

Part-II

Section-1

Q#2: (a) Briefly Explain lipids. What are some major types? what are their functions.

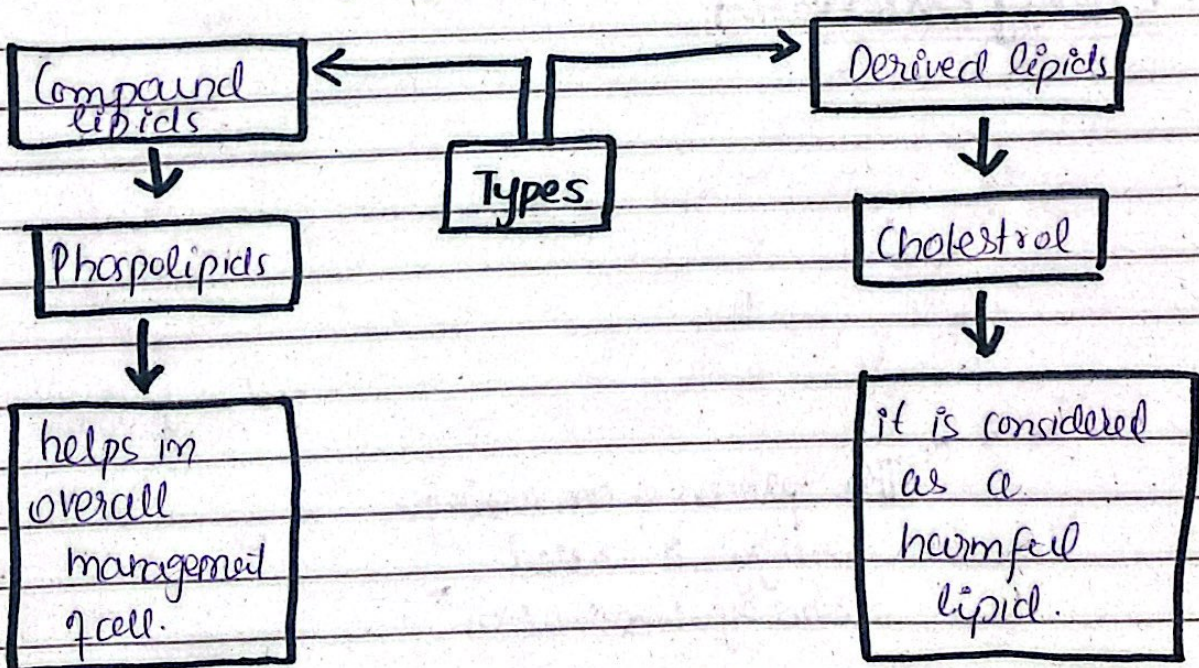
i. Lipids:

Fatty compounds performs variety of functions, mainly what goes in and out of your cells are called lipids. It is one of the most essential part of human cells. Also,

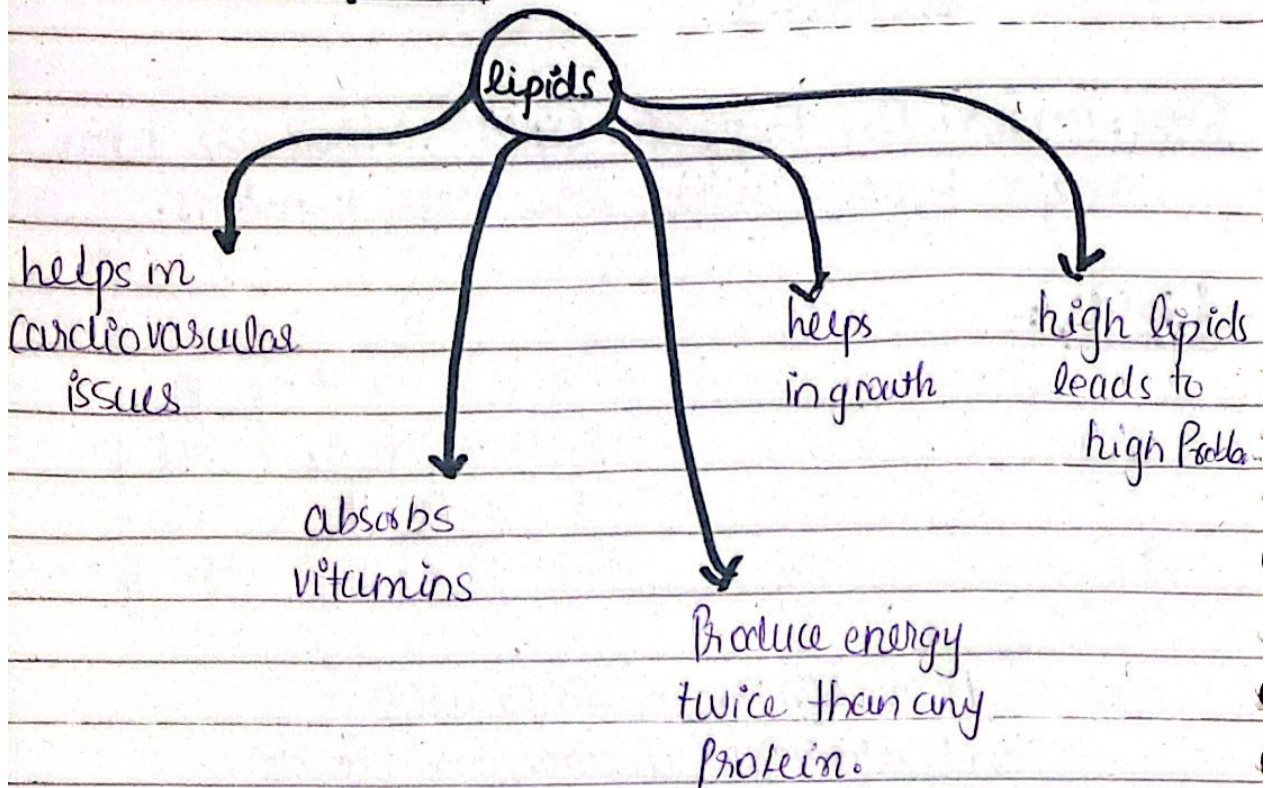
"A mixture of fatty acids and alcohols (glycerol and sterols) are lipids."

ii. Types of lipids:

majorly there are two types of lipids as:



ii. Functions of lipids:



Q#2(b) Enlist few measures for energy conservation and its sustainable use.

1. Energy Conservation:

Energy conservation means using less energy by adjusting your behaviours and habits - there is a difference between energy efficiency and energy conservation; the first involves using technology that requires less energy to perform same function.

“The process of conserving energy is called Energy Conservation”

ii. Measures for energy conservation:

i) Conservation of Energy in Industrial Sector:

- Prevent energy leakages.
- Use energy savers.
- Devise energy conservation plans.
- Conduct audits (energy) by 3rd party.

ii) Conservation of Energy in Transport Sector:

- Vehicle tuning to reduce fuel consumption.
- Switch off engines during traffic signals.
- Use catalytic converters in car.
- car pooling wherever possible.

iii) Conservation of Energy in Domestic Sector:

- Switch off unnecessary lights.
- energy savers instead of conventional bulbs.
- electrical appliances of good quality.
- educating and aware people.

Q#2.(c) What is hydrogen bonding? Give elaborating structures as example.

I. Hydrogen Bond:

An intermolecular bond formed between hydrogen atom of one molecule and "the most electronegative atom" of another molecule. - Also electronegativity is the capacity of an atom to attract the shared pair of electrons towards itself. Hence,

"An intermolecular bond between hydrogen and other molecule having the most electronegative atom is called hydrogen bond. Thus, formation of bond, the process is called hydrogen bonding"

ii. Example:

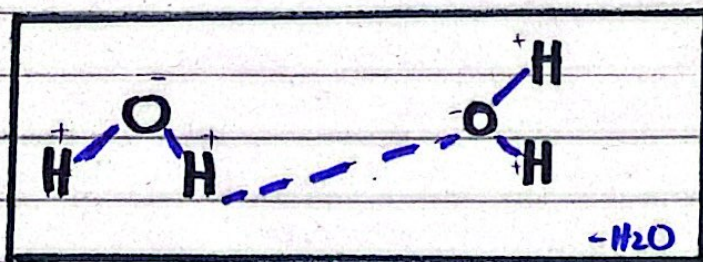
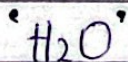


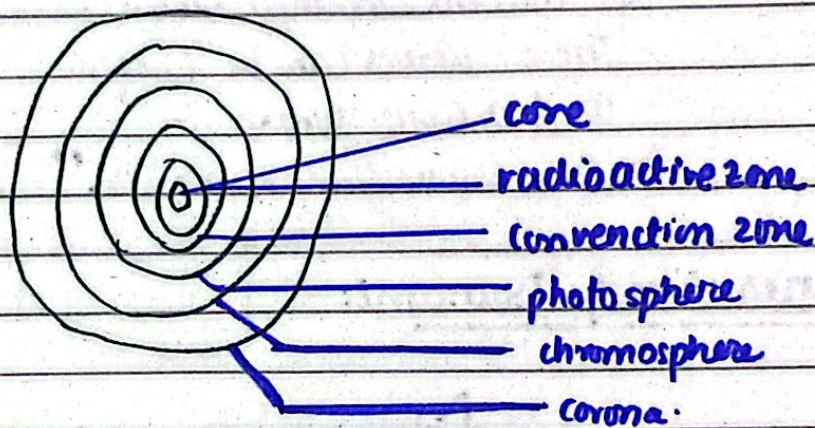
Illustration explanation: Oxygen has more electroneg. and thus form bond with hydrogen. This would be partial negative, partial positive. As it is not 50-50 sharing in hydrogen bond.

Q#3 (a) Explain and draw the structure of the Sun.

I. The Sun:

The Sun lies at the heart of the solar system, where it is by far the largest object holding '99.8%' of solar system's mass and is roughly '108 times' the diameter of earth. About 1 million earths can fit into it. Also, it produces energy named commonly as 'solar the renewable energy'.

II. The Sun's Structure:



- Anatomy of the sun.

Explanation:

i) The surface of the sun is called photosphere and it is what we see with naked eyes.

ii) Core is the hottest part of the sun due to nuclear reactions happening there i.e. nuclear fission and fusion.

iii) Chromosphere is the part of sun visible only at total solar eclipses.

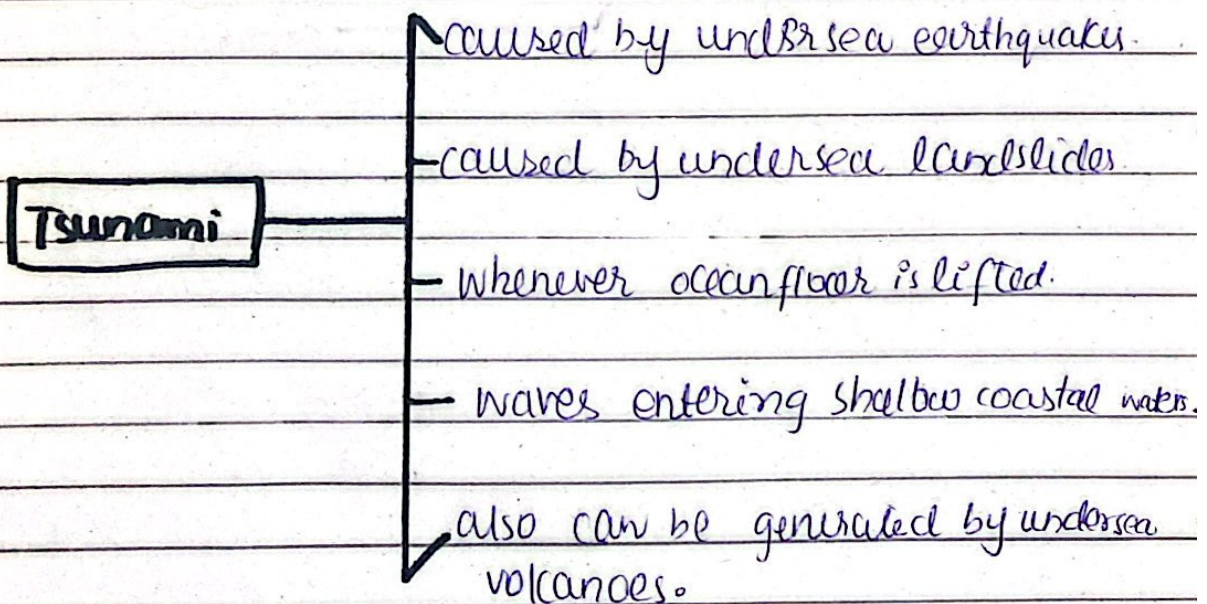
Q#3(b) What is Tsunami? How is it generated?
Give few examples of recent tsunamis.

I. Tsunami:

An abnormal sea wave causing catastrophic damage when it hits a coastal line is called Tsunami. It can be caused and generated by multiple factors. Those factors contribute and form a tsunami. Also, Tsunami can be defined as:

"Tsunami is a series of waves caused by displacement of waters mainly oceans. Those waves can be known as harbour waves. So harbour waves form tsunamis."

II. Generation of Tsunami:



III. Recent Tsunami:

- Japan, August 2024.
- Turkey, 2023

Section - II

Q#6 (d) Identify the missing.

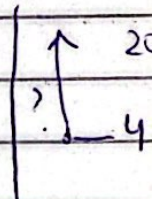
(ii) 5, 6, 9, 14, 21, _____

5	6	9	14	21
①	②	③	④	⑤

5, 6, 9, 14, 21, 30

Q#8 (b) While at the dog park, Veena ran 48ft east then turned and ran 20ft north to reach water station. If running straight from where started, how far would she run?

Veena ran to east \Rightarrow 48ft
Veena to north \Rightarrow 20ft



If she had started running straight
 \Rightarrow east + north
 \Rightarrow 48 + 20
 \Rightarrow 68 ft.

Veena would've run \Rightarrow 68ft.