Roll No. | | | | | | | | | | | | |

Total No. of Pages : 02

Total No. of Questions : 09

B.Tech (EE) (Sem.–7)

NON CONVENTIONAL ENERGY SOURCES

Subject Code : EE-418

Paper ID : [A0433]

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

Q1. Answer briefly :

a) What are the limitations of conventional energy sources?

b) Explain the principle of fuel cell.

c) What are the various losses associated with MHD Generator?

d) What is polarization in fuel cells?

e) What is Peltier effect?

f) What is Thomson effect?

g) Define the terms Incident Angle and Solar Azimuth Angle.

h) What are the difficulties in Tidal Power Development?

i) What is the Solar Constant?

j) Define a Geothermal source.

SECTION-B

Q2. What are Conventional & Non-conventional energy sources? Discuss the advantages of non-conventional energy sources.

Q3. What is Seeback Thermo electric effect? How Seeback coefficients vary with temperature?

Q4. What are important factors to be considered while selecting materials for an MHD generators.

Q5. What are advantages of PV Solar system conversion?

Q6. What should be the properties of thermoelectric material?

SECTION-C

Q7. Discuss the different methods used to classify fuel cells & explain Ion Exchange Membrane (H_2O_2) cell in detail.

Q8. Describe a MHD close cycle system with its advantages and disadvantages.

Q9. a) Write a short note on Low Head Hydropower development.

b) What are the main components of a Flat Plate Solar collector? Explain the function of each.