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2711N889

Candidate's Seat No :_____

B.Sc. (Hons) FNS Sem.-5 Examination
FNS-314
Food Analysis
November-2025

Time : 2-30 Hours] **[Max. Marks : 70**

Question 1 **Write the following**

(i) Discuss the role and importance of food analysis in maintaining food quality standards. (7 Marks)

(ii) Enumerate and explain different reasons for carrying out food analysis. (7 Marks)

OR

(i) Describe Normality and Molarity with suitable examples and their significance in analysis. (7 Marks)

(ii) Describe different types of sampling techniques used in food analysis and their importance. (7 Marks)

Question 2 **Write the following**

(i) Explain the dry ashing and wet ashing procedures used in ash content estimation. (7 Marks)

(ii) Discuss Biuret, Lowry, and UV –visible spectrophotometric methods for protein estimation. (7 Marks)

OR

(i) Describe moisture determination in food samples. (7 Marks)

(ii) Explain the Kjeldahl method in detail for protein content in foods. (7 Marks)

Question 3 **Write the following**

(i) Explain the solvent extraction method in fat analysis of foods. (7 Marks)

(ii) Explain the enzymatic methods used for carbohydrate analysis. (7 Marks)

OR

(i) Differentiate between crude fibre and dietary fibre, and describe their analytical methods. (7 Marks)

(ii) Discuss the physical-machinary method employed for carbohydrate estimation. (7 Marks)

Question 4 **Write the following**

(i) Explain the anti-nutritional factor- Phytate, its impact on nutrition, and analytical approach. (7 Marks)

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(ii) Describe the methods used for estimation of Vitamin E in food samples. (7 Marks)

OR

(i) Discuss the antinutritional factor- Oxalate, its effect, and determination method. (7 Marks)

(ii) Explain the antinutritional factor – Tannin, its effects, and method of estimation. (7 Marks)

Question 5 **Attempt any seven out of twelve** (14 Marks)

(i) What are the functions of FDA and AOAC in the field of food analysis?

(ii) Define and explain the stratified sampling method with an appropriate example.

(iii) What is a dilution factor? Describe its application in food analysis.

(iv) Explain the principle and use of a calibration curve in analytical estimations.

(v) What do you understand by reflux distillation in moisture determination?

(vi) Explain the role of refractometry in determining moisture content.

(vii) Describe the volumetric method used for fat estimation.

(viii) List the food sources of Vitamin C and D.

(ix) List the dietary sources of Calcium and Phosphorus.

(x) Mention the deficiency symptoms associated with Iron and Cobalt.

(xi) Classify anti-nutritional factors (ANFs) based on their effect on nutrition.

(xii) Discuss the different types of tannins found in foods.