



K18U 0495

Reg. No. : .....

Name : .....

**II Semester B.Sc. Degree (CBCSS-Reg./Supple./Imp.)**

**Examination, May 2018**

**CORE COURSE IN CHEMISTRY**

**2B03 CHE : Analytical Chemistry**

**(2014 Admn. Onwards)**

Time : 3 Hours

Max. Marks : 40

**SECTION – A**

(Answer **all** questions. **Each** question carries **one** mark.)

1. Name two metal ion indicators.
2. State Lowry Bronsted concept.
3. What is the principle of gas chromatography ?
4. What are primary standards ?

**(4×1=4)**

**SECTION – B**

(Answer **any seven** questions. **Each** question carries **2** marks.)

5. Why is  $\text{KMnO}_4$  not used as primary standard ?
6. Draw the titration curve for strong acid strong base titration.
7. What is meant by leveling effect ?
8. Solutions of alkali metals in  $\text{NH}_3$  is blue. Explain.
9. What is the principle of neutron diffraction ?

P.T.O.



10. What is partition chromatography ? Give one application.
11. Calculate the molality of a solution obtained by dissolving 9 gm of glucose in 2kg of water.
12. What are the factors favouring solvent extraction ?
13. Explain the theory of redox indicators.
14. Give the auto ionization of liquid HF and  $H_2SO_4$ . (7×2=14)

## SECTION – C

(Answer any 4 questions. Each question carries 3 marks.)

15. Write a note on thermometric titration.
16. What is the principle of TLC ? Mention its advantages.
17. What are the factors affecting DTA ?
18. Describe the characters of a solvent.
19. Explain the principles involved in cation analysis.
20. Discuss the theory of redox indicators. (4×3=12)

## SECTION – D

(Answer any 2 questions. Each question carries 5 marks.)

21. What is HSAB principle ? Give an account of its applications.
22. a) Explain the thermogram of  $CaC_2O_4$  in an inert atmosphere.  
b) What are the applications of TGA ? (3+2)
23. Give an account of gel permeation chromatography. What are its advantages and disadvantages ?
24. Discuss the theory of complexometric titration. (2×5=10)