Register No.: ..... Name: .....

SAINTGITS COLLEGE OF ENGINEERING (AUTONOMOUS)

(AFFILIATED TO APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY, THIRUVANANTHAPURAM)

FIFTH SEMESTER B.TECH DEGREE EXAMINATION (Regular), DECEMBER 2022

FOOD TECHNOLOGY

(2020 SCHEME)

Course Code : 20FTT305

Course Name: Food Analysis

Max. Marks : 100 **Duration: 3 Hours**

PART A

(Answer all questions. Each question carries 3 marks)

1. Why analysis of food is important?
2. Expand the abbreviation CAC, AOAC and EIC.
3. What is proximate analysis? Give an example.
4. Distinguish between air-oven and vacuum oven.
5. Define photon and quantum.
6. How AES would differ from AAS and name the common forms of AES?
7. What is Rf? Give the formula to calculate Rf?
8. List any four detectors used in GC.
9. How to unfold the protein sample for SDS-PAGE?
10. List three advantages of CE technique.

PART B

(Answer one full question from each module, each question carries 14 marks)

MODULE I

11. a) Explain the benefits of NABL accreditation. (4)

    b) Discuss in detail about the regulatory framework of FSSA-2006 on ensuring food safety. (10)

OR

12. a) Explain about sampling plans. (9)

    b) Summarize the factors affecting the choice of sampling plans. (5)

MODULE II

13. a) Explain the principle and procedure of any one method for estimating carbohydrate in rice. (7)

    b) With the help of diagrammatic representation explain the principle behind DSC (7)

OR

14. a) Explain the process of wet ashing according to AOAC (7)

b) A lab wishes to analyze apple juice. They would like each ml of titrant to equal 0.1% malic acid. Sample aliquots will all be 10 ml. What base normality should be used? Equivalent weight of malic acid is 67.05. (7)

MODULE III

15. a) Outline the instrumentation of UV-Vis spectroscopy. (9)

b) Explain the applications of fluorescence spectroscopy in food analysis (5)

OR

16. a) Explain the principles of flame atomic absorption spectroscopy (AAS). (9)

b) Summarize the configuration of argon plasma torch in AES (5)

MODULE IV

17. a) Discuss the general procedure for analyzing food using TLC. (10)

b) Distinguish between GC and LC (4)

OR

18. a) Explain the detectors used in HPLC. (7)

b) Discuss the working principle of supercritical chromatography (7)

MODULE V

19. a) Explain the principle and general instrumentation of CE. (10)

b) Paraphrase the applications of SDS PAGE in the analysis of food (4)

OR

20. a) Compile the general steps involved in immunoassay. (7)

b) Identify the areas for the possible application of immunoassays. (7)

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