AEDEI

JOB ORIENTED AND SKILL DEVELOPMENT INSTITUTE

SOLAR DESIGN TRAINING INSTITUTE

(ISO 9001:2008 CERTIFIED INSTITUTE) : NEW DELHI

(ROOF TOP SOLAR POWER PLANT)




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Rooftop Solar Power Plant

Chapter 1- Basic of Rooftop solar Power Plant

1. Brief description of Scheme
2. Net Metering Scheme
3. Grid Interactive scheme
4. Grid Connected Scheme
5. Off-grid Solar Power Plant design
6. Battery sizing Calculation

Chapter 2 -Solar Radiation

1. Irradiation and Peak Sun Hours
2. Solar Radiation Data
3. Sun path Diagram
4. Defining the Position of the Sun
5. Solar Altitude
6. Geometric Effects
7. Tilting Solar Modules
8. Magnetic North & True North

Chapter 3 - Connection of PV Module (Series and Parallel Circuit)

1. Series Circuits
2. Parallel Circuits
3. Combining Series & Parallel Circuits
4. Array

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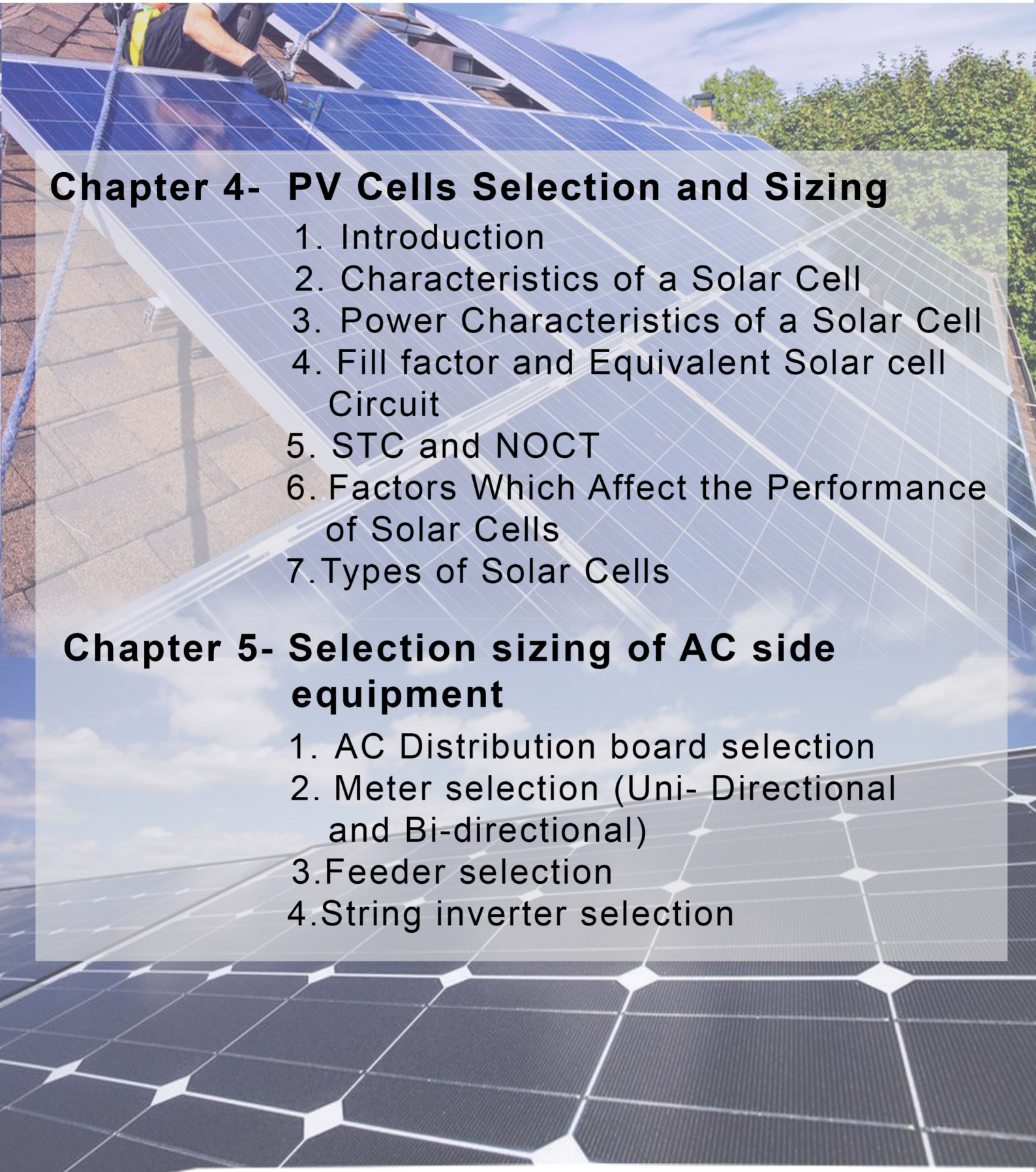

Chapter 4- PV Cells Selection and Sizing

1. Introduction
2. Characteristics of a Solar Cell
3. Power Characteristics of a Solar Cell
4. Fill factor and Equivalent Solar cell Circuit
5. STC and NOCT
6. Factors Which Affect the Performance of Solar Cells
7. Types of Solar Cells

Chapter 5- Selection sizing of AC side equipment

1. AC Distribution board selection
2. Meter selection (Uni- Directional and Bi-directional)
3. Feeder selection
4. String inverter selection

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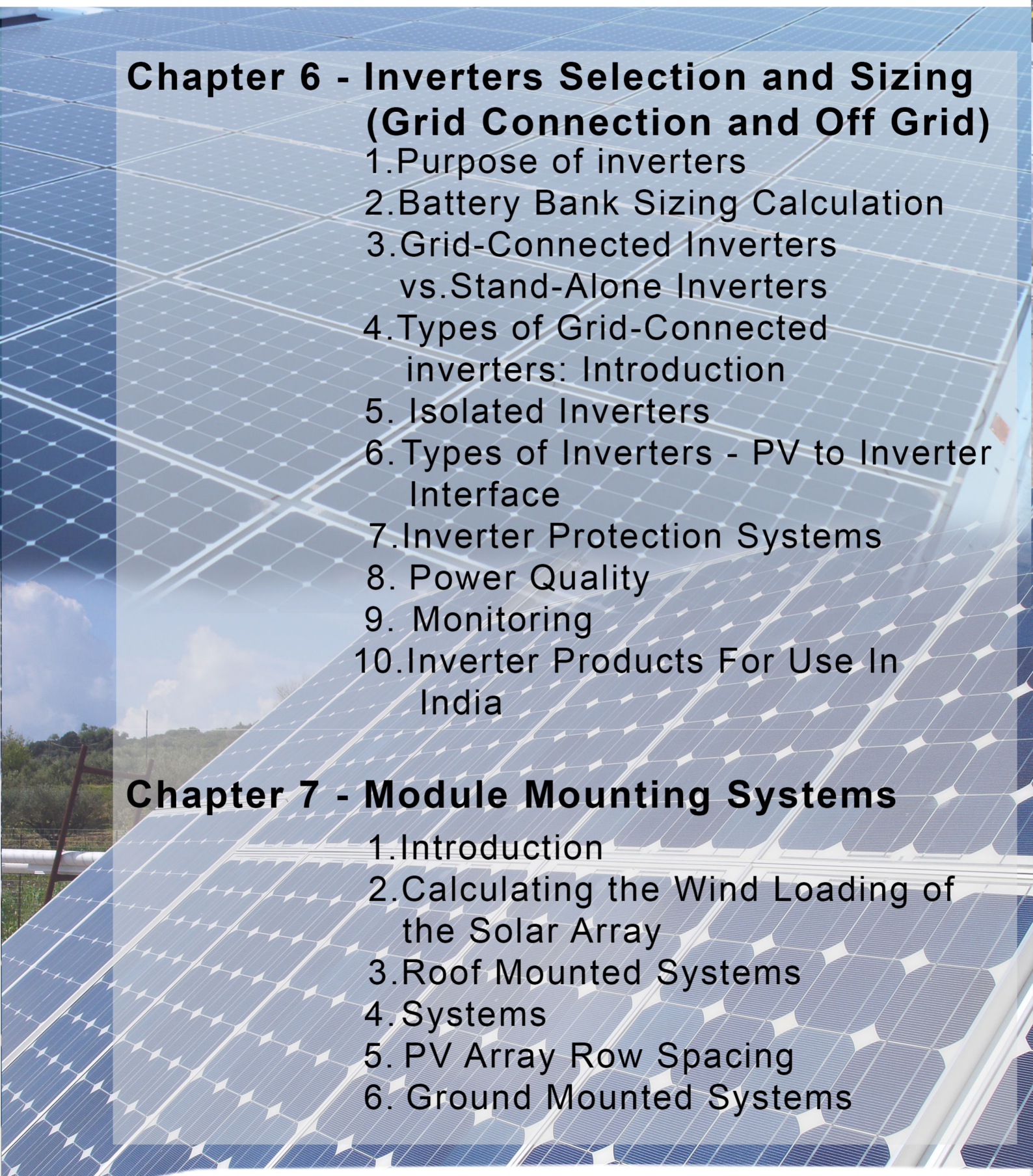

Chapter 6 - Inverters Selection and Sizing (Grid Connection and Off Grid)

1. Purpose of inverters
2. Battery Bank Sizing Calculation
3. Grid-Connected Inverters vs. Stand-Alone Inverters
4. Types of Grid-Connected inverters: Introduction
5. Isolated Inverters
6. Types of Inverters - PV to Inverter Interface
7. Inverter Protection Systems
8. Power Quality
9. Monitoring
10. Inverter Products For Use In India

Chapter 7 - Module Mounting Systems

1. Introduction
2. Calculating the Wind Loading of the Solar Array
3. Roof Mounted Systems
4. Systems
5. PV Array Row Spacing
6. Ground Mounted Systems

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Chapter 8- Matching Array and Inverter Sizing

1. Matching The PV Array To The Voltage Specifications of An Inverter
2. Matching the PVArray to the Inverter's Current Rating
3. Matching the PVArray to the Inverter's Power Rating
4. Summary of Calculations for Matching Array and Inverter

Chapter 9-System Losses of Solar Power Plant

1. Determining the Size of the DC and AC Cables
2. Losses in a Grid-Connected PV System

Solar Power Plant Assessment software

1. Auto CAD
2. Google Sketchup (shadow Anaylysis software)
3. PVsyst, meteonorm

- **Ref. Std. IEC IEC 60068-2 (1,2,14,30),IEC 61683,IEC 60227,IEC 60502 IEC 60947 part I,II, III, IEC 61215**

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