

2025

SKILL ENHANCEMENT COURSE

Course Name : Basic Analytical Chemistry

Course Code : CHM-SEC-1013

Full Marks : 30

Time : 1½ Hours

The figures in the margin indicate full marks for the questions.

1. Answer the following questions : 1x5=5
 - a) What is the elution order of reverse phase chromatography ?
 - b) Standard deviation (S) in a series of measurement is expressed as
 - c) What amount (in ppm) of F⁻ ions help to prevent dental caries ?
 - d) What does R_f symbol in chromatography represent ?
 - e) The degree of agreement between replicate measurements of the same quantity is called.....?
2. Answer **any five** questions from the following : 2x5=10
 - a) What adulterants are generally used in turmeric powder ? How is it detected ?
 - b) How does P^H of soil can effect in the nutrition of a plant ?
 - c) Explain briefly the importance of food processing.
 - d) In what way TLC is superior to paper chromatography ?
 - e) What are the main objectives of food processing ?
 - f) What are the two most efficient methods for removal of Arsenic and Fluoride from ground water ? Who discovered the methods ?
 - g) What is reverse osmosis (R.O.) ? Discuss the basic principle of R.O. for purification of water.

(Turn over)

3. Answer **any three** questions :

5x3=15

- a) Write the basic principles of complexometric titration.
- b) What is meant by nutritional value of food ? What are the essential nutrients to keep one healthy ? What is balanced diet ?
- c) How are different chromatographic techniques classified based on the mobile phase ?
- d) Name five modern techniques for food preservation ? Discuss briefly the 'Hurdle Technology' and 'Bio-preservation' technique for food preservation.
- e) Write briefly about different composition of soil.
