

NTK/KW/15 – 5835

Third Semester B. Sc. Examination

MICROBIOLOGY

Paper - I

(Chemistry of Organic Constituents and Enzymology)

Time : Three Hours]

[Max. Marks : 50

- N. B. : (1) All questions are compulsory and carry equal marks.
(2) Draw the diagrams wherever necessary.

1. Discuss the structure of starch and glycogen.

OR

Discuss the structure of sucrose and maltose. 10

2. Describe in detail the structure of protein.

OR

Give the complete classification of amino acids and give the structure of any two amino acids. 10

3. (a) Derive MM equation. 5

- (b) Give the transformation of MM equation. 5

OR

- (c) Discuss competitive and non-competitive enzyme inhibition. 5

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Contd.

- (d) What are isoenzymes ? Explain with suitable example. 5
4. (a) Give the different forms of DNA. 2 $\frac{1}{2}$
(b) Classify on the basis of solubility the different types of vitamins. 2 $\frac{1}{2}$
(c) Give the diagrammatic structure of t-RNA. 2 $\frac{1}{2}$
(d) Give the structure of any one pyrimidine base. 2 $\frac{1}{2}$

OR

- (e) Draw a well labelled diagram of DNA double helix. 2 $\frac{1}{2}$
(f) Give the structure of any one purine base. 2 $\frac{1}{2}$
(g) Explain the functions of any one fat soluble vitamin. 2 $\frac{1}{2}$
(h) Explain the term hypovitaminosis with suitable example. 2 $\frac{1}{2}$

5. Solve any **ten** :—

- (i) What are anomers ? 1
(ii) What are neutral fats ? 1
(iii) Name any two unsaturated fatty acids. 1
(iv) What are amino acids? 1
(v) Define oligomeric proteins. 1
(vi) Define peptide bond. 1

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| (vii) What is turn over number ? | 1 |
| (viii) What are zymogens ? | 1 |
| (ix) Define Prosthetic group. | 1 |
| (x) Differentiate between nucleoside and nucleotide. | 1 |
| (xi) Give the functions of r-RNA. | 1 |
| (xii) Differentiate between deoxyribose and ribose. | 1 |