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18/mhs01/301
MEDICAL LABORATORY
SCIENCE

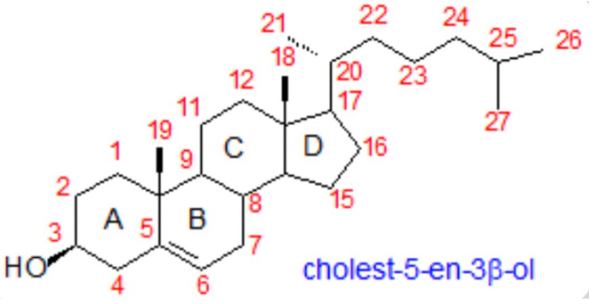
Assignment

Question

1. State 4 importance of cholesterol.
2. Differentiate between globosides and gangliosides.
3. Methylated form of phosphatidyl ethanol amin is known as _____.
4. Which ring of cholesterol molecule contains a double bond?
5. State 3 properties of phosphoglycerides.
6. In a tabular form, differentiate between triacylglycerol and phosphosglyceride. State examples and with schematic structures.

Answer

1. Importance of cholesterol include:
- build the structure of cell membranes
- make hormones like oestrogen, testosterone and adrenal hormones
- help your metabolism work efficiently, for example, cholesterol is essential for your body to produce vitamin D
- produce bile acids, which help the body digest fat and absorb important nutrient
2. A **ganglioside** is a molecule composed of a glycosphingolipid (creaminess and oligosaccharide)with one or more sialic acid linked on the sugar chain while A **globoside** is a type of glycosphingolipid with more than one sugar as the side chain (or R group) of ceramide.

3. Methylated form of phosphatidyl ethanol amin is known as phosphatidylcholine
4. 

The double bond is found between carbon 5 and 6
The double bond is found in the 2Nd ring

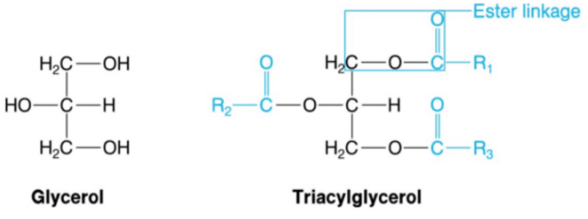
5. Phosphoglyceride have three components: fatty acid lipid groups, glycerol, and phosphate ester
- They are amphipathic
- Phosphoglyceride consists of various diverse species which usually differ slightly in

6

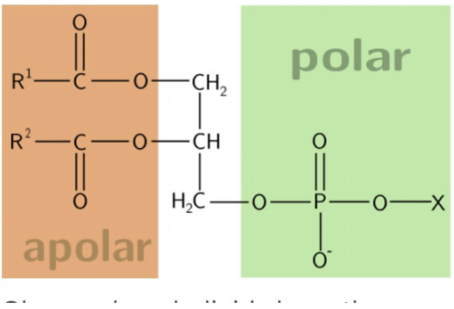
triacylglycerol	Phosphoglyceride
They have three fatty	They have two fatty

acid attached to their glycerol	acid and a phosphate group attached to the glycerol
Triglycerides are the main constituents of body fat in humans and other vertebrates, as well as vegetable fat	They are the main component of biological membranes.
Examples are palmitic acid,oleic acid	Examples include plasmalogens and phosphatidates

Triacyglycerol



Phosphoglyceride


polar
apolar
R1
R2
CH2
CH
H2C
O
P
X
O-