B. PHARM / Sem-IV / PA-I 22-4-16

Q.P. Code : 527601

3 Hours **(Total Marks: 70)**

N.B. 1. All questions are compulsory
2. Figures to right indicate full marks.
3. Draw neat labelled diagrams wherever necessary.
4. Attempt the answer of each main question on new page.

Q.1 A. Define- (4)
i. Equivalence point
ii. Acidimetry
iii. Chelate
iv. Neutralisation curve

B. Name/give examples of the following- (3)
i. Oxidising agents
ii. Factors affecting solubility of precipitates
iii. Substance assayed by Iodimetry

C. Answer the following- (8)
i. Balance following half cell reactions
a) $S_2O_3^{2-} \rightarrow S_4O_6^{2-}$
b) $IO_3^- \rightarrow I^+$
ii. Explain primary coulometric titrations
iii. Draw a neat labelled diagram of apparatus used in electrogravimetry.
iv. 30mL aliquot of a 5.3%w/v aqueous solution of acetanilide was extracted with 15mL of ether. The ether extract was evaporated to dryness and the residue was weighed. The ether-water partition coefficient for acetanilide is 3. What was the weight of the residue?

Q. 2 A. i. Give Reactions involved in KFT. (4)
ii. Explain Biamperometric titrations.

B. Explain adsorption indicator method in detail. (4)

C. Give applications of non-aqueous titrations. (3)

Q. 3 A. Classify with suitable examples non-instrumental techniques of quantitative analysis. (4)

B. Write short notes on- (4)
i. Ilkovic equation
ii. Pulse polarography

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	C)	Name the type of redox titrations for each of the following– Assay of ascorbic acid API Assay of paracetamol Assay of KI	(3)
Q. 4	A)	What are mixed indicators? Explain Ostwald's theory of neutralisation indicators.	(4)
	B)	What is gravimetry. Explain organic and inorganic precipitants with suitable examples.	(4)
	C)	Give principle and reactions involved in assay of hydrogen peroxide OR dried ferrous sulphate.	(3)
Q. 5	A)	Explain-"EDTA as a versatile chelating agent".	(4)
	B)	Enlist factors influencing solvent extraction. Add a note on batch type of solvent extraction process.	(4)
	C)	An analyst analysed sample of Lugol's solution. The % content of iodine in each of five replicate analysis was as follows- 4.99, 5.01, 5.05, 4.95,5.11 Calculate- Median and RSD for the given data.	(3)
Q. 6	A)	i. Calculate the pH and pOH of 5M H_2SO_4 solution. ii. How will you prepare 250 ml of 0.05M $KMnO_4$ using 2M stock solution of $KMnO_4$.	(4)
	B)	Explain nitrite type of titrations with suitable example.	(4)
	C)	0.5g of Alum was assayed by gravimetric analysis using oxine reagent, at the end of experiment 0.2g of dried precipitate (aluminium oxinate) was obtained. Calculate percent content of aluminium present in given sample of alum. [Formula weight of precipitate : 458.98 , Formula weight of analyte: 26.98]	(3)