

Roll No.

Total No. of Pages : 02

Total No. of Questions : 09

**B.Tech.(Electronics & Electrical) (2011 Onwards E-III)
B.Tech.(Electrical & Electronics) (2013 & Onwards E-III)
(Sem.-7, 8)**

NON-CONVENTIONAL ENERGY SOURCES

Subject Code : BTEEE-805D

M.Code : 71972

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTION TO CANDIDATES :

1. **SECTION-A** is **COMPULSORY** consisting of **TEN** questions carrying **TWO** marks each.
2. **SECTION-B** contains **FIVE** questions carrying **FIVE** marks each and students have to attempt any **FOUR** questions.
3. **SECTION-C** contains **THREE** questions carrying **TEN** marks each and students have to attempt any **TWO** questions.

SECTION-A

1 Answer briefly :

- a) List the non - conventional energy sources.
- b) What is working principle of thermionic?
- c) What is Photo voltaic effect?
- d) What do you understand by zero energy houses?
- e) What are the advantages of MHD power generation?
- f) What are the classifications of geothermal energy?
- g) List the types of collectors used in solar power generation.
- h) What is the basic principle of wind power generation?
- i) What are the different applications of solar PV system in rural area?
- j) What is the type of generator used in wind power plant?

SECTION-B

2. Draw and explain two basic design of Ocean Thermal Energy Conversion (OTEC).
3. With neat diagram explain the operation of geothermal energy based power plant and mention the important parameters to be monitored in each block.
4. Explain the construction and working of magneto hydro dynamic generator with neat sketch.
5. What is geothermal energy? How can geothermal energy be utilized for electric power Generation?
6. Explain why it is necessary to develop non-conventional method of generating electrical energy. What are the prospects of renewable energy sources in India?

SECTION-C

7. With the help of a neat sketch describe a solar heating system using water heating solar collectors. What are the advantages and disadvantages of this method? Also explain the equivalent circuit for solar PV panel.
8. Describe the different types of turbines in use for small scale hydroelectric Power Plants. What are the advantages and limitations of small scale hydroelectric power?
9. Write short note on followings :
 - a) Thermoelectric Effects
 - b) Types of Fuel Cells

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.