

IV/IV B. Tech. DEGREE EXAMINATIONS, NOV/DEC - 2018**First Semester****ELECTRICAL & ELECTRONICS ENGINEERING
NEW AND RENEWABLE ENERGY SOURCES**Time : **Three Hours**Maximum : **60 Marks****Answer Question No. 1 Compulsory.****12x1=12 M****Answer ONE question from each Unit.****4x12=48 M**

1. a) List any two renewable sources of energy.
- b) What is the approximate amount of total power generation in India ?
- c) Write any four differences between renewable and non-renewable sources.
- d) What is wind power ?
- e) What is meant by bio mass ?
- f) What is MPPT ?
- g) What are the main components of wind conversion system ?
- h) Define the term 'fides' ?
- i) What are the types of wind turbines based on rotation of shaft ?
- j) Explain the term 'solar cell'.
- k) What is meant by load curve ?
- l) List out the advantages of Thin film technology.

UNIT - I

2. a) Briefly explain Ultimate Energy Sources and natural energy currents on earth.
- b) Explain the heat energy, mechanical energy conversion principles.

(OR)

3. a) Write a comparison between Renewable and Conventional Energy Sources.
- b) Write a short note on Maximum power output conditions for Bioenergy conversion ?

P.T.O.

UNIT - II

4. Write short notes on different types of solar cell and its I-V characteristics.

(OR)

5. Explain the effect of shunt and series resistance parameters on the solar cell performance.

UNIT - III

6. Explain the advantages of Thin film technology for a solar cell in detail.

(OR)

7. On which factors the wattage and Voltage of a solar panel will be decided and how the cell configuration will be chosen.

UNIT - IV

8. a) Explain the principle and application of wind electric system. State the basic components and their working in wind electric system.

- b) Explain the double field induction generator operation as a wind generator.

(OR)

9. Write a note on :

- a) VSI inverters.
- b) Wind speed measurements.
- c) Harmonics.

