Bharatiya Vidya Bhavans,V.M. Public School

Ch8 Motion

One mark questions

Q1 Which of the following are vector quantities?

  i) mass ii) displacement   iii) speed iv) velocity

Q2 A body is moving along a circular path of radius r . What will be the distance and displacement

  of the body when it completes half revolution?

Q3 Under which condition is the magnitude of average velocity equal to average speed?

Q4 When is the acceleration i) positive ii) negative?

Two marks questions

Q1   A body can have zero average velocity but not zero average speed. Explain.

Q2   Distinguish between distance and displacement.

Q3 Differentiate between uniform and non uniform acceleration. Give one example of each.

Q4 The tip of second's hand of a clock takes 60 seconds to move on the circular dial of the clock.

  If the radius of the dial of the clock is 10.5 cm , calculate the speed of the tip of second's hand of

  a clock.

Q5 What can you say about the motion of the body ,if its

  i) Displacement-time graph is a straight line passing through the origin?

  ii) Velocity-time graph is parallel to time axis?

Three mark Questions

Q1   What is uniform circular motion? Why is it called an accelerated motion?

Q2   State which of the following situations are possible and give an example for each of these:

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

b)   an object moving in certain direction with an acceleration in the perpendicular direction.

Q3   A cyclist driving at 36km/hr stops his cycle in 2 s ,by the application of brakes. Calculate

  i) retardation ii) distance covered during the application of brakes.

Q4   An object is moving along a straight line with uniform acceleration. From the graph :
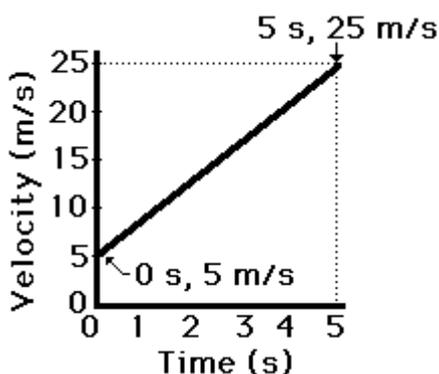
i) Find the velocity of the object at the end of 3 sec.

ii) Calculate the acceleration. iii) Calculate the distance covered by the object.

Q5 A bus travels a distance of 120 km with a speed of 40km/hr and returns with a speed of 30km/hr.

Find the average speed for the entire journey.

Five mark questions

Q1 (i) Draw velocity-time graph for an uniformly accelerated object. Using this graph derive $S = ut + \frac{1}{2}at^2$

(ii) A car acquires a velocity of 72km/hr in 10 seconds, starting from rest.

Find i) the acceleration   ii) the average velocity and iii) the distance travelled in this time.

Q2   The graph given ,shows how the speed of car changes with time:
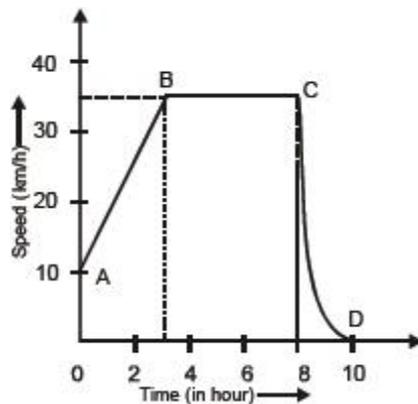
i)   What is the initial speed of the car?

ii)   What is the maximum speed attained by the car?

iii) Which part of the graph shows zero acceleration?

iv) Which part of the graph shows varying retardation?

v)   Find the distance travelled in first 8 hours.

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