

Diploma in Microbial Analysis and Food Safety
First Semester
Fundamentals of Food Chemistry and Analysis: MFS-104

Max. Marks: 40

Time allowed: 3 hrs.

Note: Attempt five questions in all, including Question no. 1 which is compulsory and selecting one question from each Unit.

Q1. Each question carry equal marks (1)

- a) Define water activity?
- b) Define Saponification Value. How do we calculate it?
- c) Enlist important properties of Enzymes?
- d) Name four enzymes used in food processing industry?
- e) Why gelatinization of starch is important in food industry?
- f) Name four enzymes which are involved in food deterioration?
- g) Why water activity is importance in food spoilage?
- h) What are the various Forms of Water in Foods?

UNIT-1

Q2. I) What are the steps to perform the sensory analysis and Discuss various types of panels used for sensory evaluation of foods? (8)

II) Discuss various biochemical changes occurring in fruits and vegetables & meat and meat product during processing and storage on food quality? (8)

UNIT-II

Q3. III) Explain the major techniques of moisture content analysis of food samples? (8)

IV) Why protein analysis is important and what is principle behind Kjeldahl Method of protein analysis. Write advantages and disadvantages of this technique. (8)

UNIT-III

Q4. V) Why Carbohydrate analysis is important? Explain Phenol-Sulfuric Acid Method for Total Carbohydrate analysis? (8)

VI) Why analysis of Vitamins is important? Explain HPLC method of vitamin A analysis in milk products. (8)

UNIT-IV

Q5. VII) a) What is importance of Fat Analysis. Explain the various steps involved in Solvent extraction method in fat analysis? (8)

VIII) a) Explain various physical and chemical properties of oils and fats and name various preservatives used in milk preservation (8)