

2023
FYUGP
SEMESTER-1
CHEMISTRY
BASIC ANALYTICAL CHEMISTRY

Paper : SEC0101003

Paper Code : SEC0101003

Full Marks: 30

Time : 1½ hours

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

1. **Answer the following questions:** 1×5=5
- a) Define absolute error and relative error.
 - b) What do you mean by hard water?
 - c) What are chelates? Give one example.
 - d) Extremely acidic soils have pH_____.
 - e) Round off 7.4589 to two significant figures.
2. **Answer the following questions (any five)** 2×5=10
- a) Give the differences between determinate and indeterminate errors.
 - b) What do you mean by sampling? Describe the basis of sampling.
 - c) How many significant figures are there in 1.20? Write 2500 in the exponential form.
 - d) Give any two affects of pH of the soil solution.

Contd.

- e) Define BOD. What is the recommended BOD for quality water?
- f) What is the main adulterant in turmeric powder? Give one method to detect it.
- g) What processes are involved for the preservation of fruit that is to be converted to jam?
- h) Define the term food processing. Give its significance.
- i) What is R_f value? What are its characteristics?
- j) What is the principle of TLC?

3. Answer the following questions (any three) 5×3=15

- a) Express the following numbers to four significant figures. (any five) 1×5=5
 - (i) 5.607864 (ii) 32.392600 (iii) 1.78986×10^3
 - (iv) 0.007837 (v) 7.23556 (vi) 18.256
 - (vii) 7.44478
- b) Define the term accuracy and precision. Good precision does not assure good accuracy. Explain 2+3=5
- c) Give two significances of soil analysis. How soil acidity and alkalinity are reduced? 2+3=5
- d) What is potable water? What are its characteristics? 1+4=5
- e) Describe the concept of pure water. Describe the various sources which are responsible for contamination of water. 1+4=5
- f) Define the term food preservative. How are these classified? What processes are followed to prepare fruit jam? 1+2+2=5
- g) What is chromatography? What is its principle? 1+4=5

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