

LIST OF TABLES

Table No.	Titles	Page No.
Table 1.1	: Numbers of Collected Samples (Surface and Sub-surface)	7
Table 1.2	: Indian Standards and WHO's Standards for Physical and Chemical Parameters	9
Table 2.1	: Percentage of the Land Use/Land Cover	26
Table 3.1	: pH during Post-monsoon Season, 2015 (Surface Water)	30
Table 3.2	: TDS during Post-monsoon Season, 2015 (Surface Water)	32
Table 3.3	: Calcium (Ca) during Post-monsoon Season, 2015 (Surface Water)	33
Table 3.4	: Sodium (Na) during Post-monsoon Season, 2015 (Surface Water)	34
Table 3.5	: Descriptive Statistics of the Surface Water Samples (Post-monsoon Season, 2015)	34
Table 3.6	: pH during Post-monsoon Season, 2015 (Sub-surface Water)	35
Table 3.7	: TDS during Post-monsoon Season, 2015 (Sub-surface Water)	37
Table 3.8	: Calcium (Ca) during Post-monsoon Season, 2015 (Sub-Surface Water)	38
Table 3.9	: Sodium (Na) during Post-monsoon Season, 2015 (Sub-surface Water)	39
Table 3.10	: Descriptive Statistics of the Sub-surface Water Samples (Post-monsoon Season, 2015)	39
Table 3.11	: pH during Pre-monsoon Season, 2016 (Surface Water)	41
Table 3.12	: TDS during Pre-monsoon Season, 2016 (Surface Water)	42
Table 3.13	: Calcium (Ca) during Pre-monsoon Season, 2016 (Surface Water)	43
Table 3.14	: Sodium (Na) during Pre-monsoon Season, 2016 (Surface Water)	44
Table 3.15	: Fluoride (F) during Pre-monsoon Season, 2016 (Surface Water)	45
Table 3.16	: Descriptive Statistics of the Surface Water Samples (Pre-monsoon Season, 2016)	46
Table 3.17	: pH during Pre-monsoon Season, 2016 (Sub-surface Water)	47
Table 3.18	: TDS during Pre-monsoon Season, 2016 (Sub-surface Water)	48
Table 3.19	: Calcium (Ca) during Pre-monsoon Season, 2016 (Sub-surface Water)	50
Table 3.20	: Sodium (Na) during Pre-monsoon Season, 2016 (Sub-surface Water)	51
Table 3.21	: Fluoride (F) during Pre-monsoon Season, 2016 (Sub-surface Water)	52
Table 3.22	: Descriptive Statistics of the Sub-surface Water Samples (Pre-monsoon Season, 2016)	53

Table 3.23	: pH during Monsoon Season, 2016 (Surface Water)	54
Table 3.24	: TDS during Monsoon Season, 2016 (Surface Water)	55
Table 3.25	: Calcium (Ca) during Monsoon Season, 2016 (Surface Water)	57
Table 3.26	: Sodium (Na) during Monsoon Season, 2016 (Surface Water)	57
Table 3.27	: Fluoride (F) during Monsoon Season, 2016 (Surface Water)	59
Table 3.28	: Descriptive Statistics of the Surface Water Samples (Monsoon Season, 2016)	59
Table 3.29	: pH during Monsoon Season, 2016 (Sub-surface Water)	61
Table 3.30	: TDS during Monsoon Season, 2016 (Sub-surface Water)	62
Table 3.31	: Calcium (Ca) during Monsoon Season, 2016 (Sub-surface Water)	63
Table 3.32	: Sodium (Na) during Monsoon Season, 2016 (Sub-surface Water)	64
Table 3.33	: Fluoride (F) during Monsoon Season, 2016 (Sub-surface Water)	65
Table 3.34	: Descriptive Statistics of the Sub-surface Water Samples (Monsoon Season, 2016)	66
Table 3.35	: pH during Post-monsoon Season, 2016 (Surface Water)	67
Table 3.36	: TDS during Post-monsoon Season, 2016 (Surface Water)	68
Table 3.37	: Calcium (Ca) during Post-monsoon Season, 2016 (Surface Water)	70
Table 3.38	: Sodium (Na) during Post-monsoon Season, 2016 (Surface Water)	71
Table 3.39	: Fluoride (F) during Post-monsoon Season, 2016 (Surface Water)	72
Table 3.40	: Descriptive Statistics of the Surface Water Samples (Post-monsoon Season, 2016)	73
Table 3.41	: pH during Post-monsoon Season, 2016 (Sub-surface Water)	74
Table 3.42	: TDS during Post-monsoon Season, 2016 (Sub-surface Water)	75
Table 3.43	: Calcium (Ca) during Post-monsoon Season, 2016 (Sub-surface Water)	76
Table 3.44	: Sodium (Na) during Post-monsoon Season, 2016 (Sub-surface Water)	78
Table 3.45	: Fluoride (F) during Post-monsoon Season, 2016 (Sub-surface Water)	79
Table 3.46	: Descriptive Statistics of the Sub-surface Water Samples (Post-monsoon Season, 2016)	79
Table 3.47	: pH during Pre-monsoon Season, 2017 (Surface Water)	81
Table 3.48	: TDS during Pre-monsoon Season, 2017 (Surface Water)	82
Table 3.49	: Calcium (Ca) during Pre-monsoon Season, 2017 (Surface Water)	83
Table 3.50	: Sodium (Na) during Pre-monsoon Season, 2017 (Surface Water)	84

Table 3.51	: Fluoride (F) during Pre-monsoon Season, 2017 (Surface Water)	86
Table 3.52	: Descriptive Statistics of the Surface Water Samples (Pre-monsoon Season, 2017)	86
Table 3.53	: pH during Pre-monsoon Season, 2017 (Sub-surface Water)	87
Table 3.54	: TDS during Pre-monsoon Season, 2017 (Sub-surface Water)	88
Table 3.55	: Calcium (Ca) during Pre-monsoon Season, 2017 (Sub-surface Water)	89
Table 3.56	: Sodium (Na) during Pre-monsoon Season, 2017 (Sub-surface Water)	91
Table 3.57	: Fluoride (F) during Pre-monsoon Season, 2017 (Sub-surface Water)	91
Table 3.58	: Descriptive Statistics of the Sub-surface Water Samples (Pre-monsoon Season, 2017)	92
Table 3.59	: pH during Monsoon Season, 2017 (Surface Water)	93
Table 3.60	: TDS during Monsoon Season, 2017 (Surface Water)	95
Table 3.61	: Calcium (Ca) during Monsoon Season, 2017 (Surface Water)	96
Table 3.62	: Sodium (Na) during Monsoon Season, 2017 (Surface Water)	97
Table 3.63	: Fluoride (F) during Monsoon Season, 2017 (Surface Water)	98
Table 3.64	: Descriptive Statistics of the Surface Water Samples (Monsoon Season, 2017)	99
Table 3.65	: pH during Monsoon Season, 2017 (Sub-surface Water)	100
Table 3.66	: TDS during Monsoon Season, 2017 (Sub-surface Water)	101
Table 3.67	: Calcium (Ca) during Monsoon Season, 2017 (Sub-surface Water)	103
Table 3.68	: Sodium (Na) during Monsoon Season, 2017 (Sub-surface Water)	104
Table 3.69	: Fluoride (F) during Monsoon Season, 2017 (Sub-surface Water)	105
Table 3.70	: Descriptive Statistics of the Sub-surface Water Samples (Monsoon Season, 2017)	106
Table 3.71	: Paired 't' Statistics	108
Table 3.72	: Paired 't' Statistics	109
Table 4.1	: Water Quality Index (WQI) and Status of Water Quality	117
Table 4.2	: Water Qulaity Index (WQI and Status of Water Quality)	118
Table 4.3	: WQI of Pre-monsoon Season (Surface Water)	118
Table 4.4	: WQI of Monsoon Season (Surface Water)	122
Table 4.5	: WQI of Post-monsoon Season (Surface Water)	125
Table 4.6	: Comparison of WQI between Pre-monsoon and Post-monsoon Season	126

Table 4.7	: Comparison of WQI between Post-monsoon and Monsoon Season	127
Table 4.8	: Comparison of WQI between Monsoon and Pre-monsoon Season	128
Table 4.9	: WQI of Pre-monsoon Season (Sub-surface Water)	130
Table 4.10	: WQI of Monsoon Season (Sub-surface Water)	132
Table 4.11	: WQI of Post-monsoon WQI (Sub-surface Water)	134
Table 4.12	: Comparison of WQI between Pre-monsoon and Post-monsoon Season	135
Table 4.13	: Comparison of WQI between Post-monsoon and Monsoon Season	136
Table 4.14	: Comparison of WQI between Monsoon and Pre-monsoon Season	137
Table 5.1	: Technical Specification of LISS III and IV Sensor	152
Table 5.2	: Band Details- LISS III	153
Table 5.3	: Band Details- LISS IV	153
Table 5.4	: Attribute Data of On-Screen Digitization Classification of Change Detection Images (%)	158
Table 5.5	: Results of Change Detection of Industrial Land Use and Open Spaces between (2007 to 2017)	169
Table 6.1	: Criteria for Identifying Suitable Land for Sanitary Landfill Sites	182
Table 6.2	: Assessment Scale of bij values	184
Table 6.3	: Random Index Values	186
Table 6.4	: Pairwise Comparison Matrix and Derived Weight of the Selected Criteria	187
Table 6.5	: Comparison Matrix & Significance Weight of Land Use/Land Cover	187
Table 6.6	: Comparison Matrix and Significance Weight of the Distance from Settlement and Industrial Belt	187
Table 6.7	: Comparison Matrix and Significance Weight of the Distance from Road and Railway	187
Table 6.8	: Comparison Matrix and Significance Weight of the Distance from River	188
Table 6.9	: Comparison Matrix and Significance Weight of the Distance from Pond	188
Table 6.10	: Comparison Matrix and Significance Weight of Water Depth (m)	188
Table 6.11	: Comparison Matrix and Significance Weight of Land Elevation (m)	188
Table 6.12	: Total Weight of All Criteria and Subcriteria and CR	189
Table 6.13	: Sub-Classes of Land Use/Land Cover and Area	190
Table 6.14	: Distance from Settlement and Industrial Belt and Area Coverage of Suitability Level	192
Table 6.15	: Distance from Roads and Railways and Area Coverage of Suitability Level	193

Table 6.16	: Distance from River and Area Coverage of Suitability Level	194
Table 6.17	: Distance from Pond and Area Coverage of Suitability Level	195
Table 6.18	: Water Depth and Area Coverage of Suitability Level	196
Table 6.19	: Land Elevation and Area Coverage of Suitability Level	197
Table 6.20	: Level of Suitability and Percentage of Total Area Coverage	199