

**DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING**

**Subject: – NEW & RENEWABLE ENERGY SOURCES (EE-415)**

|  |  |  |
| --- | --- | --- |
| Faculty Name: Mr. G. SATISH | Year / Sem: B.Tech in EEE - IV/I | Academic Year: 2019-20 |

**Objectives**

1. To know the various energy conversion principles that facilitates to harness renewable energies
2. To understand the basics of solar cell modelling and characteristics
3. To gain the knowledge about various thin film solar cell technologies and understand various issues related to the design, manufacturing and testing of solar cells
4. To know the major electrical components of the BoS (Balance of System)
5. To know several schemes of variable speed wind turbines and generators, other integration issues of wind electrical system

**COURSE OUTCOMES:**

Upon successful completion of the course, the student will be able to:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| |  | | --- | | **C415.1**: Apply the heat energy, mechanical energy, solar energy, chemical energy, bioenergy conversion principles to extract energy from Renewable Energy Sources **(Apply)** | | **C415.2:** Understand about the basics of solar cell, generation of photo voltage, characteristics and various factors that effects the efficiency of solar cell **(understand)** | | **C415.3:** know various thin film deposition techniques, materials used for deposition, their features and advantages and understand different types of connections of cells, their mismatches and design related issues**(understand)** | | **C415.4:** Understand the Balance of Solar PV system and its components like DC-DC converters and maximum power point tracking algorithms**(understand)** | | **C415.5:** Understand the assessment of wind energy potential, wind turbines and wind generators. **(understand**) | |
|  |
|  |
|  |
|  |

Signature of Faculty

(Mr.G.Satish)