

Total No. of Questions : 8]

[Total No. of Printed Pages : 2

Roll No

MEPE-301(C)**M.E./M.Tech., III Semester**

Examination, December 2017

**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.
iii) Assume missing or misprint data, if any.

1. a) How Bureau of Energy Efficiency (BEE) facilitates energy efficiency programs in India? Discuss. 4
b) Discuss some of the long term energy strategies for the better energy secured nation? 10
2. a) Write the demerits of wind energy power generation. 2
b) Write a detailed note on wind mills. 12
3. Discuss the salient features of fixed speed drive scheme electric generator and variable speed drive scheme electric generator for wind turbines. 14
4. a) What do you mean by grid dependent system? 2
b) Write detailed note wave energy conversion devices suitable for offshore location. 12

[2]

5. a) What are the advantages of solar PV system? 3
b) Discuss various types of solar thermal collectors and give their applications. 11
6. a) Draw layout of a stand alone solar PV system. 4
b) Explain the working of biomass gasifier. What further processing is required to use the gas produced in a diesel engine? 10
7. Write a detailed note on energy efficient motors and measures adopted for their higher energy efficiency by addressing each loss in motors. 14
8. a) List factors affecting friction losses while rewinding. 2
b) List a few energy efficiency improvement options in a refrigeration plant. 4
c) Write note on mini hydro generators. 8
