 = 6x$$

$$x^2 - 6x - 16 = 0$$

split middle term and go through positive value.

$$x(x+2) - 8(x+2) = 0$$

$$(x-8)(x+2) = 0$$

$$x = 8 \text{ and } -2$$

The speed always positive

so, the speed of motorboat is 8 km/hr.

Q:2 The correct answer is **option 1** i.e. **18 sec.**

$$\text{Speed of train} = 197.5/2.5 = 79 \text{ km/hr}$$

$$\text{Speed of girl} = (3-1) = 2 \text{ km/hr}$$

When two objects move toward each other then, speed of both objects will be added

$$\text{Final speed} = (79+2) = 81 \text{ km/hr} = 81 \times 5/18 \text{ m/sec} = 45/2 \text{ m/sec}$$

$$\text{Distance} = 405 \text{ meters}$$

Hence,

$$\text{Time} = (405)/(45/2) = 18 \text{ sec}$$

Q:3 The correct answer is **option 2** i.e. **(120/7) km/hr.**

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Average speed = Total distance/ Time

His speed going to office = 20km/hr

Time taken = 1.5hr

His speed coming back home = 15km/hr

Time taken = 2hr

The distance from home to the office = $20 \times 1.5 = 15 \times 2 = 30$ km

Total distance = $30 + 30 = 60$

Total time = $2 + 1.5 = 3.5 = 7/2$

Average speed = $60/3.5 = (120/7)$ km/hr

Q:4 The correct answer is **option 4** i.e. **12 hours**.

Let the speed of train P = x km/hr

and train Q = y km/hr.

They meet at point C and after meeting they reach to their respective destinations

Now, Distance covered by P from C to B is 9x km.

Distance covered by Q from C to A is 16y km.

Time taken by P to reach C from A = $16y/x$

Time taken by Q to reach C from B = $9x/y$

Now as they reach in same time,

$$16y/x = 9x/y$$

$$16y/9x = x/y$$

$$y/x = 3/4$$

$$4y = 3x$$

Now time taken by P to reach C = $16y/x = 4 \times 3x/x = 12$ hours

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SHORT TRICK :- Meeting time = $\sqrt{9 \times 16}$

=12 hours

Q:5 The correct answer is **option 4** i.e. **E, by 80 m.**

The ratio of speed is directly proportional to the distance covered for the constant time

When E will cover 300 m F will cover 120 m.

After giving a headstart of 100 m, F will cover 220 m

⇒ E will win by 80 m

Q:6 The correct answer is **option 2** i.e. **54 seconds.**

If the two trains move in the same direction then their relative speed is the difference of the speed of the two trains.

The distance covered to overtake the passenger train by superfast train is the sum of the length of the two trains.

The total length of the trains = 250 + 200 = 450 m

The relative speed of the two trains

= 90 - 60 = 30 km/hr

= 150/18 seconds

The time taken to overtake the passenger train

= 450/(150/18)

= 54 seconds

Q:7 The correct answer is **option 3** i.e. **648 km**

Speed = Distance/Time

Hours = Minutes/60

Speed = 60 km/hr

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Day 1 (Monday) = $T_1 = 2$ hrs

Day 2 (Tuesday) = $T_2 = 2$ hr and 24 minutes = $(2 + 24/60)$ hr = $(2 + 2/5)$ hr = $12/5$ hours

$D_1 = S \times T_1 = 60 \times 2 = 120$ km

$D_2 = S \times T_2 = 60 \times 12/5 = 144$ km

Mon + Wed + Fri = $(120 + 120 + 120)$ km = 360 km

Tue + Thu = $(144 + 144)$ km = 288 km

Monday to Friday Total Distance = $(360 + 288)$ km = 648 km

Hence, The total distance covered by passenger train from Monday to Friday is 648 km.

Q:8 The correct answer is **option 2** i.e. **11 : 58 am**.

Speed of A = 15 m/s = $(15 \times 18/5) = 54$ km/hr

Speed of B = 10 m/s = $(10 \times 18/5) = 36$ km/hr

Time taken to meet = Distance between them/Sum of their speed

$\Rightarrow 159/(54 + 36)$

$\Rightarrow 159/90$ hrs

$\Rightarrow 1$ hour 46 minutes

If they start at 10 : 12, they will meet at 11 : 58 am

Q:9 The correct answer is **option 4** i.e. **25km/h**.

The total time taken by Amish is 4 hours

Distance = Speed \times time

$\Rightarrow 50 \times 4 = 200$ km

The time taken by Bopanna to travel the same distance is 8 hours

Speed = $200/8$

$\Rightarrow 25$ km/h

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Q:10 The correct answer is **option 4** i.e. **9 hours**.

Speed = Distance/Time

Downstream Speed (D_s) = Speed of Radha in still water + Speed of stream

$$\Rightarrow (6 + 4) = 10 \text{ km/hr}$$

Upstream Speed (U_s) = Speed of Radha in still water - Speed of current of the river

$$\Rightarrow (6 - 4) = 2 \text{ km/hr}$$

Time taken in going Downstream = $15/10$ hrs

Time taken in going Upstream = $15/2$ hrs

Total Time Taken = $(15/10 + 15/2)$

$$\Rightarrow (3/2 + 15/2) = (3 + 15)/2 = 18/2 = 9 \text{ hour}$$

So, this is it for today. We will meet again with another new topic. Till then, you can practice the questions again by downloading the PDF of Speed Distance and Time.