Roll No.....

Total No. of Questions : 10]

P.H.M.–1.1.1

PHARMACEUTICAL ANALYSIS–I

(B.Pharmacy., 1st Semester, 2124)

Time : 3 Hours Maximum Marks : 80

Note :– Section A is compulsory. Attempt any *Four* questions from Section B and any *Three* questions from Section C.

Section–A Marks : 2 Each

1. (a) Differentiate between quantitative and qualitative analysis.

   (b) Define molarity and normality.

   (c) Define Lewis acid with example.

   (d) What is Buffer ?

(P2)

(e) A weighing bottle was found to weigh 12.7544 g on the left-hand pan, and 12.7538 g on the right-hand pan. Correct the weight of the bottle for inequality of the beam arms.

(f) What is indicator error in the titration ?

(g) What are mixed indicators ?

(h) Define oxidising agents with examples.

(i) Explain why standard $KMnO_4$ solution should not be prepared by exact weighing.

(j) How are complex formation and explained ?

(k) For standardization of thiosulphate and chemically pure $K_2Cr_2O_7$ can also thiosulphate solution be titrated iodine.

(l) Define Coprecipitation.

(m) What do you understand by term unsaturated solution ?

(n) What is principle of mercurometric determination of Cl^- ?

(o) Explain the principle of back titration.

Section–B Marks : 5 Each

2. Write the structure formulas of both tautomeric forms of the indicator paranitrophenol. Explain the mechanisms of its colour change on the basis of the ionic chromophore theory of indicators.

3. How can the carbonate and bicarbonate contents can be determined if they are present simultaneously ?

4. Explain substitution method of titration of NH_4Cl with NaOH.

5. What factors determine the rate of an oxidation-reduction reaction ?

6. What is Masking ? What is its significance in analysis ?

(a) $Sn^{2+} + I_2 \rightarrow Sn^{4+} + 2I^{\ominus}$

(b) $MnO_2 + 4H^{+} + 5Fe^{2+} \rightleftharpoons Mn^{2+} + 5Fe^{3+} + 2H_2O$

8. Write a note on titrations involving sodium-2, 6-dichlorophenol indophenol.

9. Write a note on titration curves.

10. Write a note on TGA and DTA.