

Total No. of Printed Pages:2

**SUBJECT CODE NO:- E\_84**  
**FACULTY OF ENGINEERING AND TECHNOLOGY**  
**B.E.(EEP/EE/EEE) Examination Nov/Dec 2017**  
**Renewable Energy**  
**(REVISED)**

[Time: Three Hours]

[Max.Marks:80]

- N.B
- Please check whether you have got the right question paper.
- i) Use suitable data if required.
  - ii) Solve Question no.1 from section A and Question no.6 from Section B are compulsory.
  - iii) Solve any two question from remaining questions from each sections A and B.

Section A

- Q.1 Solve any five from the following 10
- (a) Define Solar energy
  - (b) What is meant by pitch angle
  - (c) What is the flat plate collector? Write its function.
  - (d) What is solar pond
  - (e) What is the type of generator used in wind power plant?
  - (f) Define solar altitude angle
  - (g) Define a fuel cell
  - (h) What are the components of solar water heater?
- Q.2 (a) What are the important differences between renewable and non-renewable source. 08
- (b) Explain with a neat sketch the working principle of standalone solar system. 07
- Q.3 (a) Explain the horizontal axis wind mill briefly. 08
- (b) Explain the main applications of wind energy. 07
- Q.4 (a) What do you understand by aerodynamics, explain. 07
- (b) Enumerate the different type of concentrating type collectors. 08
- Q.5 (a) Write short note on solar radiation. 08
- (b) Explain the merits and limitations of wind energy. 07

Section B

- Q.6 Solve any five from the following 10
- (a) What are the Constituents of biogas
  - (b) What is geothermal power
  - (c) What is the use of gasifies in Biogas
  - (d) Write various types of fuel cells.
  - (e) What is see back thermo electric effect
  - (f) What is meant by pyrolysis
  - (g) Write advantages of tidal power plant

2017

- (h) Write the components of tidal power plant.
- Q.7 (a) What are the advantages and limitations of wave energy conversion 08  
 (b) What are the factors affecting biogas generation. 07
- Q.8 (a) What are the main types of OTEC power plants? Explain any one. 08  
 (b) What are the MHD generators? Explain its working. 07
- Q.9 (a) Explain the applications of geothermal energy. 08  
 (b) Explain the classification of Biogas plants. 07
- Q.10 (a) Explain the operation of IC engines with biogas and discuss their performance characteristics. 08  
 (b) Write short note on geothermal sources. 07