

## FOURTH SEMESTER B.Sc. DEGREE EXAMINATION, APRIL 2018

(CUCBCSS-UG)

Food Technology

FTL 4B 07—FOOD CHEMISTRY AND ANALYTICAL INSTRUMENTATION

Time : Three Hours

Maximum : 80 Marks

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

Multiple Choices :

1. Which pigments are responsible for the red, purple and blue colour of fruits and vegetables?  
(a) Anthocyanins (b) Anthoxanthins.  
(c) Carotenoids (d) Chlorophyll.
2. Fructose is a :  
(a) Monosaccharide. (b) Disaccharide.  
(c) Oligosaccharide. (d) Polysaccharide.
3. Signal to Noise ratio (in HPLC) to determine Limit of detection :  
(a) 20 : 1. (b) 10 : 1.  
(c) 5 : 1. (d) 3 : 1.

Answer in a single or two words

4. Name a conjugation property detector of HPLC.
5. Proteins consist of.

Fill in the blanks

6. Types of columns used in GC \_\_\_\_\_ and \_\_\_\_\_
7. Protein present in wheat \_\_\_\_\_

Match the following :

8. Mango – Lycopene.
9. Tomato – Curcuminoids.
10. Turmeric – Carotene.

(10 × 1 = 10 marks)

Turn over

**II. Short Answer Type Questions (Answer any *five* Questions) :**

11. Write a short note on Thin Layer chromatography.
12. Provide the parts of spectrophotometer.
13. Name the element and four rings present in chlorophyll.
14. What is meant by enzyme specificity?
15. Explain denaturation of protein.
16. Describe suspensions and give an example.
17. Define enzyme activity.

(5 × 2 = 10 marks)

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

18. Describe in detail about the occurrence of pigments.
19. Write briefly about anthocyanins.
20. Describe the role of antioxidants in lipids.
21. Write the role of fibre in diet.
22. Write short notes on Properties of solutions.
23. Write a short note on fluorimetry.
24. Write the physical and chemical properties of water.
25. Write a short note on Beer-Lambert's law.

(6 × 5 = 30 marks)

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

26. Describe in detail about Atomic absorption spectrophotometry.
27. Describe method of classification of enzymes and discuss importance of enzymes in food industry.
28. Describe in detail about chemistry of colloids and their role in foods.
29. Narrate the classification of lipids. Describe the rancidity of fats and oils.

(2 × 15 = 30 marks)