

Code: EC6T6FE-H, ME6T6FE-H

**III B.Tech - II Semester – Regular/Supplementary Examinations
AUGUST 2021**

**RENEWABLE ENERGY SOURCES
(Common to ECE & ME)**

Duration: 3 hours

Max. Marks: 70

PART – A

Answer *all* the questions. All questions carry equal marks

11x 2 = 22 M

1.

- a) Define Photo Voltaic Cell.
- b) Define renewable energy sources.
- c) Explain in brief about solar Irradiation.
- d) Explain the function of PV cell in brief.
- e) List out the significance of solar energy resource.
- f) Define the concept of Wind Mills.
- g) Define the concept of Ocean energy.
- h) Define Fuel cell.
- i) What are the various Bio-mass resources?
- j) Define the principle of Ocean Thermal Energy.
- k) List the economics of Mini-Hydel power plant.

PART – B

Answer any THREE questions. All questions carry equal marks. 3 x 16 = 48 M

2. a) List out the types of renewable sources and explain its significance to environment and mankind. 8 M
b) Classify and explain about concentrating collectors. 8 M
3. a) Explain the classifications of Solar cell. 8 M
b) Explain different methods of Photovoltaic energy conversion. 8 M
4. a) Describe the principle and operation of Wind energy conversion using wind mills. 8 M
b) Explain in brief about classification of Bio-gas digesters. 8 M
5. a) Explain Ocean Thermal Energy Conversion (OTEC) system with suitable diagram. 8 M
b) Explain various methods of harnessing the Geothermal energy. 8 M
6. a) Explain merits and demerits of fuel cells. 8 M
b) With neat sketch explain MHD generator. 8 M