

## Subject: Wind Energy

### Assignment on Unit No.1 Introduction and wind measurement

- Q1. Write short note on history of wind electrical generation?
- Q2. Explain World Distribution of wind?
- Q3. Explain Atmospheric Stability?
- Q4. A wind data acquisition system located in the tradewinds on the northeast coast of Puerto Rico measure 6m/s, 19times, 7m/s 54 times & 8m/s 42times during a given period. Find the mean, variance & standard deviation?
- Q5. Explain in detail Cup Anemometers.

**Note: Assignment should complete on Note Book (proper size notebook) with proper answer otherwise assignment should not accepted.**

### Assignment on Unit No. 2 Wind Turbine Power, Energy and Torque

- Q1. Write short note on Aerodynamics?
- Q2. Explain Power output from an ideal turbine?
- Q3. Explain Transmission and generation efficiency?
- Q4. Explain energy production & Capacity factor?
- Q5. Explain Torque at constant speed.

**Note: Assignment should complete on Note Book (proper size notebook) with proper answer otherwise assignment should not accepted.**

### Assignment on Unit No. 3 Wind Turbine Connected to the Electrical Network

- Q1. Explain Methods of Generating Synchronous Power?
- Q2. Explain synchronous generator?
- Q3. Explain induction machine?
- Q4. Explain Capacity credit feature of electrical network?

**Note: Assignment should complete on Note Book (proper size notebook) with proper answer otherwise assignment should not accepted.**

## **Assignment on Unit No. 4 Wind Turbine with Asynchronous Electric Generators**

- Q1. Explain asynchronous system?
- Q2. Explain DC shunt generator with battery load?
- Q3. Explain piston water pump?
- Q4. Explain centrifugal pump?
- Q5. Explain Roesel Generator?

**Note: Assignment should complete on Note Book (proper size notebook) with proper answer otherwise assignment should not accepted.**

## **Assignment on Unit No. 5 Economics of Wind System**

- Q1. Explain Capital Costs?
- Q2. Explain Economic concept?
- Q3. Explain Revenue requirement?
- Q4. Explain Value of wind generated electricity?

**Note: Assignment should complete on Note Book (proper size notebook) with proper answer otherwise assignment should not accepted.**