

Bachelor of Science (B.Sc.) Semester-IV (C.B.S.) Examination**MICROBIOLOGY (METABOLISM)****Paper-I**

Time : Three Hours]

[Maximum Marks : 50

N.B. :— (1) All questions are compulsory and carry equal marks.

(2) Draw diagrams wherever necessary.

1. Describe in detail Kreb's cycle and its regulation. 10

OR

Explain EMP pathway with its bioenergetics. 10

2. Describe DNA Replication in detail. 10

OR

Describe Beta Oxidation of palmitic acid with their bioenergetics. 10

3. (a) What is oxidative deamination ? 2½
 (b) Write note on transpeptidation. 2½
 (c) Enlist five characters of Genetic Code. 2½
 (d) What are ketogenic and glucogenic amino acids ? Give examples. 2½

OR

- (e) What is non-oxidative deamination ? 2½
 (f) Explain Initiation process of Translation. 2½
 (g) "Genetic code is triplet." Justify. 2½
 (h) Give schematic representation of Urea Cycle. 2½

4. (a) Explain cyclic photophosphorylation. 5
 (b) Give an account of ATP synthetase. 5

OR

- (c) Explain Non-cyclic photophosphorylation. 5
 (d) Illustrate diagrammatically ETC. 5

5. Solve any **ten** questions :

- (i) Give any two differences between Glucokinase and Hexokinase. 1
 (ii) Define substrate level phosphorylation. 1
 (iii) What is the significance of HMP pathway ? 1
 (iv) What do you mean by conservative mode of replication ? 1
 (v) Define omega oxidation. 1
 (vi) Define Reverse transcription. 1
 (vii) What is Shine-Dalgarno sequence ? 1
 (viii) Name any two elongation factors involved in translation. 1
 (ix) Write aminoacyl tRNA synthetase reaction. 1
 (x) Give any two examples of high energy molecule. 1
 (xi) Give any two inhibitors of EIC. 1
 (xii) What is P:O ratio ? 1