# cracku 6 

## Time and Distance Questions for

 SSC CGL06 April 2018


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Question 1: Raju travels half of the distance to his school on foot at $10 \mathrm{~km} / \mathrm{hr}$ and remaining half of the distance by bus at $30 \mathrm{~km} / \mathrm{hr}$. If the distance between school and his starting point is 60 km , find the time taken by Raju to reach his school?
a) 5 hours
b) 4.8 hours
c) 3.6 hours
d) 4 hours

Question 2: Jogging at a speed of $6.5 \mathrm{~km} / \mathrm{hr}$ a man can cover a distance in 18 hours. Running at a speed of $12 \mathrm{~km} / \mathrm{hr}$ the man covers the same distance in
a) 7.85 hours
b) 10.5 hours
c) 8.36 hours
d) 9.75 hours

Question 3: Two trains moving in opposite directions cross each other in 60 seconds. If their speeds are $30 \mathrm{~km} / \mathrm{hr}$ and $120 \mathrm{~km} / \mathrm{hr}$, find the sum of the lengths of the trains.
a) 3.2 km
b) 2.8 km
c) 2.5 km
d) 3.6 km

Question 4: A group of rowers can row a boat at a speed of $20 \mathrm{~m} / \mathrm{min}$. The speed of the water current is $0.24 \mathrm{~km} / \mathrm{hr}$. What is the difference between the time they will take to row 576 m upstream and downstream?
a) 8 minutes
b) 10 minutes
c) 12 minutes
d) 15 minutes

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Question 5: A train of length 480 m crosses a pole in 32 seconds. What is the speed of the train?
a) $36 \mathrm{~km} / \mathrm{hr}$
b) $45 \mathrm{~km} / \mathrm{hr}$
c) $54 \mathrm{~km} / \mathrm{hr}$
d) $63 \mathrm{~km} / \mathrm{hr}$

Question 6: 10 men can together do a piece of work in 4 days. But from the second day, 1 worker kept on leaving the group each day. On which day will the assignment get completed?
a) 5th day
b) 6th day
c) 7th day
d) 8th day

Question 7: A person bought an article marked at Rs. 100 and gets successive discounts of $10 \%$ and $20 \%$. Then, he also spends $10 \%$ of the cost price as transportation cost. To earn a profit of $5 \%$, at what price should he sell the article?
a) Rs.79. 2079.20
b) Rs. 80.3580 .35
c) Rs. 75.4275 .42
d) Rs.83.1683.16

Question 8: To catch the train just in time, Uday estimated that he needs to leave his house before 3 hours of the scheduled departure if he travels at his normal speed. However, he leaves his house 45 minutes later than he planned. To catch the train just on time, he needs to increase his speed by
a) $16.66 \%$
b) $20 \%$
c) $33.33 \%$
d) $25 \%$

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Question 9: 3 days of Amit's work is equal to 2 days of Vinod's work. If Amit can complete a particular job in 15 days, then how many days will Vinod take to complete the same work?
a) 22.5 days
b) 10 days
c) 20 days
d) 30 days

Question 10: Ram can do a piece of work in 15 days. Shyam can do the same piece of work in 20 days. They work together for 5 days and then Ram leaves. On which day (from the beginning) will the work be completed?
a) 10th day
b) 12th day
c) 13th day
d) 14 th day

## Answers \& Solutions:

1) Answer (D)

Total time taken to reach Raju's school $=30 / 10+30 / 30=3+1=4 h r s$.
2) Answer (D)

Distance he covers $=6.5 * 18=117 \mathrm{~km}$
Time taken by the man to cover the distance while running $=117 / 12=9.75$ hours
3) Answer (C)

60 seconds $=1 / 60$ hours
Sum of the lengths of the trains = (sum of the speeds of the trains)*time taken $=(30+120)^{*}(1 / 60)$ $=2.5 \mathrm{~km}$

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## 4) Answer (C)

The speed in still water is $20 \mathrm{~m} / \mathrm{min}$
Speed of the water current is $0.24 \mathrm{~km} / \mathrm{hr}=4 \mathrm{~m} / \mathrm{min}$
=> Speed of the boat upstream $=16 \mathrm{~m} / \mathrm{min}=>$ Time upstream $=576 / 16=36 \mathrm{~min}$
Speed of the boat downstream $=24 \mathrm{~m} / \mathrm{min}=>$ Time downstream $=576 / 24=24 \mathrm{~min}$
$=>$ Difference in time $=36-24=12 \mathrm{~min}$
5) Answer (C)

Speed = Distance / Time
Speed of the train $=480 / 32=15 \mathrm{~m} / \mathrm{s}$
To convert $\mathrm{m} / \mathrm{s}$ to $\mathrm{km} / \mathrm{hr}$ we need to multiply by $18 / 5$
So Speed $=15 * 18 / 5=54 \mathrm{~km} / \mathrm{hr}$

## 6) Answer (A)

Let us assume that each man does 1 unit of work each day.
So, the total work to be done is $10 \times 4=40$ units
Now, on the first day 10 workers will work, on the second day 9 workers will work, on third 8 and so forth.
Since each man does 1 unit of work, the work done on each day can be written as$10(1$ st day $)+9(2$ nd day $)+8(3$ rd day $)+7(4$ th day $)+6(5$ th day $)=40$ units
Thus, the assignment will get completed on the 5th day.

## 7) Answer (D)

Marked Price = Rs. 100
After successive discount of 10\% and 20\%,
Therefore, Cost Price becomes => ( 0.90 ) x ( 0.80$) \times 100=72$
Since, there is a Transportation Cost as well
Total Cost Price => ( 1.10 ) x $72=$ Rs. 79.20
To gain 5\%, Selling Price of the dealer should be => Rs.( 1.05 ) x ( 79.20 ) = Rs. 83.16

## Number System for SSC CGL

## 8) Answer (C)

Let his normal speed be 's'.
So, the distance will be 180s. (3 hours = 180 minutes)
But he leaves his house 45 minutes late. So, the time left is 135 minutes.
Let the speed in this case be s'.
=> 135s' = 180s
=> s'/s = 4/3
Thus, he needs to increase his speed by a factor of $1 / 3$ or $33.33 \%$

## 9) Answer (B)

The amount of work done by Amit in 3 days is equal to the amount of work done by Vinod in 2 days. Hence if Amit does 1 unit of work in 3 days, Vinod can do it in 2 days. In 15 days, Amit would do 15/3 = 5 units of work.
The time needed by Vinod to complete 5 units of work $=5 * 2=10$ days.

## 10) Answer (D)

Let the total work to be done be 60 units. So Ram does 4 units of work in a day and Shyam does 3 units of work in a day. Hence when they work together, they will be able to do 7 units in 1 day. Hence in 5 days, they will do 35 units of work. Thus, the remaining 25 units will have to be done by Shyam. The time taken by Shyam to do the remaining 25 units of work $=25 / 3=8.33$ days. Hence the total time taken $=5+8.33=13.33$ days.
Hence the work will be completed on 14th day.

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