## **List of Tables**

Table	Title	page
1.1	2009 Estimate of Finite and Renewable Energy Reserves	2
2.1	Various Electricity Generation Technologies, Efficiencies and their Land per MW Requirements	7
2.2	Solar Radiation Database Available Data for India	10
2.3	Instrument Error when Compared with Reference Instruments	12
2.4	Various Transmittance Factors used in Data Analysis	14
3.1	Type of Instruments, Model and Manufacturing Details used in SRRA stations	26
3.2	Equipment and Operation Based Errors and Uncertainties	26
3.3	Different Cloud Conditions, Modified Clear sky and Direct Transmittance Ratios	32
3.4	Different Cloud Conditions, Modified Clear sky and Direct Transmittance Ratios (Modified)	32
4.1	Flowchart for Basic Quality Control Guidelines	45
4.2	Climate Prediction Results (14-20 March 2016, IMD-Jodhpur)	54
4.3	Detailed Climate, Quality Control and Error Information (1-January 2015)	58
4.4	Detailed Climate, Quality Control and Error Information (2-January 2015)	59
4.5	Detailed Climate, Quality Control and Error Information (5- February 2015)	59
4.6	Detailed Climate, Quality Control and Error Information (9- February 2015)	60
4.7	Detailed Climate, Quality Control and Error Information (28-April 2015)	61
4.8	Detailed Climate, Quality Control and Error Information (1-September 2015)	62
4.9	Detailed Climate, Quality Control and Error Information (24-July 2015)	62
4.10	Detailed Climate, Quality Control and Error Information (12-September 2015)	63
4.11	Detailed Climate, Quality Control and Error Information (20-November 2015)	64
5.1	Identification of Various Gaps Present in Measured Radiation Database	66
5.2	Correlation Between Measured Relative Humidity with Atmospheric Transmittance	68
5.3	Comparison of Various Gap Filling Approaches	72
5.4	Various Gap Filling Approach Applicable for Different Intervals	78
5.5	Proposed Gap Filling Guidelines for Filling any Interval Data	83
6.1	Various Codes used for Data Identification and Correction	88
6.2	January 2015 (IMD Jodhpur) (Climate condition, QC Results, Instr. Error and Coherence Factor)	95
6.3	February 2015 (IMD Jodhpur) (Climate condition, QC Results, Instr. Error and Coherence Factor)	98
6.4	March 2015 (IMD Jodhpur) (Climate condition, QC Results, Instr. Error and Coherence Factor)	101
6.5	April 2015 (IMD Jodhpur) (Climate condition, QC Results, Instr. Error and Coherence Factor)	104
6.6	May 2015 (IMD Jodhpur) (Climate condition, QC Results, Instr. Error and Coherence Factor)	107
6.7	June 2015 (IMD Jodhpur) (Climate condition, QC Results, Instr. Error and Coherence Factor)	110
6.8	July 2015 (IMD Jodhpur) (Climate condition, QC Results, Instr. Error and Coherence Factor)	113
6.9	August 2015 (IMD Jodhpur) (Climate condition, QC Results, Instr. Error and Coherence Factor)	116
6.10	September 2015 (IMD Jodhpur) (Climate condition, QC Results, Instr. Error and Coherence Factor)	119
6.11	October 2015 (IMD Jodhpur) (Climate condition, QC Results, Instr. Error and Coherence Factor)	122
6.12	November 2015 (IMD Jodhpur) (Climate condition, QC Results, Instr. Error and Coherence Factor)	125
6.13	December 2015 (IMD Jodhpur) (Climate condition, QC Results, Instr. Error and Coherence Factor)	128
6.14	2015 (IMD Jodhpur) (Sum/Average/Minimum/Maximum Daily Average Radiation Values)	131
B.1	ISO-9060 Specification Summary for Pyrheliometer	142
B.2	ISO-9060 Specification Summary for Pyranometer	143
C.1	Classification Indian Climate Classification Map (MNRE)	144
D.1	Values of the Constants A, B and C used for Predicting Hourly Solar Radiation on Clear Sky Days	146