2018

2nd Semester

MICROBIOLOGY

PAPER—C3T

(Honours)

Full Marks : 40

Time : 2 Hours

The figures in the margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

Illustrate the answers wherever necessary.

1. Answer any *five* questions from the following : 5×2

(a) What is mutarotation ? Give example. 2

(b) Give an example of non-protein amino acid with its structure. 2

(c) What is iodine number ? 2

(d) What is Gibb's *free energy* ? 2

(e) State the differences between α-helix and beta pleated sheet. 2

(f) Write the name and importance of two cyclic fatty acids. 2

(g) What are prosthetic groups ? Cite an example. 1+1

(h) Differentiate between reducing and non-reducing sugars. 2

2. Answer any *four* questions from the following : 4×5

(a) Why amino acids are called ampholytes ? State the features of peptide bond. 2+3

(b) Derive Michaelis-Menten equation for enzyme kinetics. 5

(c) What are phospholipids ? Mention their physiological importances. 5

(d) "ATP is an energy rich compound" — Justify. 5

(e) Describe the metabolic importance of Vit. B_6. 5

(f) (i) State second law of thermodynamics.

(ii) Briefly write about entropy. 2+3

3. Answer any *one* question from the following : 1×10

(a) (i) Explain the following properties of fatty acids : (A) saponification, (B) rancidity.

(ii) Mention the forces that stabilize the different levels of protein structure. 4+6

(b) (i) Mention the factors affecting enzyme activity.

(ii) State the importance of double reciprocal plot.

(iii) Write a brief note on inhibition of enzymes. 4+3+3

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