

SOLAR ENGINEERING (OE-014)

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UNIT –I

Solar Radiation and Measurement, Solar Insolation, Extraterrestrial Solar radiation, Solar constants, Spectral Distribution variations, Solar Radiation at Earth's Surface, Direct and Diffused Radiation 8

UNIT-II

Solar Electric (Direct) Conversion, Optical properties of Semiconductors, Theory of Photovoltaic Diodes, Heterogenous Junctions, Schottky Diode. 8

UNIT-III

Silicon Solar Cells, Thin Film and Screen Printed Solar Cells, their fabrication, life and efficiency. Transparent, electrodes, MIS solar cells. 8

UNIT-IV & V

Solar cell modules, solar panels, Concentrating System, Agricultural Domestic, Industrial and Telecommunication Applications. 16

References:

1. Hore/Solar Cells
2. Solar Energy: S.P. Sukhatme, Tata McGraw Hill.
3. Solar Cells/Charles E. Backes (Ed.) IEEE Press
4. Solar Cell Array Design Handbook

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