

KNT/KW/16/5120

**Bachelor of Science (B.Sc.) Semester–III (C.B.S.) Examination**

**MICROBIOLOGY**

**(Chemistry of Organic Constituents & Enzymology)**

**Paper–I**

Time : Three Hours]

[Maximum Marks : 50

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

(2) Draw diagrams wherever necessary.

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|--------|--|----|
| 1. (a) | Give the pyranose and furanose structure of glucose. | 2½ |
| (b)    | Give the structure of maltose.                       | 2½ |
| (c)    | Give the structure of lactose.                       | 2½ |
| (d)    | Give the structure of sucrose.                       | 2½ |

**OR**

- |     |   |    |
|-----|---|----|
| (e) | Write a note on triglycerides.                          | 2½ |
| (f) | What are phospholipids ? Give example.                  | 2½ |
| (g) | Discuss the formation of osazone.                       | 2½ |
| (h) | Give the structure of cholesterol.                      | 2½ |
| 2.  | Describe in detail the secondary structure of proteins. | 10 |

**OR**

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|----|--|----|
|    | Discuss the classification of amino acids.                   | 10 |
| 3. | Describe in detail the different types of enzyme inhibition. | 10 |

**OR**

- |        |   |    |
|--------|---|----|
|        | Derive Michaelis and Menten equation and explain LB plot. | 10 |
| 4. (a) | Discuss the different types of water soluble vitamins.    | 5  |
| (b)    | Discuss the structure of tRNA.                            | 5  |

**OR**

- |     |  |   |
|-----|--|---|
| (c) | Discuss the diseases due to deficiency of Vit. B group.  | 5 |
| (d) | Discuss the structure of different types of Pyrimidines. | 5 |

5. Solve any **ten** :

1×10

- (i) What are epimers ?
- (ii) What are anomers ?
- (iii) What is a neutral lipid ?
- (iv) What is an imino acid ?
- (v) Name any two proteins with oligomeric form.
- (vi) What is a peptide bond ?
- (vii) What are zymogens ?
- (viii) What is turn over number ?
- (ix) What are coenzymes ?
- (x) What are nucleosides ?
- (xi) What is Z DNA ?
- (xii) Name any two fat soluble Vitamins.