

**Octahedral classes, kharadi**  
**2nd floor, yashwant plaza, near bank of India,**

**Class 09 - Science**  
**phy and chem**

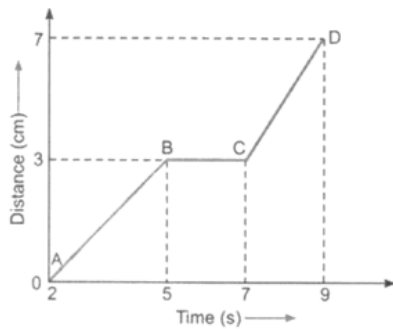
**Maximum Marks: 30**

**Time Allowed: 1 hour and 30 minutes**

**Section A**

1. What is the quantity which is measured by the area occupied below the velocity-time graph? **1**
2. Give an example of non-uniform acceleration? **1**
3. What do you mean by positive acceleration? **1**
4. What is the nature of the displacement time graph of a body moving with constant acceleration? **1**
5. When is an object in motion considered to be a point object? **1**
6. Sponge is a solid yet we are able to compress it. Why? **1**
7. Which of the following are matter? Chair, air, love, smell, hate, almonds, thought, cold, cold drink, smell of perfume **1**
8. Define density and give its SI unit. **1**
9. What is dry ice? Write its chemical formula. **1**
10. Under what conditions gases can be liquefied? In which form LPG is filled in gas cylinder? **1**
11. The distance between two stations is 200 km. A train travels for the first 100 km at a speed of  $10 \text{ kmh}^{-1}$ . How fast should the train travel the next 100 km so as to average  $70 \text{ kmh}^{-1}$  for the whole journey? **3**
12. A body starts to slide over a horizontal surface with an initial velocity of  $0.5 \text{ m/s}$ . Due to friction, its velocity decreases at the rate of  $0.05 \text{ m/s}^2$ . How much time will it take for the body to stop? **3**
13. The graph given below shows the positions of a body at different times. **3**  
Calculate the speed of the body as it moves from
  - i. A to B
  - ii. B to C

iii. C to D



14. A farmer moves along the boundary of a square field of side 10 m in 40 s. 3  
What will be the magnitude of displacement of the farmer at the end of 2 minutes and 20 seconds?
15. What are the characteristics of the particles of matter. 2
16. How does evaporation cause cooling? 2
17. Why do solids generally lack the property of diffusion? 2
18. The mass per unit volume of a substance is called density. (density = mass/volume). 2  
Arrange the following in order of increasing density - air, exhaust from chimneys, honey, water, chalk, cotton and iron.