



VI SEMESTER B.TECH (ELECTRICAL & ELECTRONICS ENGINEERING) MAKE UP EXAMINATIONS, JUNE 2017

SUBJECT: RENEWABLE ENERGY [ELE 4024]

REVISED CREDIT SYSTEM

Time: 3 Hours

Date: 20 June 2017

Max. Marks: 50

Instructions to Candidates:

- ❖ Answer **ALL** the questions.
- ❖ Missing data may be suitably assumed.

- 1A. Define the following:
 - i. Beam radiation ii. Diffused radiation iii. Scattering (03)
- 1B. With a neat figure, explain the construction and working principle of MHD generator. (04)
- 1C. With a neat diagram, explain the construction and working of Sunshine recorder to measure the duration of bright sunshine in a day. (03)
- 2A. Determine the sunset hour angle and day-length at a location latitude of 32° on march 30. (03)
- 2B. With a neat figure, describe the working of forced circulation solar water heater. (04)
- 2C. Describe the working principle of solar pump with a neat figure. (03)
- 3A. Explain the working of solar distillation with a neat diagram. (03)
- 3B. With the help of pressure and velocity variation diagram, derive an equation for ΔP , Max thrust and torque generated at turbine wheel of wind mill. (04)
- 3C. Mention the advantages, disadvantages and application of wind generators. (03)
- 4A. With neat figure, explain the working of Darrius vertical axis wind generator, mention its advantages. (03)
- 4B. Describe the working of fixed dome digester with a neat figure, list out its advantages and disadvantages. (04)
- 4C. What is a community biogas plant? What are the problems encountered in its operation. (03)
- 5A. What is energy plantation? Mention its advantages. (03)
- 5B. Explain the working principle of geothermal power plant with a neat diagram. (03)
- 5C. With a neat figure, explain the working of single basin tidal power plant. (04)