

INSTRUMENTAL METHODS OF ANALYSIS

PAPER III

(Revised Scheme 2)

Q.P. CODE : 9223

Your answers should be specific to the questions asked.

Draw neat labeled diagrams wherever necessary.

LONG ESSAY (Answer any TWO)

2 X 20 = 40 Marks

1. Explain the principle and a brief procedure in the nitrite titration method and colorimetric method using Bratten Marshal reagent for sulphacetamide and succinyl sulphathiazole.
2. Explain the different methods for the determination of solubility and partition coefficient of drugs.
3. a) Explain the principle in the quantitative determination of drugs containing ketone and hydroxyl group with suitable examples.
b) Explain the principle and a brief procedure in the assay of Bethmethasone and Fludrocortisone acetate as per IP 1996.

SHORT ESSAY (Answer any FIVE)

5 X 10 = 50 Marks

4. Explain the principle involved in assay of phenobarbitone using lithium methoxide titrant and principle in the assay of ethosuccinimide using tertiary butyl ammonium hydroxide titrant.
5. Explain the suitable examples, how the instrumental methods are useful for the product characterization in drug development processes.
6. What is particle size analysis? Explain important methods for the same.
7. What are the conditions for nephelometry? List the applications of Nephelometry in pharmaceutical analysis.
8. How the non-fluorescent drug is converted into fluorescent drug for quantitative estimation? Explain with two examples from different pharmacological class of drug.
9. Explain the principle involved in the different methods for the assay of paracetamol. 20 tablets of paracetamol (wt. of 20 tablets – 12.3g) were ground to a powder. Tablet powder of 0.092g (equivalent to 0.075g of paracetamol) was, transferred to a 100ml volumetric flask and the powder was, shaken with 25ml of 0.1M sodium hydroxide and finally made upto 100 ml with water (solution-A). 10ml of solution-A was diluted to 100ml with water (solution-B). 10ml of solution-B was, diluted to 100ml with water and the resulting solution gave an absorbance of 0.2416 at 257 nm. Calculate the amount of paracetamol in each tablet taking 715 as the value of E(1%, 1cm)

SHORT NOTES

2 X 5 = 10 Marks

10. Name stationary phase, mobile phase composition, detector used for any two drugs, which are official in IP 1996.
11. Why validation is essential for instrumental method of analysis? Explain with suitable examples.

* * * * *