

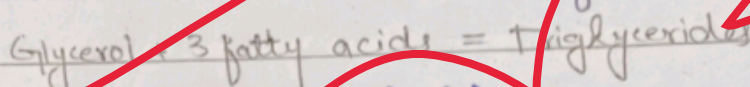
SECTION-I

QNO: 2

(A) Briefly explain lipids. What are some major types? what are their functions?

Lipids are naturally occurring organic compounds commonly known as oil and fats. Lipids contribute to cell structure, provide stored fuel and also take part in many biological processes.

Triglyceride is a basic unit of lipids



Major types of lipids

Saturated fat

Trans fat

Unsaturated fat

1- Predominately single bond between molecules in the fatty acid chain

This is a fat has been changed by a process called hydrogenation

Unsaturated fats more double bonds between molecules of fatty acid chain

2- solid at room temperature

Trans fat can cause your cholesterol

Liquid at room temperature

Functions

1. Regulate membrane permeability.
2. Lipids are components of some enzymes
3. Insulation of the vital organs of the body.

(b) Enlist a few measures for energy conservation and its sustainable use.

- 1- Turning off the light when you leave the room.
- 2- Unplugging appliances when they are not in use.
- 3- Walking instead of driving.
- 4- Use LED lights.
- 5- Close the tap after using water.

Sustainable use

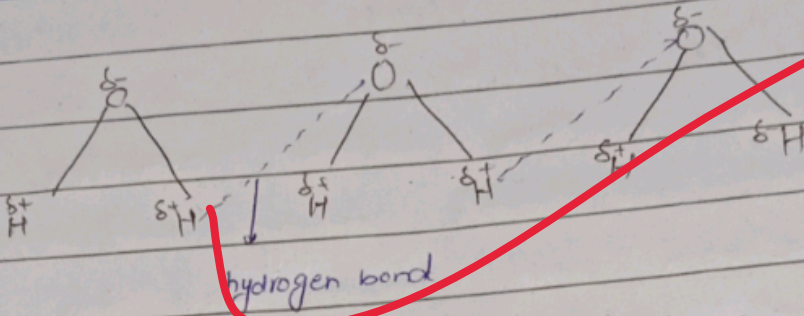
use energy from environmentally responsible resources and methods.

- 1- Wind power
- 2- Geothermal energy
- 3- Solar energy
- 4- Biomass
- 5- Hydroelectricity.

c What is hydrogen bonding? Give elaborating structure as examples.

Hydrogen Bonding:

An intermolecular bond which is formed between hydrogen atom of one molecule and the most electronegative atom of other molecule is called hydrogen bonding.

Structure:-

water molecule shows hydrogen bonding.
A bond between hydrogen atom and most electronegative oxygen atom shows the hydrogen bond.

(d) Discuss the nervous system of the human body.

The human nervous system is made up of brain, spinal cord, and nerves, and it controls many aspects of the body, including thoughts, feeling, and movement.

Central nervous system (CNS).

Brain and spinal cord made up the CNS.

Peripheral nervous system (PNS)

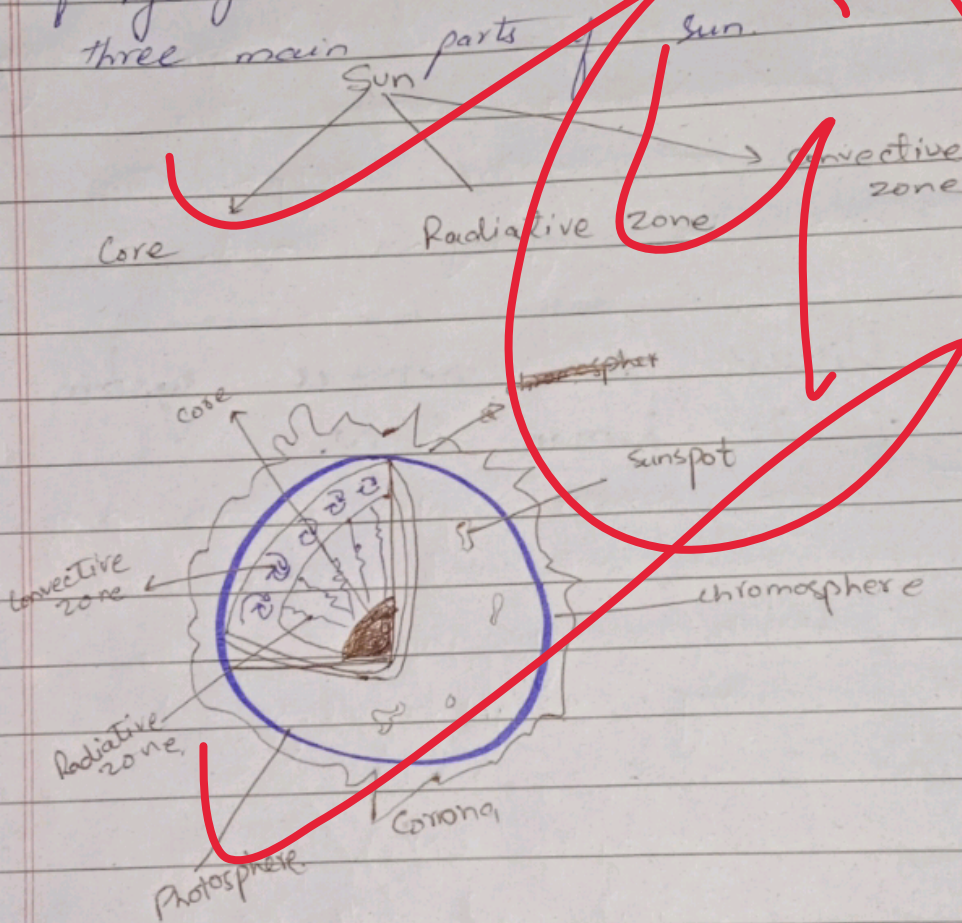
It is made up of nerves that connect brain and spinal cord to the rest of body.

Autonomic nervous system
Regulates glands and organs without conscious efforts.

QNO: 3

(a) Explain and draw the structure of the sun.

Sun is a star which provides us light and heat energy and composed of hydrogen and helium. There are three main parts of sun.



(b) What is a tsunami? How it is generated? Give examples of few tsunamis.

~~The~~ Tsunamis - Abnormal sea water that

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can cause catastrophic damage when it hits coastline.

How Tsunami: generator:
Tsunami arises from the sudden displacement of gigantic water masses due to earthquake at sea bed, volcanic eruption above and below sea water, and landslides generated tsunami. Almost 86% tsunamis occur in 'Pacific ocean' "Ring of fire"

Examples:

- North Pacific coast, Japan 11, March 2011
WB → \$ 235bn + 18000 lives Mg 9.0.
- Sumatra, Indonesia 26 Dec 2004
WB → \$ 10bn + 230,000 lives, and
Magnitude 9.1.

1C) Discuss environmental pollution. What could be its harmful effects? Give a few measures to curb it.

Environmental pollution:

The introduction of harmful substances or energy into the environment, which can have negative effects on the

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environment, human health, and living organisms.

Harmful effects:-

- ① Cancer,
- ② Cardiovascular disease,
- ③ respiratory disease
- ④ Biodiversity loss
- ⑤ climate change.

Measures:-

- ① Plantation, afforestation, reforestation
- ② Use renewable energy resources
- ③ Reduce fertilizers use.
- ④ Reduce, reuse & recycle.

Explain complex concepts in simple terms.

Use real-life examples

Include diagrams and flowcharts to illustrate processes.

Discuss practical applications of scientific concepts.