Exam.Code:0003
Sub. Code: 0260

1127

B.A./B.Sc. (General) Third Semester

Bio-Chemistry

Paper –B : Protein and Nucleic Acid Metabolism

Time allowed: 3 Hours Max. Marks: 45

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

x-x-x

I. Name the following:-

a) Name the nucleotides as second messengers.

b) Name the amino acids which are exclusively ketogenic.

c) Metabolic defect in Maple Syrup urine disease.

d) Role of folic acid in amino acid metabolism.

e) Function of gastrin.

f) Name the enzymes required for transamination.

g) Which enzyme is deficient in congenital erythropoetic porphyria.

h) Difference in the reaction catalyzed by CPS-1 and CPS-2.

i) Precursors required for the synthesis of heme. (9x1)

UNIT – I

II. Write in detail the transport of ammonia from different organs and its further detoxification. (9)

III. Explain the following:-

a) Define transamination deamination and the enzyme catalytic mechanism of transamination.

b) Gamma-glutamyl cycle (5,4)

UNIT – II

IV. Write in detail the synthesis of specialized product of Tyrosine. (9)

V. Synthesis of neurotransmitters from various amino acids and the metabolic effect (9)

P.T.O.

UNIT – III

VI. Name non essentional amino acids and discuss their synthesis and overall view of their synthesis and role of glutamate dehydrogenase and glutamine synthetase (9)

VII. Briefly explain

a) The metabolism of branched chain amino acids and metabolic disorders related to their catabolism

b) Specialized products synthesized from Alanine (5,4)

UNIT – IV

VIII. Explain:

a) Role of AMP and GMP in regulation of purine synthesis

b) Primary and secondary causes of hyperuricemia (4,5)

IX. Write short notes:-

a) Lesch-Nyhan Syndrome

b) Porphyrias

c) Conjugation of bilirubin (3,4,2)

x-x-x