

## Set 2

### Group A:

#### Multiple choice questions

1. Why are man-made satellites launched into space?
  - a. To forecast weather
  - b. To transmit television, telephone and other signals.
  - c. To do scientific research
  - d. All of the above

**Correct answer:**

d. All of the above

**Explanation:**

Man-made satellites are used for **weather forecasting, communication (TV, telephone, internet)**, and **scientific research** such as studying Earth and space. Hence, all given options are correct.

2. Which of the following is not the feature of protista?

- a. Reproduce asexually and sexually
- b. The body is made of mycelium.
- c. Most of them are unicellular.
- d. Move with help of pseudopodia, cilia or flagella.

**Correct answer:**

b. The body is made of mycelium

**Explanation:**

Mycelium is the body structure of **fungi**, not Protista.

Protists are mostly **unicellular**, can reproduce **asexually and sexually**, and move using **pseudopodia, cilia, or flagella**.

3. why should we be alert while having wild mushrooms?

- a. Wild mushroom is tasty.
- b. Wild mushroom maybe poisonous.
- c. Wild mushroom is cheap.
- d. Wild mushroom is nutritioius.

**Correct answer:**

b. Wild mushroom may be poisonous

**Explanation:**

Some wild mushrooms look edible but are **highly poisonous** and can cause serious illness or death. Therefore, caution is necessary.

4. A cycle runs for sometimes even a rider doesn't apply force on a pedal of the moving cycle. On what basis can this statement be clarified?

- a. Inertia of rest
- b. Newton 2<sup>nd</sup> law of motion
- c. Inertia of motion
- d. Newton 3<sup>rd</sup> law of motion

**Correct answer:**

- c. Inertia of motion

**Explanation:**

According to **inertia of motion**, a moving object continues to move unless an external force (like friction) stops it. Hence, the cycle keeps moving for some time.

5. Which of the following sources of energy cannot be regenerated easily?

- a. Biogas
- b. Petrol
- c. Coal
- d. Hydroelectricity

**Correct answers:**

- b. Petrol
- c. Coal

**Explanation:**

Both **petrol** and **coal** are **fossil fuels**. They take millions of years to form, so once used, they **cannot be regenerated easily**.

6. What is the science called which deals with the origin and evolution of the universe?

- a. Astrology
- b. Astronomy
- c. Cosmology
- d. Geology

**Correct answer:**

- c. Cosmology

**Explanation:**

**Cosmology** studies the **origin, structure, evolution, and fate of the universe**. Astronomy studies celestial objects, while astrology is not a science.

## Group B

### 1. What is astronomy?

Astronomy is the branch of science that studies **celestial bodies** like stars, planets, and galaxies.

### 2. Write the economic importance of mushroom.

Mushrooms are **used as food and provide income**, helping in employment and economic development.

### 3. Give any two examples of non-renewable sources of energy.

Coal and petrol.

### 4. Black holes cannot be seen. Why?

Black holes cannot be seen because **even light cannot escape from them**.

### 5. Write any one importance of the ozone layer.

The ozone layer **protects living organisms from harmful ultraviolet (UV) rays of the Sun**.

## Group c

**1. Why should we adopt safety measures while working in the science laboratory? Give any two reasons.**

**Answer:**

Safety measures should be adopted in the science laboratory because:

They prevent accidents such as burns, cuts, or explosions.

They protect us from harmful chemicals and apparatus.

**2. What is a telecommunication system? Write one example.**

**Answer:**

A **telecommunication system** is a system that is used to **transmit information over long distances** using electrical or electromagnetic signals.

**Example:** Mobile phone / Telephone / Internet.

**3. What is struggle for existence? Describe it on the basis of Darwinism.**

**Answer:**

Struggle for existence means the competition among living organisms for **food, shelter, and survival**.

According to Darwinism, organisms struggle with **environment, other organisms, and members of the same species** to survive.

**4. What is meant by mechanical advantage of a machine is 2? Why has velocity ratio no unit?**

**Answer:**

Mechanical advantage (MA) = 2 means the machine **multiplies force two times**, i.e., load is twice the effort.

Velocity ratio has **no unit** because it is the ratio of two distances, and units cancel each other.

5. Write any two uses of briquettes.

Answer:

Briquettes are used as fuel for cooking.

They are used in industries and heating purposes.

6. What are the valencies of magnesium and hydroxide in  $Mg(OH)_2$ ? Which are acidic and basic radicals?

Answer:

Valency of magnesium (Mg) = 2

Valency of hydroxide (OH) = 1

Basic radical: Magnesium ( $Mg^{2+}$ )

Acidic radical: Hydroxide ( $OH^-$ )

**Group D**

1. Mention any two points that should be remembered while solving numerical problems related to motion.

The two points that should be remembered while solving numerical problems related to motion are:

**Convert all quantities into SI units** before calculation (e.g., km/h to m/s).

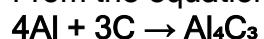
**Choose the correct formula** and substitute values carefully with proper signs.

**A vehicle is moving with the velocity of 90km/h. If the vehicle is stopped within 5 seconds by applying brakes, calculate retardation. If the mass of vehicle is 1000kg, how much force is to be applied to stop it?**

2. Write any two pieces of information obtained from the given equation.



From the equation



**Aluminium and carbon are the reactants, and aluminium carbide ( $\text{Al}_4\text{C}_3$ ) is the product formed.**

**Four atoms of aluminium combine with three atoms of carbon to form one molecule of aluminium carbide.**