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

Total No. of Questions : 09

B.Tech.(Automation & Robotics) (2011 Batch E-II)/
(ME) (2011 Onwards E-II) (Sem.–7, 8)

NON-CONVENTIONAL ENERGY RESOURCES

Subject Code : DE/ME-1.3

Paper ID : [A2922]

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 has to attempt any FOUR questions.
3. SECTION-C contains THREE questions carrying TEN marks each and students has to attempt any TWO questions.

SECTION-A

1. Answer briefly :

a. What is Tidal Power?

b. What is Solar Cell?

c. Differentiate between horizontal and vertical wind machines.

d. Differentiate between flat plate collector and concentrating plate collector.

e. Explain plank's law.

f. Define bio mass.

g. What do you understand by electrochemical conversion?

h. Write any two advantages of fuel cell.

i. What is zenith angle?

j. What is photovoltaic power conversion?

SECTION-B

2. Differentiate between horizontal and vertical wind machines with neat sketch.

3. Derive equation for thermal efficiency of MHD Power cycle.

4. Discuss various types of power plants currently used for bulk electricity generation.

5. Discuss the various types of liquid-dominated geothermal power plants. Compare their performances.

6. What is the solar constant? What is the difference between the extraterrestrial and terrestrial solar radiation? Give reason for the difference.

SECTION -C

7. Give in brief classification of various energy recourses. What is the future of non conventional energy sources in India?

8. Describe the construction of different type of solar collectors. Discuss various materials used.

9. What is biomass gasification technology? What is the principle of biogas generation by anaerobic digestion process?