

Topic: Lipid (Structure & Classification)

Class: B.Sc Part –III (Hons.)

Paper- V

Group – A


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Types of Lipids

- Two major classes of lipids,
- There are numerous specific types of lipids important to live,
- Including fatty acids,
- Triglycerides,
- Glycerophospholipids,
- Sphingolipids, and steroids.
- These are broadly classified as
- Simple lipids and complex lipids.

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- **Simple Lipids**
 - Esters of fatty acids with various alcohols.
 - **Fats:** Esters of fatty acids with glycerol.
 - Oils are fats in the liquid state
 - **Waxes:** Esters of fatty acids with higher molecular weight monohydric alcohols

- **Complex Lipids**
- Esters of fatty acids containing groups in addition to alcohol and a fatty acid.
- **Phospholipids:** These are lipids containing, in addition to fatty acids and alcohol, a phosphoric acid residue.
- They frequently have nitrogen-containing bases and other substituents, eg, in glycerophospholipids the alcohol is glycerol and in sphingophospholipids the alcohol is sphingosine.
- **Glycolipids (glycosphingolipids):** Lipids containing a fatty acid, sphingosine, and carbohydrate.
- **Other complex lipids:** Lipids such as sulfolipids and amino lipids. Lipoproteins may also be placed in this category

- **Precursor and Derived Lipids**
- These include **fatty acids, glycerol, steroids, other alcohols, fatty aldehydes, and ketone bodies, hydrocarbons, lipid-soluble vitamins, and hormones.**
- Because they are uncharged, acylglycerols (glycerides), cholesterol, and cholesteryl esters are termed neutral lipids.
- These compounds are produced by the hydrolysis of simple and complex lipids.