

Roll No.

24427

B. Tech. 7th Semester (EEE) (Common with Special Chance)

Examination – December, 2019

RENEWABLE ENERGY RESOURCES AND TECHNOLOGY

Paper : HUM-459-F

Time : Three Hours] [Maximum Marks : 100

Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.

Note : Attempt any *five* questions, selecting at least *one* question from each Section. Question Number 1 is **compulsory**. All questions carry equal marks.

1. (a) Discuss main features of non - conventional energy resources.
- (b) Describe how power can be generated from solar energy using flat plate collector.
- (c) What are the materials and their voltages for making solar cells ?
- (d) What are the limitations of solar cells ?
- (e) What are the practical difficulties in exploiting non - conventional energy resources ?

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P. T. O.

SECTION – A

2. (a) Discuss Green house effect in detail.
- (b) What are prospects of renewable energy resources ?
3. (a) Explain different energy sources and their availability.
- (b) What are different energy options for Indian Economy ?

SECTION – B

4. Draw and explain block diagram of basic components of wind energy conversion system.
5. (a) Discuss the principle of a solar collector. How collector cooling can be used to improve the performance of collector ?
- (b) Describe concepts of Aerodynamics.

SECTION – C

6. (a) Discuss principle and working of wave and tidal wave energy.
- (b) Explain how biomass is converted into electrical energy ?
7. (a) Write short notes on Sunderbhan tidal power system.
- (b) Explain site selection for geothermal energy.

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SECTION – D

8. (a) Discuss the principle and working of MHD power plant.
(b) What are various types of fuel cells available ?
9. Write short notes on :
- (a) Mini hydro generators.
(b) Thermonic power generation
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