

**2025****(Session : 2022-26)***Time : 3 hours**Full Marks : 75*

*Candidates are required to give their answers in their own words as far as practicable.*

*The figures in the margin indicate full marks.*

*Answer from both the Groups as directed.*

**Group – A****(Compulsory)**

1. Answer all questions : 1×10 = 10
  - (a) Write any one principle of thin layer chromatography (TLC) ?
  - (b) What is Dissolved Oxygen (DO) ?
  - (c) What is deodorant ?
  - (d) No. of significant figure in 1.090 is \_\_\_\_\_.

- (e) Write any one application of Thermogravimetric analysis (TGA).
- (f) Write any two constituents of soil.
- (g) Define pure water.
- (h) Write any two constituents of Talcum powder.
- (i) What is standard deviation ?
- (j) Define chelating agent.

2. Write short note on errors and accuracy. 5

#### Group – B

Answer any four questions of the following :

- 3. (a) What are the theory of errors ?
- (b) Describe F-test and Q-test. 5+10 = 15
- 4. Discuss any three of the following : 5×3 = 15
  - (a) Thin Layer Chromatography (TLC)
  - (b) Paper chromatography
  - (c) Polarography
  - (d) Current-voltage relationship
- 5. (a) Describe the theory and applications of Thermogravimetric analysis. (TGA).

HD – 106/3

(2)

Contd.

- (b) Describe TGA profile of calcium oxalate dihydrate ( $\text{CaC}_2\text{O}_4 \cdot 2\text{H}_2\text{O}$ ). 10+5 = 15

- 6. (a) What is complexometric titration ?
- (b) Discuss the following :
  - (i) Use of chelating agent in complexometric titration
  - (ii) Determination of pH of soil.

5+10 = 15

- 7. Write short notes on any three of the following : 5×3 = 15

- (a) Deodorants
- (b) Talcum powder
- (c) Dissolved Oxygen (DO)
- (d) pH of water
- 8. (a) Define Nutritional values of foods.
- (b) Describe preservatives and adulteration in food processing with few examples.

5+10 = 15

HD – 106/3 (400)

(3)

FYU-ESUE(VI) —  
Chem (MJ – 12)