Roll No. | | | | | | | | | | | | | Total No. of Pages : 02

Total No. of Questions : 09

B.Tech.(ME) (E-I 2012 Onwards) (Sem.–6)

NON CONVENTIONAL ENERGY RESOURCES

Subject Code : DE/ME-1.3

M.Code : 71245

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) What do you understand by insolation?

(b) What is anemometer?

(c) Name four most important factors to be considered for selection of materials for MHD generators.

(d) What is a fuel cell?

(e) What is absorption air conditioning in solar energy?

(f) How the power generated by a wind turbine would be affected if the diameter of the rotor of the turbine is doubled?

(g) What is the basic principle of thermoelectric power generation?

(h) What is thermoelectric refrigeration?

(i) What is temperature at the inlet of the MHD generator in open cycle system?

(j) What are limitations of tidal energy?

SECTION-B

2. Explain principle and working of MHD power generation.

3. Discuss various bio-mass conversion technologies.

4. Explain working of double basin tidal power plant.

5. Describe construction details and working of a thermionic generator.

6. Derive an equation to measure the performance of a flat plate collector.

SECTION-C

7. Explain different types of vertical axis wind turbines with the help of diagrams. Also state their advantages and disadvantages as compared to horizontal axis wind turbines.

8. Explain different types of sources of geothermal energy.

9. Explain construction and working of a bio-gas plant.

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.