

**MAHESH TUTORIALS**

Eng. Medium  
9<sup>th</sup> GSEB  
Batch :

**SUBJECT : Science & Technology**  
**Chemistry : 1, 2, Biology : 5, 6, Physics : 8, 9**  
**Question Papers**

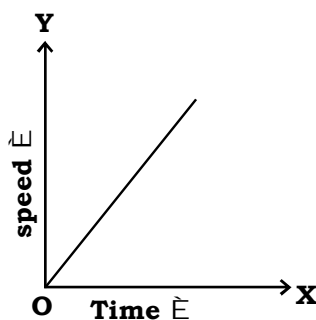
**Test -**  
Date:  
Time: 1 Hr  
Marks : 30

**SECTION - A OBJECTIVE [10 MARKS]**

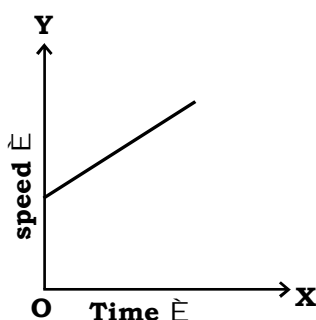
- Name any two materials stored in leucoplasts.
- The SI unit of force is \_\_\_\_\_.
- Fill in the blanks :  
At room temperature the forces of attraction between the particles of solid substances are \_\_\_\_\_ than those which exist in the gaseous state.
- A body goes round the earth in a circular orbit. Is the motion uniform or accelerated?
- What are the types of complex permanent tissues?
- Which of the following substances is most compressible? CO<sub>2</sub>, H<sub>2</sub>O, NaCl.
- The size of particles in solutions is  
(a) smaller than 10<sup>-7</sup>cm (b) bigger than 10<sup>-5</sup> cm  
(c) between 10<sup>-5</sup> and 10<sup>-7</sup>cm (d) less than 10<sup>-5</sup> cm
- Deceleration of a body is expressed in  
(a) m (b) ms<sup>-1</sup> (c) ms<sup>-2</sup> (d) -ms<sup>-2</sup>
- Can you name two organelles, we have studied that contain their own genetic material?
- Displacement is a Scalar Quantity. True or False ?

**SECTION - B****Answer the following questions : [2 Marks Each]**

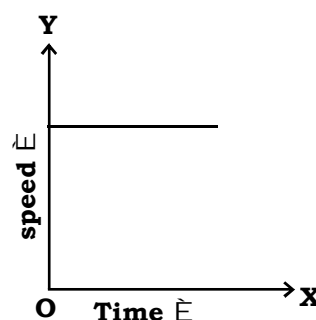
- Define velocity. State its formula and SI unit.
  - Give reasons**  
(a) A gas fills completely the vessel in which it is kept.  
(b) A wooden table should be called a solid.
- OR**
- Give reasons**  
(a) A gas exerts pressure on the walls of the container.  
(b) We can easily move our hand in air but to do the same through a solid block of wood we need a karate expert.
  - When we shake the branch of a tree vigorously, some of the leaves may get detached. Give reasons.
  - Why does our palm feel cold when we put some acetone or alcohol or perfume on it?
  - Describe lysosomes and state its functions .
- OR**
- What are the functions of vacuoles ?
  - Give two differences between distance and displacement.
  - What type of motion is shown by each of the following graph?



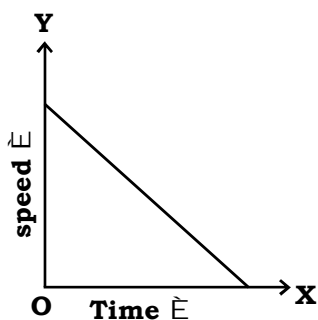
(a)



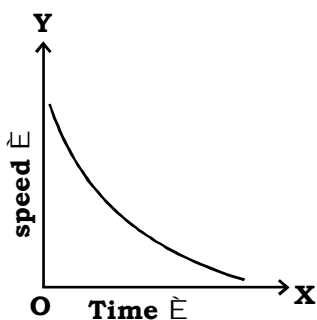
(b)



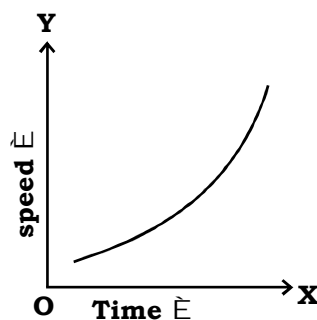
(c)



(d)



(e)



(f)

17. **Non metals are usually poor conductors of heat and electricity. They are non-lustrous, non-sonorous, non-malleable and are coloured.**
- Name a lustrous non-metal.
  - Name a non-metal which exists as a liquid at room temperature.
  - The allotropic form of a non-metal is a good conductor of electricity. Name the allotrope.
  - Name a non-metal which is required for combustion.
18. What are permanent tissues ?

#### SECTION - C

**Answer the following questions : [3 Marks Each]**

19. An object of mass 100 kg is accelerated uniformly from a velocity of  $5 \text{ ms}^{-1}$  to  $8 \text{ ms}^{-1}$  in 6s .Calculate the initial and final momentum of the object. Also find the magnitude of the force exerted on the object.
- OR**
19. Two objects, each of mass 1.5 kg, are moving in the same straight line but in opposite directions. The velocity of each object is  $2.5 \text{ ms}^{-1}$  before the collision during which they stick together. What will be the velocity of the combined object after collision?
20. Diagrammatically show the differences between the three types of muscle fibres.
21. Seema saw her mother working since morning and insisted that she rests for a while as she prepares tea for her mother.
- Write the steps she would use for making tea. Use the words-solution, solvent, solute,dissolve, soluble, insoluble, filterate and residue.
  - Do you agree with Seema's response ? What would you do, if given the same situation ?
22. Tabulate the differences in the characteristics of states of matter.

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#### SECTION - D

**Answer the following questions : [4 Marks Each]**

23. State Newton's second law of motion and derive the relation between force, mass and acceleration of an object.
- OR**
23. A motorcar of mass 1,200 kg is moving along a straight line with a uniform velocity of 90 km/h. Its velocity is slowed down to 18 km/h in 4 s by an unbalanced external force. Calculate the acceleration and change in momentum. Also calculate the magnitude of force required.
24. To make a saturated solution, 36 g of sodium chloride is dissolved in 100 g of water at 293 K. Find its concentration at this temperature.
25. How will you separate a mixture containing kerosene and petrol (difference in their boiling points is more than  $25^\circ\text{C}$ ), which are miscible with each other ?

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★★★★ *Best of Luck* ★★★★★