SHAHEED BHAGAT SINGH STATE TECHNICAL CAMPUS, FEROZEPUR

ROLL NO: | | | | | | | | | | | | | | **Total number of pages:[02]**

Total number of questions: 06

B.Tech. -EE/ 8th Sem

Non Conventional Energy Sources

Subject Code: BTEE-803 Reg/RP.

Paper ID:

Batch: 2011onwards

Time allowed: 3 Hrs **Max Marks: 60**

Important Instructions:

- **Section A is compulsory**
- **Assume any missing data**

PART A (2×10)

Q1.

(a) Define thomson effect.
(b) What are the advantages of non conventional energy sources?
(c) Write the components of a fuel cell.
(d) Name different types of solar collectors
(e) Define photovoltaic effect.
(f) State lift and drag for a wind energy generator.
(g) Give the basic principle of MHD power generation.
(h) How geothermal energy can be extracted?
(i) Give applications of wind energy.
(j) What are primary and secondary energy sources?

PART B (5×8)

Q2. Explain the general description and construction of a fuel cell with neat diagram and also derive the expression for Gibb's free energy. CO2

OR

What are the different types of photovoltaic cell and explain any one of them?

Q3. Explain with a suitable diagram the construction of a thermoelectric generator. Give the applications of thermoelectric generator. CO2

OR

Define geothermal energy. What are the possible sources of geothermal pollution? How these can be avoided?

Q4. Compare the advantages and disadvantages of conventional & non conventional energy sources. CO1

OR

Discuss in detail the main components of tidal power plant. Also give the advantage and limitations of tidal power generation.

Q5. What is the principle of MHD power generation and briefly explain its system? CO3

OR

What are the important factors to be considered while selecting for MHD generator? What is the primary advantage of MHD approach to energy generation?

Q6. Write the short notes on following: CO2

a) Wind energy
b) Biomass energy

OR

c) Seebeck effect
d) Peltier effect