QP. CODE: MB2019102

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MBBS FIRST YEAR EXAMINATIONS: FEBRUARY, 2023

BIOCHEMISTRY PAPER II

Time: 3 Hours **Max Marks: 100**

Note: Answer all questions.

Give Diagrammatic representation whenever necessary

Write an essay on the following: **2x15=30**

1. A 6-month-old infant began to vomit occasionally and ceased to gain weight. At 9-months of age he was readmitted to the hospital. Routine examination and laboratory analysis were normal. After one week, he became drowsy, had fever and elevated pulse. And there was hepatomegaly. EEG was done and was grossly abnormal. Blood ammonia was elevated and urine contained high amount of glutamine and uracil.
   a) What is the probable diagnosis?
   b) What is the mechanism underlying this disorder?
   c) What is the normal ammonia level in the body?
   d) Give details about ammonia detoxification.
   e) Write about regulation of the urea cycle.

(1+4+1+6+3)

2. What are the causes of hyperuricemia? Write the biochemical basis of clinical features of gout and its treatment modality. What are the normal values of serum uric acid. Add a note on hypouricemia. (6+6+1+2)

Write a short note on the following: **8x5=40**

3. Explain in detail the factors affecting the velocity of an enzyme action.

4. Humoral and cell mediated immunity.

5. Define detoxification. Give an account of various detoxification process.

6. Protein energy malnutrition.

7. Biochemical changes involving the metabolism of carbohydrates, fat and protein in starvation.

8. Describe the different types of ion channels and its significance.

9. Describe the structure and functions collagen. And give me two examples of diseases due to abnormalities of structure.

10. What are the biochemical functions and deficiency Manifestations of Vitamin D_3.

Write briefly on the following: **10X3=30**

11. What is competitive inhibition? Explain with two examples.

12. What is redox potential and what is its significance.

13. What are the hormones influencing blood sugar levels and how are these hormones acting.

14. Compare and contrast three features of fatty acid synthesis and fatty acid oxidation.

15. Fluorosis.

16. Differentiate the biochemical properties of hexokinase and glucokinase.

17. What are the metabolic imbalances seen in diarrhea.

18. Clinical application of therapeutic enzymes.

19. Classify Lipoproteins.

20. Define Oxidative phosphorylation. Explain uncouplers of oxidative phosphorylation.

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