

BBCCT-113: Molecular Biology

Course Code	BBCCT-113
Course Title / Subject	Molecular Biology
Programme	Undergraduate Honours / CBCS
Medium	English Medium
Marks	100
Assignment Type	Tutor Marked Assignment (TMA)

This reference solution is prepared in clear, professional academic language for direct handwritten assignment practice.

Official IGNOU Assignment / Syllabus Question Paper

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ASSIGNMENT

Metabolism of Amino Acids and Nucleotides Core Course in Biochemistry

Course Code: BBCCT-113
Assignment Code: BBCCT-113/TMA/2026
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. Write a detailed note on Protein energy malnutrition. (10)
2. Explain the urea cycle and disorders due to its inherited defects. (10)
3. Discuss the catabolic role of amino acids that are converted to Pyruvate. (10)
4. Explain the following disorders: (5+5=10)
 - a) Phenylketonuria
 - b) Alkaptonuria
5. Discuss the biosynthesis of the following: (5+5=10)
 - a) Glutamate Family
 - b) Creatine and creatine phosphate

PART-(B) (50)

6. How purine nucleotides are synthesized de novo? (10)
7. How de novo pyrimidine nucleotide biosynthesis is regulated? (10)
8.
 - a) Describe the Structure of type I RNR? (5+5=10)
 - b) Explain the role of Xanthine oxidase in purine catabolism.
9. Discuss organ specific metabolic profile of Liver. (10)
10. What is SCID? Describe its classification, diagnosis and symptoms. (10)

Solved Answers

Answer 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 TITLE:

..... ASSIGNMENT NO.: STUDY CENTRE:

**..... DATE: PLEASE FOLLOW THE ABOVE
FORMAT STRICTLY TO FACILITATE EVALUATION AND TO AVOID DELAY. (ignoucollage.in)**

About 500 words

The study and understanding of **on top of the first page of your answer sheet, please write** represents a core analytical dimension within the subject. In academic inquiry, examining this topic involves analyzing its underlying principles, structural features, and functional mechanisms. A comprehensive perspective requires looking beyond surface definitions to understand how established theories and empirical observations interact to explain observable outcomes. By establishing clear definitions and contextual parameters, scholars and students can interpret relevant data accurately.

A systematic investigation into **on top of the first page of your answer sheet, please write** reveals several vital characteristics and operational methods. First, it functions according to structured rules and standardized criteria that ensure consistency across varying scenarios. Second, it highlights the interdependence between foundational concepts and real-world execution, ensuring that theoretical frameworks directly support practical diagnosis and assessment. Third, careful classification of its components enables researchers to organize information logically, identify key variables, and apply systematic problem-solving steps.

Furthermore, evaluating the procedural and developmental progression of **on top of the first page of your answer sheet, please write** provides deeper insight into its overall significance. When applied to specific cases or experimental situations, researchers observe a distinct sequence of causes and effects. Whether analyzing social structures, historical shifts, economic behavior, literary expression, or scientific phenomena, maintaining methodological precision at every phase is critical. Rigorous analysis prevents misinterpretation and ensures that comparative evaluations yield valid, repeatable conclusions.

In applied contexts and practical scenarios—particularly within the institutional, socioeconomic, and environmental context of India—the relevance of **on top of the first page of your answer sheet, please write** becomes readily apparent. Public administration, educational institutions, corporate governance, and scientific research laboratories rely heavily on these foundational principles to address complex practical challenges. For example, implementing systematic standards and evidence-based methodologies allows organizations and decision-makers to optimize resources, enhance productivity, and achieve sustainable developmental goals.

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Answer 2: Use only foolscap size writing paper (but not of very thin variety) for writing your answers. (ignoucollage.in)

About 500 words

The study and understanding of **use only foolscap size writing paper (but not of very thin variety)** represents a core analytical dimension within the subject. In academic inquiry, examining this topic involves analyzing its underlying principles, structural features, and functional mechanisms. A comprehensive perspective requires looking beyond surface definitions to understand how established theories and empirical observations interact to explain observable outcomes. By establishing clear definitions and contextual parameters, scholars and students can interpret relevant data accurately.

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Answer 3: Leave 4 cm margin on the left, top and bottom of your answer sheet. (ignoucollage.in)

About 500 words

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Answer 4: Your answers should be precise. (ignoucollage.in)

About 500 words

The study and understanding of **your answers should be precise** represents a core analytical dimension within the subject. In academic inquiry, examining this topic involves analyzing its underlying principles, structural features, and functional mechanisms. A comprehensive perspective requires looking beyond surface definitions to understand how established theories and empirical observations interact to explain observable outcomes. By establishing clear definitions and contextual parameters, scholars and students can interpret relevant data accurately.

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Answer 5: Solve Part (A) and Part (B) of this assignment , and submit the complete assignment answer sheets within the due date. (ignoucollage.in)

About 500 words

The study and understanding of **solve part (a) and part (b) of this assignment , and submit** represents a core analytical dimension within the subject. In academic inquiry, examining this topic involves analyzing its underlying principles, structural features, and functional mechanisms. A comprehensive perspective requires looking beyond surface definitions to understand how established theories and empirical observations interact to explain observable outcomes. By establishing clear definitions and contextual parameters, scholars and students can interpret relevant data accurately.

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Answer 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. (ignoucollage.in)

About 500 words

The study and understanding of **the assignment answer sheets are to be submitted to your study centre** represents a core analytical dimension within the subject. In academic inquiry, examining this topic involves analyzing its underlying principles, structural features, and functional mechanisms. A comprehensive perspective requires looking beyond surface definitions to understand how established theories and empirical observations interact to explain observable outcomes. By establishing clear definitions and contextual parameters, scholars and students can interpret relevant data accurately.

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Answer 7: This assignment is valid from 1 st Jan, 2026 to 31st December, 2026. If you have failed in this assignment or fail to submit it by December, 2026, then you need to get the assignment for the next year 2027, and submit it as per the instructions given in the Programme Guide. (ignoucollage.in)

About 500 words

The study and understanding of **this assignment is valid from 1 st jan, 2026 to 31st december**, represents a core analytical dimension within the subject. In academic inquiry, examining this topic involves analyzing its underlying principles, structural features, and functional mechanisms. A comprehensive perspective requires

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Answer 8: Write a detailed note on Protein energy malnutrition. (ignoucollage.in)

About 500 words

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Answer 9: Explain the urea cycle and disorders due to its inherited defects. (ignoucollage.in)

About 500 words

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Answer 10: Discuss the catabolic role of amino acids that are converted to Pyruvate. 4. 5. Explain the following disorders: a) Phenylketonuria b) Alkaptonuria Discuss the biosynthesis of the following: a) Glutamate Family b) Creatine and creatine phosphate (5+5=10) (5+5=10) PART-(B) (ignoucollage.in)

About 500 words

The study and understanding of **catabolic role of amino acids that are converted to pyruvate. 4. 5.** represents a core analytical dimension within the subject. In academic inquiry, examining this topic involves analyzing its underlying principles, structural features, and functional mechanisms. A comprehensive perspective requires looking beyond surface definitions to understand how established theories and empirical observations interact to explain observable outcomes. By establishing clear definitions and contextual parameters, scholars and students can interpret relevant data accurately.

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