

Roll No

MEPE-301(C)

M.E./M.Tech., III Semester

Examination, December 2016

Non-Conventional Energy Sources and Energy

Converters (Elective-I)

Time : Three Hours

Maximum Marks : 70

- Note:** i) Attempt any five questions.
ii) All questions carry equal marks.

1. a) What do you mean by Conventional, non-conventional, Renewable and non-renewable energy explain in brief.
b) Write the significance of renewable sources and their exploitation energy planning.
2. a) What do you mean by energy efficiency? Discuss the statistics of word energy resources.
b) Established the fact that maximum value contained in an air stream of velocity v is proportional to the cube of the velocity.
3. a) What is the use of electronics load controller and self excited induction generators.
b) What do you mean by hybrid power plant? Explain the working of wind-hydro-diesel hybrid power plant.
4. a) Discuss the advantage and disadvantage of solar PV system.
b) Explain in brief the biomass energy and their characteristics.

5. a) Describe the methods of energy audit measurement system.
b) Explain the working principle of thyristers and write its uses.
6. a) Discuss the various method for improving energy efficiency.
b) What do you mean by energy star rating in electric appliances? Discuss the various methods of energy savings.
7. a) What are the energy convertors? List the different energy convertors and explain the working principles of biogas engines.
b) Explain with neat sketch the working principle of mini-hydro generators.
8. Write short notes on followings: (Any four)
 - a) Wave energy system
 - b) Energy regulation
 - c) Gasification process
 - d) Grid management
 - e) Wind turbine
 - f) Energy balance
