

1127

B. Voc. (Food Processing and Preservation)

Third Semester

FPP-304: Food Analysis: Tools and Techniques

Time allowed: 3 Hours

Max. Marks: 40

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

x-x-x

I. Attempt the following:-

- a) Write a short note on water holding capacity of different foods.
- b) Describe the principle of Paper chromatography?
- c) What is the role of filtration in detection of food contaminants?
- d) Discuss the principle of HPLC? (4x2)

### UNIT – I

- II. a) What are the rheological properties of food and how to measure them?
- b) Give a brief overview of analytical method use for estimation of color in food and its nutritional importance? (4,4)

- III. a) Discuss the method employed for detection of bacterial toxins in food sample
- b) Discuss briefly quantitative methods used for enumeration of microbial count in food? (4,4)

### UNIT – II

- IV. a) Describe the principle and application of thin layer chromatography?
- b) Write a note on types of ion exchange chromatography and its use in food analysis. (4,4)
- V. a) Describe the principle and application of Fluorescent microscopy?
- b) Differentiate between SEM and TEM (4,4)

### UNIT – III

- VI. a) Describe the principle and application of centrifugation in food sector.
- b) How electrophoresis be employed in food industry for checking the quality of raw material. (4,4)

(2)

- VII. Explain the principle and role of radiations in detection of contaminants in packaged food. (8)

#### UNIT - IV

- VIII. Discuss the principle of atomic absorption spectroscopy? Discuss briefly, what type of contaminants are detected by this technique? (8)

- IX. Define ELISA? Discuss the principle and application of ELISA in food analysis. (8)

x-x-x