2021

MICROBIOLOGY — HONOURS — PRACTICAL

Seventh Paper

Full Marks : 100

The figures in the margin indicate full marks.

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

Unit-I

1. (i) Write down the principle of determining K_m and V_{max} of the enzyme alkaline phosphatase.

(ii) Determine the K_m and V_{max} of a solution of alkaline phosphatase by a double reciprocal plot with the help of supplied standard curve/chart and given data for substrate concentrations and O.D. values.

(iii) Conclude the result obtained. 5+20+5

2. (i) Write down the principle of determining pH optima of a solution of alkaline phosphatase.

(ii) Draw a curve to determine the pH optima of a solution of alkaline phosphatase using the given data.

(iii) Conclude the result obtained. 5+10+5

Or,

3. (i) Write down the principle of determining the effects of activators and inhibitors upon the activity of alkaline phosphatase.

(ii) Determine the effects of two chemical agents separately upon the activity of a solution of alkaline phosphatase using the given data.

(iii) Conclude the result obtained for the effects of the supplied chemical agents on the activity of alkaline phosphatase. 5+10+5

Unit-II

4. (i) Write down the principle of determining unknown concentration of a protein solution by Lowry method.

(ii) Prepare a standard curve using at least five different given dilution values and the corresponding O.D. values.

(iii) Determine the unknown protein concentration using the corresponding O.D. value (given) with the help of the standard curve.

(iv) Conclude the result obtained. 5+10+6+4

Or,

5. (i) Write down the principle of determining the nature of a nucleic acid solution exploiting physical properties by spectroscopic method.

(ii) Determine the nature of a solution of nucleic acid using given data by the spectroscopic method mentioned.

(iii) Conclude the result obtained. 6+13+6

6. Viva Voce 15

7. Laboratory Notebook 10