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Total No. of printed pages = 4

PY 132203

Roll No. of candidate

2016

B. Pharm 2nd Semester End-Term Examination

PHARMACEUTICAL ANALYSIS - I

Full Marks–100 Pass Marks–35 Time–Three hours

The figures in the margin indicate full marks for the questions.

1. A. Answer any *six* of the following questions : 2×6=12

(a) What is the difference between precision and accuracy ?

(b) What are primary and secondary standards ? Give examples.

(c) Define mean and standard deviation.

(d) How can you differentiate between iodimetric and iodometric titration ?

(e) Ferroin is a type of ..... indicator.

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(f) ..... is used as an adsorption indicator in Fajan's method of precipitation titration.

(g) What is common ion effect ?

(h) What is the use of masking agent in gravimetric analysis ?

B. Answer any *six* of the following questions : 3×6=18

(a) Distinguish Lewis acids and bases from Bronsted-Lowry acids and bases. Give an example of each. 1.5+1.5=3

(b) Briefly explain the concept of co-precipitation and post-precipitation. 3

(c) Give an account on ionic product of water. 3

(d) What are the different methods of expressing concentration ? 3

(e) State the rules of retaining significant digits. 3

(f) What do you mean by equivalent weight and state the law of mass action. 1.5+1.5=3

(g) Classify volumetric method of chemical analysis and what is the role of ignition in gravimetric analysis ? 1.5+1.5=3

(h) State briefly the principle of thermogravimetric analysis. 3

2. Answer any *eight* of the following questions : 5×8=40

(a) Write a note on redox indicators.

(b) State the type of errors in analysis with examples. How are they minimised ? 3+2=5

(c) Derive the Henderson-Hasselbach equation. 5

(d) Explain briefly the various steps involved in gravimetric analysis. 5

(e) Determine the molarity of Cl^- in an unknown solution that has been treated with excess of $AgNO_3$ to obtain a precipitate of 0.5424 g of AgCl. (Formula mass of AgCl = 143.32 g/mol). 5

(f) Derive the relationship between K_a and K_b of a conjugate acid-base pair. 5

(g) Write a note on polyprotic acids and bases. 5

(h) Write about the preparation and standardization of 0.1M potassium permanganate with principle and reaction. 5

(i) Briefly discuss the various factors which affect the solubility of precipitate. 5

(j) Write a note on neutralization curve. 5

3. Answer any *three* of the following questions : 10×3=30

(a) Explain the theories and choice of indicators for acid-base titrations. What do you mean by mixed indicators ? 8+2=10

(b) What is buffer solution and explain about buffer mixture of a weak acid and a weak base and its salts. 3+7=10

(c) Explain the Gay-Lussac, Volhard's and Mohr's method of precipitation titration with suitable examples and reactions. 3+3.5+3.5=10

(d) Describe the principle involved in redox titration. Write a half-reaction for redox reaction. Write a note on oxidation-reduction curve. 5+2+3=10