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Roll No

MMTP - 302(B)

M.E./M.Tech. III Semester

Examination, December 2013

Non Conventional Energy Sources (Elective-II)

Time : Three Hours

Maximum Marks: 70

Note: Attempt any five questions. All questions carry equal marks.

1. a) Write a detailed note on world's production and reserves of commercial energy sources.
b) What do you understand by green power.
2. a) What is solar time and why it is different from the standard clock time of a country.
b) Write a detailed note on thermal energy storage systems.
3. a) Describe the flat plate collector with the help of a suitable diagram. Write its advantages and disadvantages over a concentrating solar collector.
b) What are major advantages of a solar PV system.
4. a) Explain the process of gasification of solid bio-fuels. What is the general composition of the gas produced and what are its main applications.
b) Discuss in brief about commercial production of ethanol from biomass.

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5. a) Discuss the factors affecting the performance of a biogas digester.
b) Write a note M.H.D generator.
6. a) Describe the classification of fuel cells. Explain the principle of operation of an alkaline fuel cell.
b) What are the main hurdles in the development of the tidal energy.
7. a) With a neat sketch, explain the working of CANDU reactor.
b) Write a short note on radioactivity hazards.
8. a) Discuss the Monod equation for the growth of microorganisms.
b) Write a note on Michaelis-menten equation.
