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Q.1 What is food adulteration? Write down its types.

Ans. # FOOD ADULTERATION:

Food adulteration refers to the addition of harmful or inferior substances to food products. Food adulteration can include adding chemicals, dyes, or other substances to food products to make them appear fresher or more appealing. It can also involve substituting lower-quality ingredients for higher-quality ones in order to save money. In some cases, food adulteration can pose serious health risks to consumers.

TYPES OF ADULTERATION:

Following are some types of food adulteration.

1) Poisonous or Deleterious Substances
2) Filth and Foreign Matter
3) Intentional Contamination
4) Incidental Contamination.

1) **Poisonous or Deleterious Substances:** When a food contains a poisonous or

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deleterious substance that are injurious to health then it is adulterated.

2) Filth and Foreign Matter:

This refers to addition of any extraneous or foreign matter, such as glass, metal, stones, plastic or any undesireable part of plant like stem or any filth namely mold or insect, in food and make it adulterated.

3) Intentional Contamination:

Intentional contamination refers to deliberate adding of foreign matter in food for example addition of sand, marble chips, stones, mud, water and mineral oil.

4) Incidental Contamination:

Incidental contamination of food refers to the unintentional presence of harmful substances in food products. This can occur during the production, processing, or packaging of food. This can include contamination with bacteria, viruses or other pathogens.

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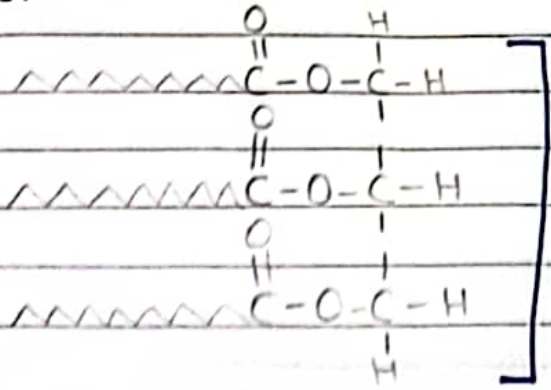
Q:2 Write a detail note on Lipid.

Ans **Lipids (Fats and Oil):**

Lipids are naturally occuring organic compounds commonly known as oils and Fats. Lipids are diverse group of organic molecules that are essential to many biological processes. They include fats, oils, waxes, and other compounds, that are insoluble in water but soluble in organic solvents. Lipids have a wide range of functions in the body, including energy storage, cell membrane structure and hormone production.

One of the most important types of Lipids and the basic unit of lipids is a triglycerides, which are formed from a glycerol molecule (propane-1, 2, 3-triol) and three fatty acid chains. Triglycerides are the primary form of energy storage in the body are and are stored in adipose tissue. They can be broken down into fatty acids and used as an energy source when needed.



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Q:3 Differentiate between Prokaryotic and Eukaryotic cell.

Ans

Prokaryotic Cell	Eukaryotic Cell.
1) Prokaryotic cells are simple cells that lack a nucleus or other membrane-bound organelles.	Eukaryotic cells, on the other hand are more complex and contain a nucleus and other membrane bound organelles.
2) They are typically smaller than eukaryotic cells and are found in bacteria and archaea.	They are typically larger than prokaryotic cells and are found in animals, plants, fungi and protists.
3) Prokaryotic cells have a single circular chromosomes and reproduce asexually through binary fission	Eukaryotic cells have multiple linear chromosomes and reproduce sexually through mitosis or meiosis.
4) Prokaryotic cells typically have a simpler metabolism and can survive in a wider range of metabolism environments	Eukaryotic cells, on the other hand have a more complex metabolism and are specialized for specific function.

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Q:4 Differentiate between animal and plant cell.

Ans:

Plant Cell	Animal Cell.
1) Plant cells have a cell wall made of cellulose which provides additional support and protection for the cell.	Animal cells do not have cell wall.
2) Plant cells have chloroplasts which are organelles that contain chlorophyll and are responsible for photosynthesis.	Animal cells do not have chloroplast and are not capable of photosynthesis.
3) Plant cells have larger vacuoles than animal cells, which are used for storage of water, nutrients and waste products. In addition, plant cells have plasmodesmata which are small channels that allow communication and exchange of material between adjacent cells	Animal cells, on the other hand, have centrioles which are involved in cell division and lysosomes which are organelles that contain digestive enzymes. These centrioles and lysosomes are absent in plant cell whereas they have fewer lysosomes.

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Q:5 Differentiate between vertebrates and ~~inverb~~ invertebrates.

Vertebrates	Invertebrates
- Verbel vertebrates are animals that have a backbone or spinal column made of individual vertebrae. This backbone provides support and protection for the spinal cord and serves ~~for~~ as an anchor for muscles. Vertebrates also have a well-defined head with a brain and sensory organs, including eyes, ears and a nose.	- Invertebrates on the other hand are animals that donot have a backbone or spinal column. They are typically smaller and less complex than vertebrates and are found in wide range of habitats, including the oceans, freshwater and land. Invertebrates have a variety of body shapes and structure, ranging from simple, soft-bodied animal to complex.
- Examples of vertebrates include mammals, birds, reptiles, amphibians and a fish.	→ Examples of invertebrates include insects, spiders, crustaceans, mollusks and worms.