

USN

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

**CMRIT LIBRARY**  
BANGALORE - 560 037

10EE836

**Eighth Semester B.E. Degree Examination, June/July 2018**  
**Renewable Energy Sources**

Time: 3 hrs.

Max. Marks:100

**Note: Answer FIVE full questions, selecting atleast TWO questions from each part.**

**PART – A**

- 1 a. What are the advantages and limitations of renewable energy sources? Explain in details about the prospects on 'Non-conventional' energy sources in India. (10 Marks)  
b. Explain the significance of energy consumption as prosperity. Write the different types of energy sources with examples. (10 Marks)
- 2 a. Define the following angles i) zenith ii) solar azimuth iii) incident. (10 Marks)  
b. Differentiate between pyrheliometer and pyranometer. Explain in details about the working principle of Angstrom pyrheliometer with a suitable sketch. (10 Marks)
- 3 a. State the advantages and limitations of concentrated collector over the flat plate collector. (10 Marks)  
b. With a neat diagram explain the working of a solar cooker. (10 Marks)
- 4 a. Explain the principle of working of solar photovoltaic power generation, with a neat sketch. (10 Marks)  
b. With a neat sketch explain the principle of working of a 'solar water pumping system'. (10 Marks)

**PART – B**

- 5 a. With a suitable block diagram, explain the functions of different components of Wind Energy Conversion System (WECS). (10 Marks)  
b. State and briefly explain the factors that determine the output power from wind energy. (10 Marks)
- 6 a. Write the various factors those are affecting the generation of biogas. Name the different models of biogas plants in India. (10 Marks)  
b. With a suitable, explain the working of Janata Model Biogas Plant. (10 Marks)
- 7 a. With a suitable diagram, explain open cycle OTEC (Ocean Thermal Energy Conversion) system for ocean thermal energy development. (10 Marks)  
b. Explain the working of single basin tidal power plant. (10 Marks)
- 8 a. Describe the fuel cells and brief about its functions. (10 Marks)  
b. Write a note on wave energy conversion system with a suitable sketch. (10 Marks)

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.  
2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.

**CMRIT LIBRARY**  
BANGALORE - 560 037