

BBCCT-113

ASSIGNMENT BOOKLET

**Bachelor's Degree Programme
B.Sc. Hons in Biochemistry (BSCBCH)**

**METABOLISM OF
AMINO ACIDS AND NUCLEOTIDES**

Valid from 1st July, 2021 to 31st December, 2022



**School of Sciences
Indira Gandhi National Open University
Maidan Garhi
New Delhi-110068
(2021-2022)**

Dear Student,

Please read the section on assignments in the Programme Guide for B. Sc. (Hons) Biochemistry that we sent you after your enrolment. A weightage of 30 per cent, as you are aware, has been earmarked for continuous evaluation, **which would consist of one tutor-marked assignment** for this course. The assignment is in this booklet, and it consists of two parts, Part A and B. It covers all blocks of the course. The total marks of all the parts are 100, of which 35% are needed to pass it.

Instructions for Formatting Your Assignments

Before attempting the assignment please read the following instructions carefully:

- 1) On top of the first page of your answer sheet, please write the details exactly in the following format:

ROLL NO.:

NAME:

ADDRESS:

.....

.....

COURSE CODE:

COURSE TITLE:

ASSIGNMENT NO.:

STUDY CENTRE: **DATE:**

PLEASE FOLLOW THE ABOVE FORMAT STRICTLY TO FACILITATE EVALUATION AND TO AVOID DELAY.

- 2) Use only foolscap size writing paper (but not of very thin variety) for writing your answers.
- 3) Leave 4 cm margin on the left, top and bottom of your answer sheet.
- 4) Your answers should be precise.
- 5) Solve Part (A) and Part (B) of this assignment, and **submit the complete assignment answer sheets within the due date.**
- 6) The assignment answer sheets are to be submitted to your Study Centre within the due date. **Answer sheets received after the due date shall not be accepted.**

We strongly suggest that you retain a copy of your answer sheets.

- 7) This assignment is **valid from 1st July, 2021 to 31st December, 2022.** If you have failed in this assignment or fail to submit it by December, 2022, then you need to get the assignment for the year 2023, and submit it as per the instructions given in the Programme Guide.
- 8) **You cannot fill the examination form for this course** until you have submitted this assignment.

We wish you good luck.

ASSIGNMENT

Metabolism of Amino Acids and Nucleotides Core Course in Biochemistry

Course Code: BBCCT-113
Assignment Code: BBCCT-113/TMA/2021
Maximum Marks: 100

Note: Attempt all questions. The marks for each question are indicated against it. Write all answers in your own words; do not copy from the course material.

PART-(A) (50)

1. a) Draw a representative figure of TCA cycle and mark the points of entry of intermediates of amino acid catabolism into TCA cycle. (6)
b) What are Transaminases? (4)
2. a) Distinguish between Positive and Negative Nitrogen Balance. (5)
b) What short note on Kwashiorkor? (5)
3. a) What are Polyamines? (5)
b) Illustrate briefly about the Porphyrins? (5)
4. Explain the following disorders of amino acid metabolism: (5+5=10)
a) Phenylketonuria
b) Alkaptonuria
5. Describe biosynthesis of non essential amino acids of glutamate family. (10)

PART-(B) (50)

6. a) How purine nucleotide, inosine monophosphate is assembled? Describe the steps. (10)
7. a) How is DNA chemically different from RNA? (4)
b) Explain the salvage pathway of Pyrimidine bases and Nucleosides. (6)
8. a) Draw a schematic representation of electron flow from NADPH to ribonucleotide reductase. (5)
b) Elaborate role of inhibitors in nucleotide synthesis (5)
9. Discuss catabolism of pyrimidine nucleotides: (10)
10. Describe briefly the signs and symptoms of: (5+5 =10)
i) Gout
ii) Lesch-Nyhan syndrome

