Q1. A scooterist covers a distance of 3 km in 5 minutes .Calculate his speed in-

a) cm/s
b) m/s
c) km/hr

Q2. A car travels 30 km at a uniform speed of 40km/hr and the next 30km at a uniform speed of 20km/hr.find its average speed?

Q3. A train travels at a speed of 60km/hr for 0.52 hr, at 30 km/hr for the next 0.24h and then at 70km/hr for the next 0.71 hr. What is the average speed of the train?

Q4. A bus covers a distance of 250 km from Delhi to Jaipur towards west in 5 hrs in the morning and returns to Delhi in the evening covering the same distance of 250 km in the same time of 5 hrs. Find the average speed and average velocity of the bus for the whole journey?

Q5. If a bus travelling at 20m/s is subjected to a study deceleration of $5m/s^2$,how long will it take to come to rest?

Q6. A car travels one –third distance on a straight road with a velocity of 10km/hr, next one-third with velocity 20km/hr and the last with a velocity 60km/hr. What is the average velocity of the car in the whole journey?

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CHAPER- MOTION
WORKSHEET- 2

Q1. A Cheetah starts from rest,and accelerates at 2m/s^2 for ten seconds. Calculate :
   a) The final velocity
   b) The distance travelled

Q2. Draw a velocity-time graph to show the following motion :
   A car accelerates uniformly from rest for 5s ; then it travels at a steady velocity for 5s.

Q3. Name the two quantities, the slope of whose graph gives:
   a) Speed
   b) Acceleration

Q4. A motorcycle moving with a speed of 5m/s is subjected to an acceleration of 0.2m/s^2. Calculate
   The speed of the motorcycle after 10 seconds, and the distance travelled in this time?

Q5. A cyclist is travelling at 15m/s. She applies brakes so that she does not collide with a wall 18m away. What deceleration must she have?

Q6. Why is uniform circular motion accelerated?

Q7. A stone is thrown in vertically upward direction with a velocity of 5m/s. If the acceleration of the stone during its motion is 10m/s^2 in the downward direction, what will be the height attained by the stone and how much time will it take to reach there?

Q8. An artificial satellite is moving in a circular orbit of radius 42250km. Calculate its speed if it takes 24 hrs to revolve around the earth?

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CLASS 9

CHAPTER- MOTION

Fill in the blanks

1. If the position of an object does not change with time, it is said to be at _____.

2. Rest and Motion are _____ (absolute/relative) terms

3. The study of motion without taking into account the cause of motion is called _____ (kinematics/dynamics).

4. An object is said to be at _____ (rest/motion), if it changes its position with respect to its surroundings in a given time

5. Distance is the length of _____(actual/shortest) path traveled by a body in a given time.

6. Displacement is the _____ (actual/shortest) path covered by a moving object from the initial point of reference in a specified direction.

7. Distance is a _____ (scalar/vector) physical quantity while displacement is a _____ (scalar/vector) physical quantity.

8. When a body moves unequal distances in equal intervals of time, then the body is said to describe _____ (uniform/non-uniform) motion.

9. In uniform motion, speed of an object is _____ (constant/not constant).

10. SI unit of velocity is _____ (metre per second/ km per hour/ miles per hour).

11. The rate of change of velocity of a moving body with time is called _____.

12. Slope of position-time graph _____ (is zero/may be zero/ cannot be zero) if the object is at rest.

13. Slope of the distance-time graph gives the _____ (speed/acceleration) of the object

.14. The nature of distance-time graph is a _____ (straight line/curve) having _____ (uniform/varying) slope when the object has non-uniform motion.

15. The slope of the velocity-time graph gives _____ (displacement/acceleration).

16. An object is under free fall. Considering upward as positive direction, the displacement of the object during a short time interval is positive during _____ (ascent/descent) and negative during _____ (ascent/descent).

17. In a uniform circular motion, velocity of a particle is _____ (constant/not constant) but its speed is _____ (constant/not constant).