

SHRI RAMSWAROOP MEMORIAL UNIVERSITY

Problem Set-III

Session	2018-2019 (Odd Sem.)	Semester	III
Course	B. Tech.	Subject code	BBT3009
Branch	BT	Subject Name	Biochemistry
Group	31,32	Name of Faculty member	Prof. Sanjiv Kumar Maheshwari
Unit	II	Topic covered	Lipids: Definition, classification, structure and functions of each class of Lipids

Note: All questions are compulsory.

Section-A Very Short Answers type questions.

(10×1=10)

1. Define Lipids.
2. Enlist two classes of Fatty acids.
3. What are Acyl glycerols?
4. Write the structure of a fatty acid 18:0 formula.
5. Why fats are considered as energy rich?
6. Write structure of Phospholipids.
7. How many fatty acids will one find in a Phospholipids.
8. Enlist two of unsaturated fatty acids.
9. Differentiate between saturated and unsaturated fatty acids.
10. Enlist functions of Lipids in bio-membranes.

Section-B Short Answer type questions.

(5×4=20)

1. Write structure and functions of cholesterol.
2. Write short notes on Sphingolipids
3. Describe cis and trans isomerism in unsaturated fatty acids.
4. Write in brief about saturated fatty acid with their common, scientific names.

Section-C Long Answer type questions.

(2×10=20)

1. Write a detailed note glycerophospholipids. Substantiate your answer with five examples of glycerophospholipids.
2. The melting points of a series of 18-carbon fatty acids are: stearic acid 69.6°C; oleic acid 13.4 °C; linoleic acid -5 °C; and linolenic acid -11°C.
 - (a) What structural aspect of these 18-carbon fatty acids can be correlated with the melting point? Provide a molecular explanation for the trend in melting points.
 - (b) Draw all the possible triacylglycerols that can be constructed from glycerol, palmitic acid, and oleic acid. Rank them in order of increasing melting point.

Text Book / Reference Book:

1. Lubert Stryer Biochemistry (2002), WH Freeman, New York
2. Lehninger AL Biochemistry (1989), CBS Publication, New Delhi

(Signature of Faculty with date)

Sanjiv

22/11/18

(Signature of Director with date)

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22/11/18