

Jaffna Zonal Education Office

Grade
10

Unit Exam - 02
Science

Time - 40min

➤ **Underline the most appropriate answer.**

01. A change of position from one point to another point in a particular direction is known as.

- 1) Distance 2) Velocity 3) Displacement 4) Speed

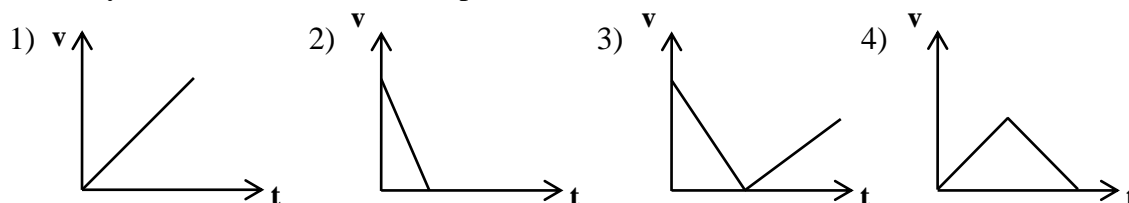
02. Which group includes vector quantities.

- 1) Force, acceleration, time 2) Velocity, acceleration, time
3) force, displacement, Velocity 4) distance, Speed, mass

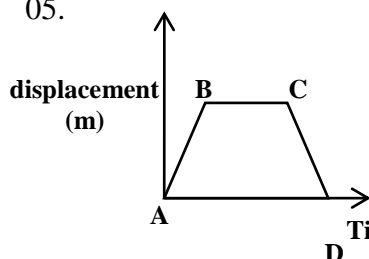
03. Which one indicates the S.I units of acceleration.

- 1) MS⁻² 2) ms² 3) ms⁻¹ 4) ms⁻²

04. A stone was projected upwardly and reached the highest position. Which velocity graph correctly indicates the above description.



05.



In this graph BC indicates.

- i) Constant velocity / Uniform velocity
ii) Rest
iii) Uniform acceleration
iv) Deceleration

➤ **Mark Right (✓) OR Wrong (×)**

01. Magnitude and direction doesn't change with the time. for an object

which moves with constant velocity. ()

02. Pressure belong to vector quantity. ()

03. The unit of deceleration is ms⁻² ()

04. The Rate of change of velocity is known as acceleration. ()

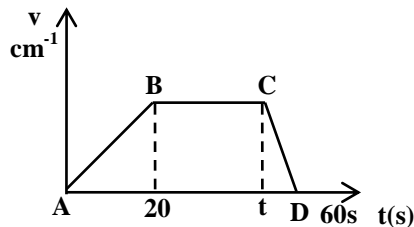
05. Gradient of distance - time graph is speed. ()

Structure

01. A student started to walk a point A and reached point B which is 10m from A in North. direction he walked 8m in east direction and reached point C then he walked 10m in south direction and reached point D.
- Mention the journey in a diagramme.
 - What is the total distance, the student travelled.
 - Calculate the displacement.
 - The time taken to reach from the point A to D without any delay in point B, C is 14 seconds. Calculate the speed in m/s.
 - A vechile travels in the speed of 30kmh^{-1} describe the meaning of it.

02. 1. The velocity time graph of vechile is given below.

Explain the motion of vehicle in the following time duration.



- 0 - 20
- t - 60
- 20 - t

- Calculate the acceleration of vehicle.
 - The distance travelled by vehicle with the constant velocity is 800m. Calculate the time for the above mention?
 - Calculate the total displacement of the vehicle?
 - What is mean velocity of the vehicle?
03. A. An object reached the ground from a higher elevation the time taken to reach the ground is three seconds.
- What is the velocity when it reaches the ground.
 - Calculate distance when it reaches the ground.
- B. An object is projected upwardly with the velocity of 40ms^{-1} ($g=10\text{ms}^{-2}$)
- Calculate the time taken to reach the maximum height?
 - Calculate the maximum height.
 - The object reaches the maximum height and then reaches the ground.
Show the motion in velocity-time graph.