

**SVKM's NMIMS**  
**SHOBHABEN PRATAPBHAI PATEL SCHOOL OF PHARMACY & TECHNOLOGY**  
**MANAGEMENT/ SCHOOL OF PHARMACY & TECHNOLOGY MANAGEMENT**

Programme: D.Pharm

Year: II

Part: II

**Academic Year: 2021-2022**

Subject: Pharmaceutical Analysis

Date: 4 April 2022

Marks: 80

Time: 2.00 pm - 5.00 pm

Durations: 3 Hrs

No. of Pages: 03

**Final Examination 2021-2022**

**Instructions:** Candidates should read carefully the instructions printed on the question paper and on the cover of the Answer Book, which is provided for their use.

**NB:**

1. **Section A** is compulsory.
2. Attempt any **five** questions from **Section B**
3. Section A contains 5 questions of 2 marks each and Section B contains 7 questions of 14 marks each
4. Answer to each new question to be started on a fresh page.
5. In all 8 questions to be attempted.
6. Figures in brackets on right hand side indicate full marks.
7. Assume suitable data if necessary

**SECTION A**

**Q.1 Solve the following**

- a) What are sequestering agents? Give example. [2M]
- b) True or False, Justify. [2M]
  - i. Potassium permanganate is internal indicator.
  - ii. Potassium hydrogen phthalate is a secondary standard.
- c) Write any 2 advantages of silver-silver chloride indicator. [2M]
- d) Fill in the blanks. [2M]
  - i. EDTA is \_\_\_\_\_ ligand.
  - ii. According to \_\_\_\_\_ theory acid is a substance which dissociates in water to produce hydrogen ions.
- d) Name any 2 metal ion indicators. [2M]

## SECTION B

### Q.2

- a) Write note on primary and secondary standards. [4M]
- b) What is masking technique? Explain with example. [4M]
- c) Write note on Volhard's method. [4M]
- d) Write Ilkovic equation. [2M]

### Q.3

- a) Define acid base titration. Explain Ostwald theory of indicator. [6M]
- b) Write note on co-precipitation and post precipitation. [6M]
- c) Define differentiating solvent and give example. [2M]

### Q.4

- a) Define accuracy, precision, normality and molarity. [4M]
- b) Write principle and application of conductometry. [4M]
- c) Explain in detail the principle of diazotization titration. [4M]
- d) Define self indicators and give examples. [2M]

### Q.5

- a) Define redox titration and note on iodimetry titration [4M]
- b) What is the need for non-aqueous titration? write note on Aprotic and protophillic solvents. [4M]
- c) Explain acid base titration curve of strong acid and strong base. [4M]
- d) What is back titration? give example [2M]

### Q.6

- a) Give applications of Potentiometry titrations. [4M]
- b) What is polarography? Explain the terms limiting current and diffusion current. [4M]
- c) How will you prepare 0.1 N H<sub>2</sub>SO<sub>4</sub>? [4M]
- c) Define chelating agents and give example. [2M]

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Q.7

- a) Explain estimation of calcium gluconate. [4M]
- b) Write note on cerimetry. [4M]
- c) What is gravimetry? Explain the terms digestion and ignition. [4M]
- d) What are external indicators? Give examples. [2M]

Q.8

- a) Write note on SHE. [4M]
  - b) Explain conductometry titration curve of strong acid and strong base. [4M]
  - c) Give construction and working of glass membrane electrode. [4M]
  - d) Give uses of salt bridge. [2M]
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