

# UKA TARSADIA UNIVERSITY

B.Pharm. (6th Semester)

Subject :030020603-Pharmaceutical Analysis II

Time : 10 am to 1 pm

Duration : 3 Hours

Date : 22/05/2014

Max. Marks : 70.

## Instructions:

1. Attempt all questions.
2. Write each section in a separate answer book.
3. Make suitable assumptions wherever necessary.
4. Figures to the right indicate full marks allocated to that question.
5. Draw diagrams/figures whenever necessary.

## SECTION - 1

### Q-1 (A) Do as directed.

- I) Define [05]
- a) Kohlrausch's law
  - b) Raffinate
  - c) Standard Potential
  - d) Faradaic current
  - e) Ruggedness

II) Why Conductance is additive property of solution ? [01]

III) List the electrodes used in Polarography [01]

### Q-1 (B) Answer the following in brief. (Any 4) [08]

- I) Short note: Signal to noise ratio
- II) What is Reference electrode? Write down its ideal characteristics.
- III) Explain the term Partition coefficient
- IV) Write down different types of ion selective membrane electrode
- V) What is analytical method validation? Explain any two parameters
- VI) Give classification of analytical methods.

### Q-2 Answer the following. [10]

A) Explain Biamperometric titration in detail

OR

A) Enumerate different modified polarographic techniques. Explain any two in detail

B) Explain different potentials and errors associated with glass electrode

OR

B) Write a note on GLP

### Q-3 Answer the following in detail. (Any 2) [10]

- A) Discuss the factors affecting conductance
- B) Discuss continuous extraction
- C) Enumerate types of electrophoresis. Describe electroosmotic flow in detail

## SECTION - 2

### Q-4 (A) Do as directed.

- I) Define [05]
- a) Retardation factor
  - b) HETP
  - c) Dead volume

d) Isocratic elution

e) Reverse phase chromatography

II) Why it is necessary to degass mobile phase? [01]

III) What is Chiral chromatography? [01]

**Q-4 (B) Answer the following in brief. (Any 4) [08]**

I) Differentiate between HPLC and HPTLC

II) Classify chromatographic techniques.

III) Write down the properties of supercritical fluid.

IV) Describe applications of Gas Chromatography

V) How chromatogram is evaluated in TLC?

VI) Explain: Column Resolution.

**Q-5 Answer the following. [10]**

A) Enumerate detectors used in GC. Describe any one in detail

**OR**

A) Discuss different types of Column and column packing in HPLC

B) Describe the sources of band broadening

**OR**

B) Substances A and B were found to have retention time 14.4 min. and 15.4 min. respectively on 22.6 cm column. Peak width at base for A and B were 1.07 and 1.16 min. respectively. Calculate (a) Column resolution (b) Average number of plate (c) Plate height (d) Length of column required to give resolution 1.5

**Q-6 Answer the following in detail. (Any 2) [10]**

A) What is chromatogram? Explain theories of chromatography

B) Describe stationary phase used in ion exchange chromatography

C) How will you optimize column performance? Discuss.