

**ATAL BIHARI VAJPAYEE MEDICAL UNIVERSITY, LUCKNOW**  
**MBBS DEGREE EXAMINATION - 1st PROF PROFESSIONAL REGULAR**  
**EXAM - AUGUST 2024**  
**BIOCHEMISTRY -PAPER- II**

**Time: 3 Hrs**

**Max. Marks: 100 Marks (80 Theory + 20 MCQs)**

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**NOTE:**

Attempt all questions.

This question paper consists of two sections: Section A - Multiple Choice Questions and Section B - Theory Questions.

Both sections have different paper codes. Write the correct paper code on the respective sheet.

Write the correct MCQ paper set on the OMR sheet.

Answer MCQs on the provided OMR sheet and theory questions on the provided answer booklet.

**SECTION B - THEORY QUESTIONS**

**PAPER CODE: 2412230003**

**Q.1 Long Answer Question**

**15 MARKS**

- i) Discuss the Eukaryotic Translation process with the help of an illustrated diagram. (7 marks)
- ii) Discuss post-translational modifications and inhibitors of translation. (5 marks)
- iii) Give differences between eukaryotic and prokaryotic translation. (3 marks)

**Q.2 Clinical Case Scenario based Structured Question**

**15 MARKS**

An 18-month-old male child was admitted to the NICU with a history of continuous vomiting for three days, poor feeding, and deterioration of

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consciousness. He was born after a full-term uneventful gestation, by caesarean section. Birth weight was 3600 grams. His older sibling died of a similar illness at the age of two years. His serum ammonia levels were found to be very high. On tandem mass spectrometry, his citrulline levels were very low. He deteriorated rapidly afterward and died three days later.

- i) Which enzyme defect would you suspect in this child & discuss its inheritance pattern? (2 marks)
- ii) Discuss the metabolic pathway which is defective in the above-mentioned illness. (5 marks)
- iii) Why is ammonia neurotoxic? (2 marks)
- iv) How is ammonia normally transported and detoxified? (2 marks)
- v) List 4 causes of hyperammonemia. (4 marks)

**Q.3 Short Note Question (Within 500 Words)****5 x 6 = 30 MARKS**

- i) Enumerate the functions and components of the extracellular matrix.
- ii) Discuss causes, clinical features, and treatment of Gout.
- iii) Discuss Thalassemia: Definition, types, and causes.
- iv) Discuss the Classical complement pathway.
- v) Discuss the role of a physician in the healthcare system. Also, discuss the significance of lifelong learning for a physician.

**Q.4 Short Answer Questions (Within 100 Words)****5 x 4 = 20 MARKS**

- i) Discuss hemolysis in G6PD deficiency.
- ii) Discuss Multiple myeloma.
- iii) Compare characteristic features of tumor cells with normal cells.
- iv) Discuss tumor markers.
- v) Discuss the metabolism of Phenylalanine. Name the various inborn errors of metabolism associated with it.