PHYSICS

BOOKS - PSEB

MOTION

Exercise

1. An athlete completes one round of a circular track of diameter 200m in 40 s. What will be the distance at the end of 2minutes 20s?

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2. Joseph jogs from one end to the other end B of a straight 300m road in 2minutes 30 seconds and then turns around and jogs 100m back to point C in another 1minute. What are Joseph's average speeds and velocities in jogging (a) from A to B and (b) from A to C?

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3. Abdul while driving to school, computes the average speed for his trip to be 20 km h^{-1}. On this trip along the same route there os less traffic and average speed is 40 km `h^-(-1) . What is the average speed for Abdul's trip ?

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4. A motorboat starting from rest on a lake accelerates in a straight line at a constant rate

of $3.0ms^{-2}$ for 8.0 s . How far does the boat travel during this time?

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5. A driver of a car travelling at $52kmh^{-1}$ applies the brake and accelerates uniformly in opposite direction. The car stop in 5 s. Another driver going at 3 km h^{-1} applied his brakes slowly and stop in 10 s. On the same graph paper plot the speed versus time graph for

the two cars. Which of the two cars travelled farther after the brakes were applied ?

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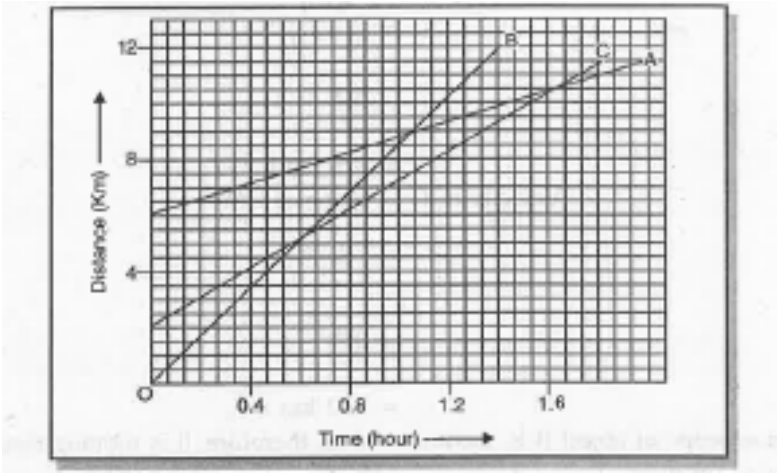
6. Fig 1.11 show the distance - time graphs of three A,B and C. Study the graph and answer the following question : Which of the three is

travelling the fastest ?



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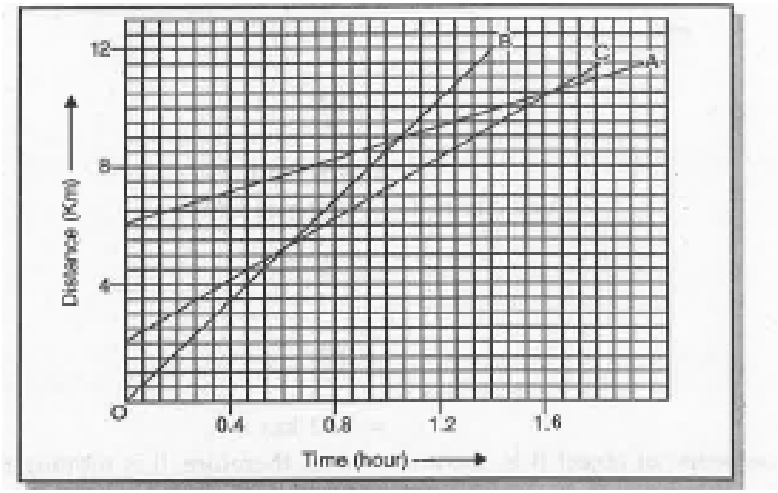
7. Fig 1.11 show the distance - time graphs of three A,B and C. Study the graph and answer the following question : Are all three ever

meet at the same point on the road ?



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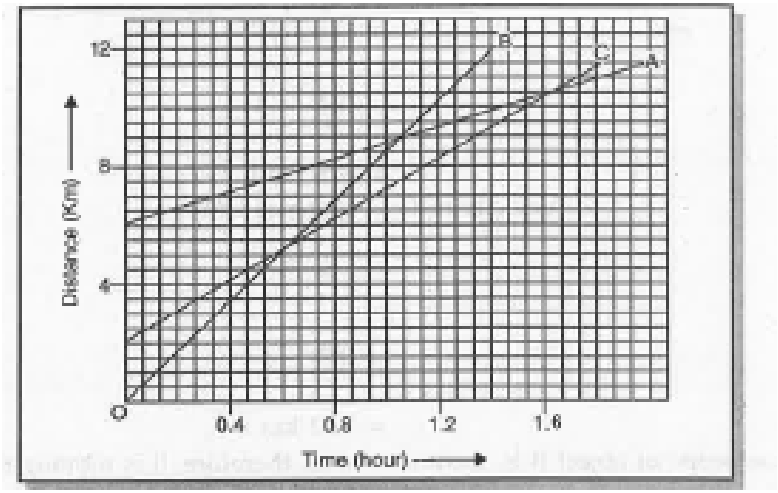
8. Fig 1.11 show the distance - time graphs of three A,B and C. Study the graph and answer the following question : How far has C

travelled when B passes A ?



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9. Fig 1.11 show the distance - time graphs of three A,B and C. Study the graph and answer the following question : How far has B travelled by the time it passes C ?

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10. A ball is gently dropped from a height of 20 m. If its velocity increases uniformly at the rate of $10ms^{-2}$, with what velocity it will strike the ground ? After What time will it strike the ground ?

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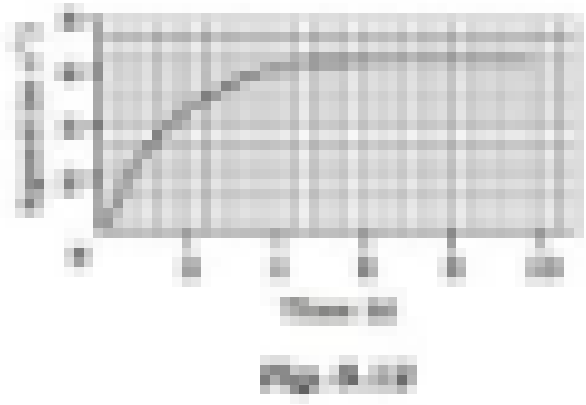
11. The speed-time graph for a car is shown in Fig.8.12. Find how far does the car travel in the first 4 seconds. Shade the area on the graph that represents the distance travelled by the car during the period.



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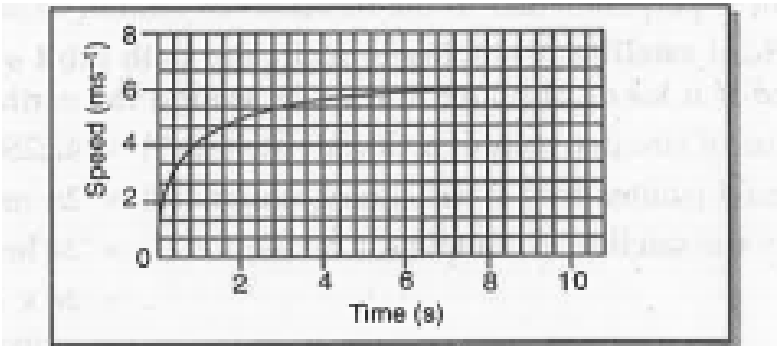
12. Speed - time graph for a car is show in the fig 1.13:Which part of the graph represents uniform motion of the car ?



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13. State which of the following situations are possible and give an example for each of

these.an object with a constant acceleration but with zero velocity.

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14. State which of the following situations are possible and give an example for each of these.an object with a constant acceleration but with zero velocity.

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15. State which of the following situations are possible and give an example for each of these.an object moving in a certain direction with an acceleration in the perpendicular direction.

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16. An artificial satellite is moving in a circular path orbit of radius 42,250 km. Calculate its

speed if it takes 24 hours to revolve around the earth.

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