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**B.A./B.Sc. (General) Third Semester
Biochemistry****Paper - B: Protein and Nucleic Acid Metabolism****Time allowed: 3 Hours****Max. Marks: 45**

NOTE: Attempt five questions in all, including Question No. 1 which is compulsory and selecting one question from each Unit.

x-x-x

I. MCQ and Fill in the Blanks:-

1. The end product of protein metabolism is:-

- A) Urea B) Creatinine C) Uric acid D) Ammonia

2. As a prosthetic group, Transaminases require a vitamin

- A) B1 B) B2 C) B6 D) B12

3. Which of the following amino acids act as inhibitory neurotransmitter

- A) Glycine B) Alanine C) GABA D) All of these

4. Which of the following enzyme contain selenocysteine

- A) Nitrate reductase B) Catalase
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- C) Glutathione peroxidase D) None of these

5. Oxidation of tyrosine leads to the formation of.....

6. Metabolism of tryptophan leads to the formation of..... vitamin.

7. Histidine is non- oxidatively deaminated by the specific enzymeto form NH_3 and urocanic acid.

8. Conversion of guanine to Xanthine is catalyzed by enzyme

9. The defect of enzyme leads to Lesch-Nyhan syndrome. (9x1)

UNIT - I**II. Describe the following:-**

- The process of Transamination; highlight the role of pyridoxal phosphate in this process.
- Reactions of the pathway of urea synthesis. How the pathway is regulated.

(4,5)

P.T.O.

(2)

III. Explain the following:-

- a) Explain digestion of proteins in GI Tract.
- b) What is decarboxylation? Write common biosynthetic products of decarboxylation of amino acids and their functions. (4,5)

UNIT - III

IV. Discuss:-

- a) Specialized products synthesized from Cysteine, Serine & Histidine.
- b) Biochemical role of Glutathione and Creatinine. (5,4)

V. a) SAM Cycle.

- b) Metabolic role of glutamate and glutamine. (4,5)

UNIT - IV

VI. Write a notes:-

- a) Biosynthesis and functions of Catecholamines
- b) Formation and functions of Melanin (5,4)

VII. Explain metabolic disorders of phenylalanine and sulphur containing amino acids. (9)

UNIT - IV

VIII. Indicate sources of various atoms of purine nucleotides. Briefly discuss De novo synthesis of Purines and its regulation. (9)

IX. Explain the following:-

- a) Biosynthesis and regulation of Hemoglobin.
- b) Hyperuricemia and its causes. (6,3)

x-x-x