

SECTION- A

1. Displacement per unit time is (1M)  
 (a) speed (b) ~~velocity~~ (c) acceleration (d) average speed
2. Reeni visited a Natural Gas Compressing Unit and found that the gas can be liquefied under specific conditions of temperature and pressure. While sharing her experience with friends she got confused. Help her to identify the correct set of conditions. (1M)  
 (a) Low temperature, low pressure (b) High temperature, low pressure  
 (c) ~~Low temperature, high pressure~~ (d) High temperature, high pressure

Assertion and reason :

3. Which cropping method involves growing two or more crops simultaneously on the same land? (1M)  
 a) Intra-cropping  
 b) Intercropping  
 c) ~~Mixed cropping~~  
 d) Ultra cropping

In each of the following questions, a statement of Assertion is given, and a corresponding statement of Reason is given just below it. Of the statements, given below, mark the correct answer as:

- (a) Both assertion and reason are true, and reason is the correct explanation of assertion.  
 (b) Both assertion and reason are true, but reason is not the correct explanation of assertion.  
 (c) Assertion is true, but reason is false.  
 (d) Assertion is false, but reason is true.
4. Assertion: To replenish the lost nutrients in the soil, quick-acting, handy nutrients are applied in the form of fertilizers. (1M)  
 Reason: Chemical fertilizer contains the necessary plant nutrients. *a*
5. Assertion: Displacement for a course of motion may be zero but the corresponding distance covered is not zero. (1M)  
 Reason: Displacement and distance covered may not always be equal. *a*

6. **ASSERTION** - A sponge is a solid matter which we easily compress by our hand. (1M)

**REASON** - The matter around us exists in three different states solid, liquid, and gas. b

#### SECTION- B

1. Distinguish between speed and velocity. (2M)
2. You want to wear your favourite shirt to a party, but the problem is that it is still wet after a wash. What steps would you take to dry it faster? (2M)

#### SECTION- C

1. State the difference between manure and fertiliser. (3M)

#### SECTION- D

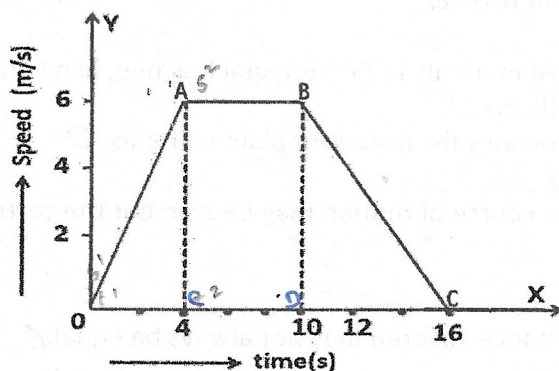
1. (a) When do you say a motion is uniform? (5M)  
(b) A car accelerates uniformly from 18 km/h to 36 km/h in 5 s. Calculate  
(i) the acceleration and (ii) the distance covered by the car in that time.
2. Write an experiment to prove that matter is made up of tiny particles with a diagram.  
(OR)  
Write the differences between the physical properties of solids, liquids and gases (5M)  
(use the following terms 1. intermolecular space, 2. diffusion, 3. force of attraction, 4. Density, 5. compressibility)
3. Large amounts of food grains get spoiled every year in India due to improper storage of food grains. How can this be avoided? (5M)

(OR)

What are the various methods of irrigation in India?

#### SECTION- E

1. Study the speed-time graph of a body shown in below figure and answer the following questions (4M)





(i) What type of motion is represented by OA?

- ☒ (a) accelerated motion      (b) decelerated motion  
(c) non-uniform motion      (d) all the above

(ii) What type of motion is represented by AB?

- (a) accelerated motion      (b) decelerated motion  
(c) uniform motion      ☒ (d) non-uniform motion

(iii) Calculate the acceleration of the body.

- (a)  $24 \text{ m/s}^2$       ☒ (b)  $12 \text{ m/s}^2$       (c)  $4 \text{ m/s}^2$       (d)  $6 \text{ m/s}^2$

(iv) Calculate the distance travelled by the body from A to B.

- (a) 24 m      (b) 12 m      ☒ (c) 36 m      (d) 0

**2. Read the passage and answer any four questions:**

**(4M)**

Gases are highly compressible as compared to solids and liquids. The liquefied petroleum gas (LPG) cylinder that we get in our home for cooking or the oxygen supplied to hospitals in cylinders is compressed gas. Compressed natural gas (CNG) is used as fuel these days in vehicles. The liquid takes up the shape of the container in which they are kept. Liquids flow and change shape, so they are not rigid but can be called fluid. Solids and liquids can diffuse into liquids. The aquatic animals can breathe underwater. The rate of diffusion of liquids is greater than solid.

(i) Why Compressed natural gas (CNG) is used as fuel these days in vehicles?

- (a). Due to its high compressibility  
(b). Large volumes of a gas can be compressed into a small cylinder  
(c). Transported easily  
☒ (d). All of these

(ii) Liquids have no fixed \_\_\_\_\_ but have a fixed \_\_\_\_\_.

- ☒ (a). Shape, volume  
(b). Volume, shape  
(c). Shape, size  
(d) Size, shape

(iii) The aquatic animals can breathe underwater due to

(a). The presence of dissolved carbon dioxide in water

(b). The presence of dissolved oxygen in the water

(c). The presence of dissolved Nitrogen in the water

(d). All of these

(iv) The rate of diffusion of liquids is greater than solid due to

(a). Liquid particles move freely

(b). Liquid have greater space between each other

(c). Both (a) and (b)

(d). None of these

3. A farmer noticed the poor growth of his crops. To his dismay, he found Xanthium and Parthenium also grow along with paddy in the fields. He decided to remove them from his field as he was aware that the removal of weeds during the early stages of crop growth from cultivated fields is essential for a good harvest. (4M)

(i) What are such plants called ?.

(ii) How does the presence of these plants affect the crop field ?

(iii) List any 2 methods of controlling them.

(iv) Give any 2 examples of unwanted plants growing along with crops.

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