Contents

Prej	reface to the second edition		iii		
Pre	face to the first e	dition	iv		
Lał	ooratory Technic	ques	1		
1.	1. Acid–Base Titrations				
	Experiment 1	Determination of percentage purity of sodium bicarbonate	12		
	Experiment 2	Determination of percentage purity of ammonium chloride	15		
	Experiment 3	Determination of percentage purity of borax	17		
	Experiment 4	Determination of percentage purity of sodium carbonate	19		
	Experiment 5	Determination of aspirin using back titration	21		
	Experiment 6	Determination of percentage purity of given sample of boric acid	24		
	Experiment 7	Volumetric determination of carbonate and bicarbonate in a mixture	26		
	Experiment 8	Determination of ibuprofen using acid/base titration	30		
	Experiment 9	Determination of percentage purity of indomethacin by acid-base			
		titration	32		
	Experiment 10	Determination of sodium hydroxide and sodium carbonate			
		in a mixture	34		
	-	Determination of percentage purity of zinc oxide	36		
	-	Determination of percentage purity of lactic acid	38		
	-	Determination of percentage purity of sodium benzoate	40		
	-	Determination of percentage purity of sodium phosphate	42		
	Experiment 15	Determine and compare the acid neutralizing power of two			
		commercial antacids	44		
2.	Precipitation T	itrations	48		
	Experiment 16	Determination of sodium chloride by Mohr's method	51		
	Experiment 17	Determination of chloride by the Fajans method	53		
	Experiment 18	Determination of percentage purity of chlorobutol	56		
3.	Complexometri	ic Titrations	59		
	Experiment 19	Determination of total hardness of water by FDTA titration	61		

	Experiment 20	Determination of percentage purity of calcium lactate	64
	Experiment 21	Determination of percentage purity of magnesium sulfate	66
	Experiment 22	Determination of percentage purity of zinc sulfate	69
4.	Redox Titrations		72
	Experiment 23	Determination of hydrogen peroxide by redox titration	76
	Experiment 24	Determination of ferrous sulfate by redox titration	79
	Experiment 25	Determination of ferrous sulfate content in tablets	81
	Experiment 26	Determination of metamizole content in analgin tablets	83
	Experiment 27	Determination of isoniazid by redox titration	86
	Experiment 28	Determination of percentage purity of benzyl penicillin	88
	Experiment 29	Determination of copper sulfate	91
	Experiment 30	Determination of potassium iodide	93
	-	Determination of vitamin C	95
	Experiment 32	Determination of percentage purity of paracetamol by redox titration	101
5.	Non-aqueous T	itrations	103
	Experiment 33	Determination of chloroquine phosphate content in tablet	106
	Experiment 34	Determination of percentage purity of diclofenac sodium	108
	Experiment 35	Determination of percentage purity of methyl dopa	110
	Experiment 36	Determination of ephedrine HCl content in tablet	112
	Experiment 37	Determination of chlorpromazine HCl content in tablet	114
	Experiment 38	Determination of percentage purity of ethosuximide	117
6.	Diazotization T	itration or Nitrite Titration	119
	Experiment 39	Assay of calcium aminosalicylate content in tablets	121
	Experiment 40	Determination of sulfamethoxazole content in co-trimoxazole tablets	123
	Experiment 41	Determination of dapsone content in dapsone tablet	125
7.	Kjeldahl Metho	od	127
	Experiment 42	Determination of nitrogen/protein content	129
8.	Karl Fischer Ti	tration	133
	Experiment 43	Determination of moisture content in amoxycylin trihydrate	136
9.	Polarimetry		138
	Experiment 44	Quantitative determination of sugar by polarimetric method	140
10.	Flame Photome	etry	142
	Experiment 45	Determination of sodium and potassium ion concentrations in solution	144
	Experiment 46	Determination of Na^+ and K^+ in oral rehydration sachet by flame photometry	147

		Contents vii
11. Fluorimetry		150
Experiment 47	Fluorimetric determination of quinine	151
Experiment 48	Fluorimetric determination of riboflavin	153
Experiment 49	Fluorimetric determination of thiamine	156
12. Conductometri	c Titrations	158
Experiment 50	Conductometric titration of hydrochloric acid and acetic acid with sodium hydroxide	159
13. Thin Layer Ch	romatography	163
Experiment 51	Identification of given unknown drug by using thin layer chromatography	164
14. Paper Chroma	tography	167
Experiment 52	Chromatographic separation and identification of sugars	169
15. UV-Visible Abs	sorbance Spectroscopy	173
_	Determination of λ_{max} of chlorpheniramine maleate, absorptivity, molar absorptivity and specific absorbance	175
-	Spectrophotometric determination of acetylsalicylic acid content in aspirin tablet	177
Experiment 55	Determination of salicylic acid (%) in synthesized aspirin by spectrophotometric method	180
Experiment 56	Determination of trimethoprim content in co-trimoxazole tablet	s 183
Experiment 57	Spectrophotometric determination of metronidazole tablets	185
Experiment 58	Determination of ranitidine content in tablets	188
Experiment 59	Determination of paracetamol content in tablet	190
Experiment 60	Determination of amoxycillin content in capsule	193
Experiment 61	Determination of tadalafil content in tablet	195
Experiment 62	Spectrophotometric determination of chloroquine phosphate content in tablet	197
Experiment 63	UV spectrometric methods for simultaneous estimation of ibu- profen and paracetamol in tablet by simultaneous equation methods.	nod 199
16. High Performa	nce Liquid Chromatography (HPLC)	202
Experiment 64	HPLC determination of ranitidine HCl tablet	205
Experiment 65	HPLC determination of ciprofloxacin tablet	209
Experiment 66	HPLC determination of cetrizine dihydrochloride tablet	213
Experiment 67	HPLC determination of omeprazole capsules	217
17. Differential Sc	anning Colorimetry	221
Experiment 68	To determine the purity of paracetamol/acetaminophen in stand preparation by using differential scanning colorimeter (DSC)	ard 224

18. High Performance Thin Layer Chromatography		
Experiment 6	9 To analyse the diphenhydramine hydrochloride concentration in a pharmaceutical raw material (PRM)	230
Appendices		233
Appendix I	Volumetric solutions	233
Appendix II	(A) Concentrated reagents, molarity and normality	245
Appendix II	(B) Reagents and their molarity and normality	246
Appendix III	pH indicators	247
Appendix IV	Significant figures	248
Index		