



K19U 0252

Reg. No. : .....

Name : .....

**II Semester B.Sc. Degree (CBCSS – Reg./Supple./Improv.)**  
**Examination, April 2019**  
**(2014 Admission Onwards)**  
**CORE COURSE IN CHEMISTRY**  
**2B03 CHE : Analytical Chemistry**

Time : 3 Hours

Max. Marks : 40

**SECTION – A**

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

1. What are pH indicators ?
2. Give the auto ionization of HF.
3. What is meant by GPC ?
4. State Lowry Bronsted acid base concept. (1×4=4)

**SECTION – B**

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

5. What is meant by primary standard ? Give two examples.
6. Explain the characters of a wash liquid.
7. What is the principle of neutron diffraction ?
8. Explain any two reactions that can be carried out in  $H_2SO_4$  solvent.
9. What is meant by synergistic extraction ?

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K19U 0252



10. Classify the following as Lewis acid and base  $\text{CaO}$ ,  $\text{SiF}_4$ ,  $\text{CO}_2$ ,  $\text{OH}^-$ .
11. Explain levelling effect.
12. Sketch the titration curve for  $\text{Na}_2\text{CO}_3$  versus  $\text{HCl}$  titration.
13. What are the applications of TLC ?
14. What is meant by thermometric titration ? (2×7=14)

#### SECTION – C

Answer **any 4** questions. **Each** question carries **3** marks.

15. Write a note on the applications of HSAB concept.
16. Explain the ion exchange chromatography.
17. Explain the methods for expressing concentration of a solution.
18. Discuss the principle of EDTA titration.
19. Explain the analytical applications of solvent extraction.
20. Describe the factors affecting TGA. (4×3=12)

#### SECTION – D

Answer **any 2** questions. **Each** question carries **5** marks.

21. Discuss the reactions that can be carried out in liquid  $\text{NH}_3$ .
  22. Explain the principle of solvent extraction. What are the factors affecting extraction ?
  23. Give an account of the working principle, instrumentation and application of DTA.
  24. Discuss the various operations involved in gravimetric analysis. (5×2=10)
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