

The Assam Royal Global University, Guwahati

Royal School of Biosciences
B.Sc. Biochemistry 4th Semester

Semester End Examination, July 2021

Course Title: Metabolism of Amino Acids and Nucleotides

Course Code: BCH152C401

Time: 3 Hours

Maximum Marks: 70

Note: Attempt all questions as per instructions given.

The figures in the right-hand margin indicate marks.

Section – A

1. Attempt **all questions**. (Maximum word limit 50) 2 x 8
 - a. What is nitrification?
 - b. Write two components of gastric juice.
 - c. What is the function of glutamine synthetase?
 - d. Give two examples of essential amino acids.
 - e. Differentiate between nucleotide and nucleoside.
 - f. What are topoi?
 - g. What are the one-carbon units?
 - h. What are the ketogenic amino acids?

2. Attempt **any one** of the following: 12x 1
 - a. What are the salient features of transamination?
 - b. Describe the Urea cycle.
 - c. Discuss the concept of nitrogen balance.

3. Attempt **any two** of the following: 7 x 2
 - a. Explain the biosynthetic process of glutamine, proline, and arginine.
 - b. Explain the *De novo* biosynthetic process of pyrimidine nucleotides.
 - c. Explain the salvage biosynthetic pathways of purines and pyrimidines.

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Section – B

4. Attempt **any two** of the following: 7 x 2
- a. Describe the degradation of pyrimidine nucleotides.
 - b. Briefly describe any two metabolic disorders of purine metabolism.
 - c. Briefly describe the metabolic disorders of pyrimidine metabolism.
5. Attempt **any two** of the following: 7 x 2
- a. How does tyrosine convert to epinephrine?
 - b. Discuss the Maple syrup urine disease.
 - c. Write a note on Homocystinurias.