# Avinashilingam Institute for Home Science and Higher Education for Women

**Deemed to be University Estd. u/s 3 of UGC Act 1956, Category 'A' by MHRD (now MoE)**
**Re-accredited with 'A++' Grade by NAAC. CGPA 3.65/4, Category I by UGC**
**Coimbatore - 641 043, Tamil Nadu, India**

## Continuous Internal Assessment Test I – February 2025

**Semester-II**

**Class:I M.Sc.** **Time:2 Hours**
**Major: Food Science and Nutrition** **Max. Marks: 60**

## 23MFNC10 Analytical Instrumentation for Foods

**Course Outcomes**:

1. Understandthe needforanalysisand instrumentation
2. Identifyanappropriatetechniqueforanalysingspecificsubstances
3. Learntheprinciplesofdifferentinstrumentsusedforanalysis
4. Haveaninsightintotheadvancedtechniquesinfoodandnutrientanalysis
5. Updateknowledgeonanalyticalinstrumentsbyvisitinglaboratories

**Part A** **6 x 1 =6**

**Choose the Correct Answer**

1. Identify the spectroscopic technique CO1K1
   a. UV-Vis b. GC c. HPTLC d. LCMS
2. The monochromator that does not absorb UV light is CO1 K1
   a. glass b. plastic c. prism d. silica
3. Identify the strong cationic exchanger. CO2 K3
   a. Dowex-50 b. Sephadex c. Cellulose d. AG3
4. The commercial name of polyacrylamide gel is CO2K2
   a. Sephacryl S b. Bio-gel P c. Bio-beads d. Sepharose
5. The gel obtained from seaweeds is CO3 K1
   a. dextran b. sepharose c. agarose d. polyacrylamide
6. Primary filter absorbs CO3 K2
   a. UV radiation b. phosphorescence c. UV radiation d. visible radiation

**Part B** **3 x 6 = 18**

**Answer ALL questions**

**Each answer should not exceed 400 words or two pages**

7.a Is there a need for analysis? Explain. CO1 K2

(or)

7.b. Explain the criteria involved in selecting an instrumental technique. CO1 K1

8.a Write the principle and types of adsorbents used in adsorption chromatography. CO2 K2

(or)

8.b Write in detail on affinity chromatography. CO2 K2

| | | |
|---|---|---|
| 9.a. | Give the classification of chromatography with examples. | CO3 K3 |
| | (or) | |
| 9.b | Detail on the applications of flame photometry. | CO3 K3 |

**Part C** **3 x 12 = 36**

**Answer ALL questions**

**Each answer should not exceed 800 words or four pages**

| | | |
|---|---|---|
| 10.a. | Explain the instrumentation involved in AAS. | CO1 K1 |
| | (or) | |
| 10.b. | Brief on the instrumentation and applications of ICP-OES. | CO1 K2 |
| 11.a. | What is the importance of LOD and LOQ. | CO2 K3 |
| | (or) | |
| 11.b. | Detail on the instrumentation of GCMS. | CO2 K2 |
| 12.a. | Explain the technique involved in thin layer chromatography. | CO3 K2 |
| | (or) | |
| 12.b. | Explain the principle and instrumentation of fluorimetry. | CO3 K1 |

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Staff In-charge: Dr.R.Balasasirekha; No. of Copies: 36