

C 40950

(Pages : 2)

Name.....

Reg. No.....

**FOURTH SEMESTER (CUCBCSS—UG) DEGREE EXAMINATION
APRIL 2023**

Food Technology

FTL 4B 07—FOOD CHEMISTRY AND ANALYTICAL INSTRUMENTATION
(2017—2018 Admissions)

Time : Three Hours

Maximum : 80 Marks

I. Objective Type. All questions are *compulsory* :

Multiple choices :

- 1 The colour of fresh muscle is due to (Haemoglobin, Myoglobin, Cyanoglobin)
- 2 A non- enzymatic browning is (Caramelization, Retro gradation, Emulsification)
- 3 FID is a detector of (HPLC, GC/MS, FTIR)

Answer in a single or two words :

- 4 What is the principle of separation in paper chromatography ?
- 5 Name any two PUFA, with full form ?

Write true/ false :

- 6 Degumming is not a process in oil refining.
- 7 Sodium Stearoyl Lactylate (SSL), is an emulsifier in foods.

Fill in the blanks :

- 8 Pigments responsible for red purple and blue colour of fruits is _____.
- 9 _____ is the father of colloidal chemistry.
- 10 _____ is a hexose sugar.

(10 × 1 = 10 marks)

II. Short Answer Type Questions. Answer any *five* questions :

- 11 What you mean by glycosidic linkage ?
- 12 Differentiate Liquid- Solid and Liquid-Liquid chromatography.

Turn over

- 13 Which are the different parts of a spectrophotometer ?
- 14 Write the difference between free and bound water ?
- 15 Explain chromatography, with a brief explanation of TLC.
- 16 Explain water activity of food ?
- 17 What is the role of emulsifying agents in food emulsions ?

(5 × 2 = 10 marks)

III. Short Essay Questions. Answer any *six* questions :

- 18 Explain denaturation of protein ?
- 19 Give a detailed note on enzymes used in food industry ?
- 20 What is enzyme activity ? Which are the factors affecting enzyme activity ? Name any two enzymes with their role in food industry ?
- 21 Explain gelatinization and starch retro gradation, with examples ?
- 22 Write the structure of any three fatty acids and explain its properties ?
- 23 Write short note on Beer- Lamberts law.
- 24 Write the importance and classification of proteins and aminoacids ?
- 25 Explain the theory of emulsion ?

(6 × 5 = 30 marks)

IV. Essay Questions. Answer any *two* questions :

- 26 Explain the different kinds of rancidity with its mechanism.
- 27 Explain chromatography with the help of HPLC. Write and explain any two detectors used in HPLC.
- 28 Explain in detail Kjeldahl method for the estimation of proteins.
- 29 What are Pigments ? Which are the different pigments presents in foods ? Explain with example.

(2 × 15 = 30 marks)