

Group B

Write one difference between biology and chemistry.

Biology is the study of living organisms, whereas Chemistry studies matter and its reactions.

Write one difference between MEO and GEO.

MEO satellites orbit closer to Earth than GEO satellites.

Write down the utility of e-mail.

E-mail is used to send and receive messages quickly over the internet.

What is inertia of rest?

Inertia of rest is the tendency of a stationary object to remain at rest unless an external force acts on it.

Which wave is used in wifi and bluetooth technology?

Wi-Fi and Bluetooth use electromagnetic waves of radio frequency.

Silicon is called semiconductor. Why?

Silicon is called a semiconductor because its conductivity can be controlled by adding impurities (doping) and it conducts electricity under certain conditions.

Write the principle of preparation of hydrogen gas in the laboratory.

Hydrogen gas is prepared in the lab by reacting metals like zinc with dilute acids, producing hydrogen gas and a salt,

e.g., $\text{Zn} + \text{HCl} \rightarrow \text{ZnCl}_2 + \text{H}_2$.

Write any two effects seen in our body due to deficiency of sodium.

Sodium deficiency can cause muscle cramps and low blood pressure.

What is meant by term bioinsecticides?

Bioinsecticides are natural substances or microorganisms used to control harmful insects.

Group B

Write any two difference between protostar and star.

Protostar	Star
A protostar is a forming star that has not yet started nuclear fusion.	A star is a fully formed celestial body where nuclear fusion has begun.
A protostar emits mostly infrared radiation.	A star emits visible light and other types of radiation.

Write any two differences between Amplitude modulation and Frequency modulation.

AM (Amplitude Modulation)	FM (Frequency Modulation)
In AM, the amplitude of the carrier wave changes to carry information.	In FM, the frequency of the carrier wave changes to carry information.
AM signals are more affected by noise and interference.	FM signals are less affected by noise and provide better sound quality.

The interrelationship between algae and fungi is called a lichen. Clarify this statement.

A lichen is a symbiotic association where algae provide food through photosynthesis, and fungi provide protection and water, benefiting both organisms.

Describe the method of farming kanne chyau.

Kanne chyau is grown on sterilized compost or straw substrate, kept in a dark, humid environment, and harvested after the mushrooms mature.

Lamarck's theory is not accepted universally, why?

Lamarck's theory is rejected because acquired characteristics, like muscle gained during life, cannot be inherited genetically to offspring.

Write any four effects in human body that occur due to hypersecretion of adrenalin thyroxin in our body.

Hypersecretion can cause high blood pressure, rapid heartbeat, anxiety, and weight loss due to increased metabolism and overactive nervous system.

Group C

1a. Clarify the relation between glandular system and nervous system with examples.

The nervous system controls body activities by sending electrical signals, while the glandular system releases hormones to regulate body functions. Both systems work together; for example, the nervous system stimulates the pancreas to release insulin to control blood sugar.

b. Mention the importance of plant hormones in two points.

Plant hormones are important because they regulate growth and development, such as auxins promoting root growth, and they help plants respond to environmental changes, such as gibberellins triggering seed germination.

