

2024

SKILL ENHANCEMENT COURSE

Paper : SKIL010403

(BASIC ANALYTICAL CHEMISTRY)

Full Marks : 45

Time : 2 Hours

The figures in the margin indicate full marks for the questions

1. Answer the following as directed : 1x5=5
 - a) Write the pH of acidic solution.
 - b) What is the full form of EDTA?
 - c) Which of the following is not a water bourne disease?
 - i) Measles
 - ii) Typhoid
 - iii) Cholera
 - iv) Hepatities
 - Which of the following is not a water bourne disease?
 - d) Which vitamin helps the body to absorb calcium?
 - e) What is meant by the term R_f value?
2. Answer the following questions : 2x5=10
 - a) Define chelate effect and soil p^H
 - b) Define food and nutrients with example.
 - c) What do you mean by p^H ? What is the importance of p^H measurement of water?
 - d) What do you mean by nutrition?
 - e) What do you mean by the term Chromatography? Explain

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briefly.

- f) What are macronutrients and micronutrients? Give examples of each.
- g) Define food processing. Write the classification of food processing techniques.
- h) What are vitamins? Write some sources of vitamin A.
- i) What are osmosis and reverse osmosis?
- j) What do you mean by sampling of water?

3. Answer the following any four questions : 5x4=20

- a) Define food preservatives. Discuss about two traditional methods of food preservation.
- b) Define adulteration. How adulteration in milk with starch and Turmeric powder adulterated by Material yellow can be detected?
- c) What is paper chromatography? Write the major components of paper chromatography. How they are used during experiment?
- d) What is soil? What are the constituents of soil? Explain briefly.
- e) Write about reverse osmosis (RO) method for water purification.
- f) Define accuracy and precision. Write the importance of accuracy and precision.
- g) Write the name of some tertiary food processed items. Also write about advantages and disadvantages of these processed foods.
- h) What do you mean by indicators? Write the principle involved in complexometric titration of calcium and magnesium determination in soil solution.

4. Answer any one question :

10x1=10

- a) Define the following terms with examples.
 - i) Mean and Median, (2)
 - ii) Standard deviation and relative standard deviation. (2)
 - iii) sample mean and population mean. (2)

What do you mean by method errors? How they can be detected? (4)
- b) Define water pollution. Write about three major sources of water pollution. Also write about the pollutants contains in these sources. Discuss any two traditional methods of water purification. (1+5+4)
- c) Write the working principle of paper chromatography. How can you separate group (III) metal ions with the help of paper chromatography? Write the names of mobile phase and filter paper used here. (3+5+2)
- d) Write short notes on (2.5x2)
 - i) HDL and LDL
 - ii) Pasteurization

What are antioxidants? Which vitamins mainly act as antioxidants? Name two vitamins and write their importance for human body. (1+1+3)