

ME7005
(POWER TECHNOLOGY)

1. (a) Discuss about beam?
 - (b) What is diffuse radiation?
 - (c) Give a detailed account of various renewable energy sources?
 - (d) Evaluate the collector efficiency of solar collector?
 - (e)) Determine the local solar time and declination at a location Latitude 23 degree and 15 minutes North, Longitude 77 degree 30 minute East at 13.30 IST on June 19. Equation of time correction is given from standard table = $-(1' 01'')$

2. (a) What is the use a pyranometer?
 - (b) Define a pyranometer?
 - (c) Discuss about solar constant?
 - (d) Draw a neat diagram showing all components of a flat-plate solar collector. Explain the function of each.

 - (e) Explain the working principle of pyranometer with the help of neat sketch.

- 3.(a) What is the basic principle of wind energy conversion?
 - (b) Detail classification of wind energy conversion system?
 - (c) What do you mean by Wind energy?
 - (d) What are two different force acting on the blades of wind turbine?
 - (e) Write short notes on savonius rotor.

4. (a) What factor is taken into consideration in site selection of WECS?
 - (b) Discuss the detail classification of wind energy?
 - (c) Differentiate between wind energy & solar energy?
 - (d) How can we collect the wind data and estimate the energy?
 - (e) Give the classification of wind turbine on the basis of axes of rotation.