

UKA TARSADIA UNIVERSITY

M.Pharm (Pharmaceutical Analysis)

040060102 Pharmaceutical Analysis-I

Time: 3 Hours

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.
5. Draw diagrams/figures whenever necessary.

SECTION I

Q.1] (a) Answer the following [7 x 1 = 7]

- 1) Enlist the reagents used for estimation of hydroxyl group by acetylation method.
- 2) Define: Sieve diameter.
- 3) Which instrumental technique is used to identify polymorph?
- 4) Write the equation of stoke's law.
- 5) Give chemical reactions for estimation of amines by bromination method.
- 6) Define : Volume surface diameter.
- 7) Define Calibration.

(b) Attempt any four [4 x 2 = 8]

- 1) What do you mean by ISE? Give its classification.
- 2) Write the procedure involved in quantitative estimation of ester group.
- 3) Draw well labeled diagram of X ray tube.
- 4) Explain in brief the role of analytical instrumental methods in drug metabolism and pharmacokinetic study.
- 5) Enlist the content of a validation protocol
- 6) Explain the role of hydroxylamine HCl in quantitative estimation of drug containing ketone group.

Q.2] (a) Explain the procedure used for calibration of UV visible spectrophotometer. [5]

OR

(a) Explain the procedure used for calibration of Spectrofluorometer. [5]

(b) Explain the procedure used for calibration of HPLC. [5]

OR

(b) Explain the procedure used for calibration of GC. [5]

Q.3] Attempt any two [2 x 5 = 10]

- 1) Explain the working of any one crystalline membrane electrode with suitable diagrams.
- 2) Enlist the methods of particle size analysis. Explain coulter counter with suitable diagram.
- 3) What is XRD ? Discuss its application in pharmacy.

SECTION II

Q.4] (a) Answer the following [7 x 1 = 7]

- 1) Enlist the reagents used for estimation of sulphur by Messenger's method.
- 2) Write any one identification test of ergotamine tartarate.
- 3) Name the analytical methods used for determination of calcium.
- 4) Enumerate the analytical methods used for quantitative analysis of erythromycin dosage forms.
- 5) Enlist the analytical methods used for determination of phosphorous.
- 6) Name the instrumental analytical methods commonly used for assay of drugs and their dosage forms.
- 7) What is FC reagent ?

(b) Attempt any four [4 x 2 = 8]

- 1) Write any two identification tests for quinine dosage forms.
- 2) Explain the principle for assay of alkaloids obtained from ergot.
- 3) Write the general identification test for alkaloids and xanthenes.
- 4) What is Ninhydrin reagent and where is it used ?
- 5) How will you assay aneurine hydrochloride tablets ?
- 6) Write any two identification tests for ascorbic acid.

Q.5] (a) Discuss the methods used for identification and assay of sulphonamide dosage forms . [5]

OR

(a) Describe the principle and procedure involved in the use of 2,6-dichloro quinine chloramide in pharmaceutical analysis. [5]

(b) Discuss the methods used for identification and assay of dexamethasone dosage forms. [5]

OR

(b) Explain the role of spectroscopic techniques in analysis of pharmaceutical dosage forms with suitable examples. [5]

Q.6] Attempt any two [2 x 5 = 10]

- 1) Discuss the principle and procedure involved in analysis of pharmaceutical dosage forms containing Barbiturates.
- 2) Describe the principle and procedure involved in the use of PDAB in pharmaceutical analysis.
- 3) In spite of the advanced instrumental techniques available, titrimetric analysis has significant application in analysis of drugs and their dosage forms. Justify giving suitable examples.