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Total No. of Pages : 02

Total No. of Questions : 18

B.Tech. (ME) (2012 Onwards E-II)/(Automation &amp; Robotics) (Sem.-7)

**NON-CONVENTIONAL ENERGY RESOURCES**

Subject Code : DE/ME-1.3

M.Code : 71810

Time : 3 Hrs.

Max. Marks : 60

**INSTRUCTIONS 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****Answer briefly :**

1. List various renewable energy resources.
2. Write the properties of optical materials.
3. Write the applications of solar energy.
4. What is wind data?
5. Define Thermo-electric effect.
6. What is thermionic emission?
7. What is photo-synthesis?
8. Write the sources of geothermal energy.
9. What are community bio gas plants?
10. What are solar ponds?



### SECTION-B

11. Explain why the energy consumption is considered as measure of Nation's development?
12. Discuss the description and working of solar cell with suitable sketch.
13. Elaborate the process of thermo-electric refrigeration.
14. State the thermodynamic aspects of fuel cells.
15. Write the advantages and disadvantages of tidal and wave energy plants.

### SECTION-C

16. Explain the principle, general description and design procedure of concentrating plate collector.
17. Discuss the principle and the functioning of different components of wind energy conversion system.
18. Write the principle, types and working of Magnetic Hydrodynamic (MHD) systems.

**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.**