

B.Sc. Third Year CBCS Pattern Semester-VI
**USBCDST-13 - Biochemistry Paper-I : Bioenergetics and Metabolism of Amino
Acids and Nucleotides**

P. Pages : 2

Time : Three Hours



GUG/W/23/13337

Max. Marks : 50

Notes : 1. All questions are compulsory & carry equal marks.

1. Discuss in detail high energy phosphate compound. **10**

OR

a) Write a note on ATP-ADP cycle. **2½**

b) What is phosphate potential. **2½**

c) Write a note on chemical basis of high standard energy of hydrolysis of ATP. **2½**

d) Discuss exergonic & endergonic reaction with one example. **2½**

2. What is intermediary metabolism? And how it is important for metabolic studies? Discuss with analysis of excretion. **10**

OR

a) How inhibitor used to study metabolism. **2½**

b) Discuss used of anti-metabolite for study of metabolism. **2½**

c) Discuss the application of purified enzyme for metabolic study. **2½**

d) Write a note on isotope tracer studies. **2½**

3. Discuss in detail Urea cycle. **10**

OR

a) Write a note on transamination. **2½**

b) Explain decarboxylation with example. **2½**

c) Discuss metabolism of phenylalanine. **2½**

d) Write a note on inherited defects of urea cycle. **2½**

4. Discuss de novo synthesis of AMP. 10

OR

- a) Write a note on regulation of purine synthesis. 2½
- b) Discuss catabolism of pyrimidine. 2½
- c) Write a note on gout. 2½
- d) Discuss biosynthesis of deoxyribonucleotides from ribonucleotide. 2½

5. Attempt **any ten** from following.

- a) Define entropy. 1
- b) Define free energy. 1
- c) What is redox potential? 1
- d) What are the advantages of studies with intact organism? 1
- e) What is meant by Organectomy? 1
- f) Give the example of two isotopes used in tracer studies. 1
- g) Name the amino acid which is used as a source of methyl group in transmethylation. 1
- h) What are glycogen amino acid? 1
- i) Give two example of Ketogenic amino acid. 1
- j) Draw the structure of Purine ring & show the sources of C & N atoms. 1
- k) What is meant by salvage pathway? 1
- l) Name the key regulatory enzyme of pyrimidine biosynthesis. 1
