Reg. No. | | | | | | | | | |

BCH 552

IV Semester M.Sc. Examination, September/October 2022
BIOCHEMISTRY
Metabolism of Nitrogen Containing Compounds

Time : 3 Hours Max. Marks : 70

1. Answer **10** of the following : **(10×2=20)**

   a) What is nitrogen fixation ?

   b) What is cumulative feedback inhibition ? Give an example.

   c) Differentiate salvage and de novo pathway.

   d) What is negative nitrogen balance ?

   e) What is Lesch-Nyhan syndrome ?

   f) What are symbionts ?

   g) What is Gout ?

   h) Give the biological significance of chorismate.

   i) What is transamination reaction ? Give an example.

   j) What is porphyria ?

   k) Give the biological significance of serotonin and histamine.

   l) Differentiate nitrification and denitrification.

Answer **any five** of the following : **(5×10=50)**

2. a) Illustrate nitrogen fixation by the nitrogenase complex.

   b) Explain glucose-alanine cycle. **(5+5=10)**

3. a) Explain the biosynthetic pathway of methionine from aspartate.

   b) Outline the mechanism of action of tryptophan synthase. **(5+5=10)**

P.T.O.

4. a) Explain urea cycle and its significance.

   b) Describe the steps involved in heme degradation. **(5+5=10)**

5. a) Write a note on the de novo synthesis of purines.

   b) Schemate the steps involved in the degradation of phenylalanine and tyrosine. **(5+5=10)**

6. a) Outline the steps involved in the biosynthesis of heme.

   b) Describe the degradation of pyrimidine nucleotides. **(5+5=10)**

7. a) Discuss the role of PLP in amino acid catabolism.

   b) Write a note on general regulation of amino acid metabolism. **(5+5=10)**

8. a) Discuss the degradation of branched chain Isoleucine.

   b) Explain the anabolic pathway of arginine. **(5+5=10)**
