

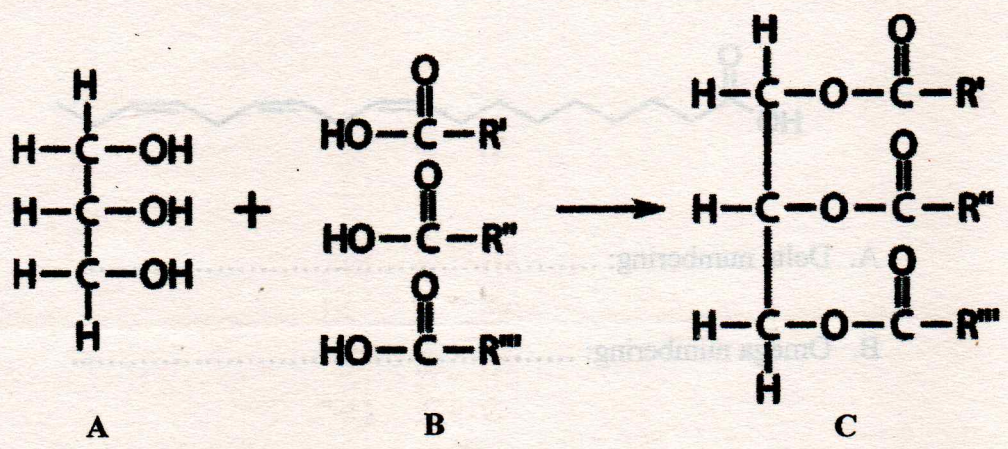
University of Ruhuna- Faculty of Technology
Bachelor of Biosystems Technology Honours Degree
Level 1 (Semester II) Examination, December 2022
Academic year 2020/2021

Course Unit: BST 1242 Basic Biochemistry (Theory)
Duration: 1 Hour

- Answer all questions in part A
- Write the answers only in the provided space for part A
- Answer any two questions from part B

Part A

1. Following questions are based on lipids. Consider the reaction given below,



1.1. What is the name of the final product (C)? (4 Marks)

1.2. Name the basic units involved to form the final product (5 Marks)

A:

B:

1.3. What type of bond formed between A and C. (3 Marks)

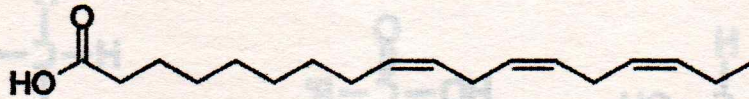
1.4. Mention the main step of the mechanism in the above 1.3 (5 Marks)

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1.5. What is the main importance of "C" for human? (3 Marks)

.....

1.6. Fatty acids (FAs) can be named based on two ways as Delta numbering and Omega numbering. Following diagram shows the chemical structure of α -linolenic acid (ALA). Mention the nomenclature of ALA in both ways (5 Marks)



A. Delta numbering:

B. Omega numbering:

2. Following questions are based on nucleic acids

2.1. Fill in the blanks in the table with relevant Nitrogen bases.

(8 Marks)

Nucleic Acid	Purine Bases	Pyrimidine Bases
RNA
DNA

2.2. What is the main function of phosphodiester bond

(1 Mark)

.....

.....

.....

2.3. List out five differences of DNA and RNA

(10 Marks)

DNA	RNA

2.4. Identify the correct RNA type according to the its role given. (6 Marks)

Type of RNA	Task
	Carrying information for the synthesis of a protein from
	Translate the information in mRNA into a specific sequence of amino acids
	Carry out the synthesis of proteins

Part B

3. Carbohydrates are categorized into different classes based on its structure and function. Explain this statement. (25 Marks)

4. Following questions are based on Amino acids and Proteins.

4.1. List out three physical properties of amino acids (6 Marks)

4.2. Mention three important functions of amino acids. (6 Marks)

4.3. Proteins play a vital role in Biosystems. Knowledge on proteins helps biosystem technologists to carryout their tasks effectively in many aspects. Discuss the sectors/fields/industries where you could use this knowledge (13 Marks)

5. Write short notes the followings (20 Marks)

5.1. Tertiary structure of proteins

5.2. Importance of Nucleic acids for biological systems