PHYSICS

NCERT - NCERT Physics(HINGLISH)

MOTION AND TIME

Exercise

1. Classify the following as motion along a straight line, circular oroscillatory motion:

Motion of your hands while running.

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2. Classify the following as motion along a straight line, circular oroscillatory motion:

Motion of a horse pulling a cart on a straight road.

A. Circular

B. Straight

C. Oscillatory

D. None of the above

Answer: B

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3. Classify the following as motion along a straight line, circular oroscillatory motion:

Motion of a child in a merry-go-round.

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4. Classify the following as motion along a straight line, circular oroscillatory motion:

Motion of a child on a see-saw

A. Oscillatory Motion

B. Circular Motion

C. Straight Motion

D. None of the above

Answer: A

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5. Classify the following as motion along a straight line, circular oroscillatory motion:

Motion of the hammer of an electric bell.

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6. Classify the following as motion along a straight line, circular oroscillatory motion:

Motion of a train on a straight bridge.

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7. Which of the following are not correct?

The basic unit of time is second.

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8. Which of the following are not correct?

Every object moves with a constant speed.

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9. Which of the following are not correct?

Distances between two cities are measured in kilometres.

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10. Which of the following are not correct?

The time period of a given pendulum is not constant.

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11. Which of the following are not correct?

The speed of a train is expressed in m/h.

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12. A simple pendulum takes 32 s to complete 20 oscillations. What is the time period of the pendulum?

A. 1 second

B. 2.4 seconds

C. 1.6 seconds

D. None of the above

Answer: C

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13. The distance between two stations is 240 km. A train takes 4 hours to cover this distance. Calculate the speed of the train.

A. 70 Km/hr

B. 60 Km/hr

C. 40 Km/hr

D. 100 Km/hr

Answer: B

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14. The odometer of a car reads 57321.0 km when the clock shows the time 8.30 AM. What is the distance moved by the car if at 8.50 AM, the odometer reading has changed to 57336.0 km ?

Calculate the speed of the car in $km/\min$ during this time.

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15. Salma takes 15 minutes from her house to reach her school on a bicycle. If the bicycle has a speed of 2 m/s, calculate the distance between her house and the school.

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16. Show the shape of the distance-time graph for the motion in the following cases:

A car moving with a constant speed.

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17. Show the shape of the distance-time graph for the motion in the following cases:

A car parked on a side road.

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18. Which of the following relations is correct?

A. Speed = Distance $\times$ Time

B. Speed $= \frac{\text{Distance}}{\text{Time}}$

C. Speed $= \frac{\text{Time}}{\text{Distance}}$

D. Speed $= \frac{1}{\text{Distance} \times \text{Time}}$

Answer: B

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19. The basic unit of speed is:

A. km/min

B. m/min

C. km/h

D. m/s

Answer:

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20. A car moves with a speed of 40 km/h for 15 minutes and then with a speed of 60 km/h for

the next 15 minutes. The total distance covered by the car is:

A. 100 km

B. 25 km

C. 15 km

D. 10 km

Answer:

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21. Suppose the two photographs, shown in Figure 1 and Figure 2, had been taken at an interval of 10 seconds. If a distance of 100 metres is shown by 1 cm in these photographs,

calculate the speed of the blue car.

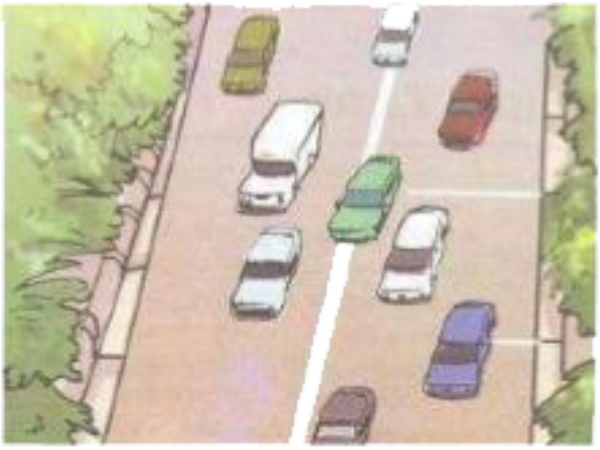

Figure 1 Vehicles moving in the same direction of on a road

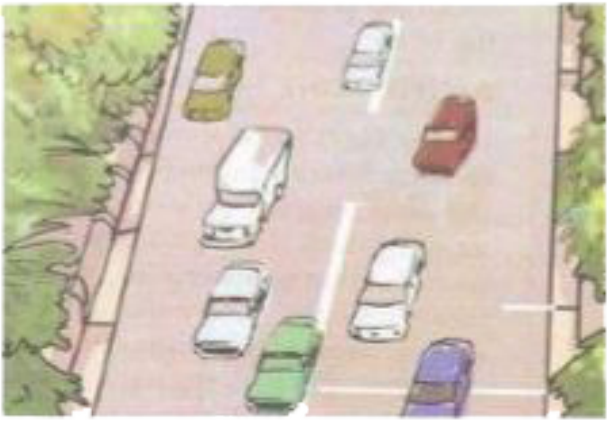

Figure 2 Position of vehicles shown in Figure 1 after some time

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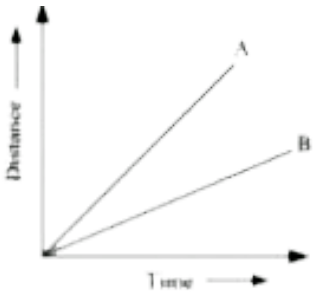
22. Figure shows the distance-time graph for the motion of two vehicles A and B. Which one of them is moving faster?



Distance-time graph for the motion of two cars

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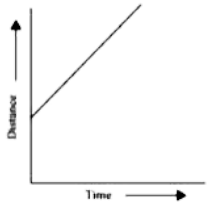
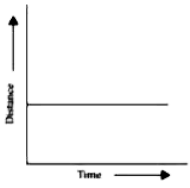
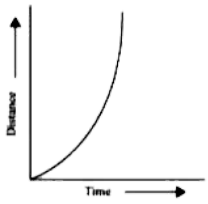
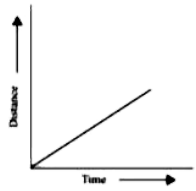
23. Which of the following distance-time graphs shows a truck moving with speed which is not constant?

A. 

B. 

C. 

D. 

Answer: C

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