Printed Pages: 4		EOE-081
(Following Paper	ID and Roll No. to be filled in Answer Books)	your
Paper ID : 199851	Roll No.	

B.TECH.

Theory Examination (Semester-VIII) 2015-16

NON CONVENTIONAL ENERGY RESOURCES

Time : 3 Hours

Max. Marks: 100

Section-A

- 1. Attempt all sections. All sections carries equal marks. Write answer of each section in short. (10×2=20)
 - (a) Why is geothermal considered a renewable energy resource?
 - (b) How can renewable energy technologies be compared?
 - (c) How tides are generated?
 - (d) What are the sources of heat for hot springs?
 - (e) How durable are solar panels?

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(1)

P.T.O.

- (f) How can you conserve energy and lower your utility bills?
- (g) How much of our daily CO2 emissions can wind avoid?
- (h) Are fossil fuels renewable?
- (i) How many types of renewable energy are there normally said to be?
- (j) How does geothermal heat get up to the earth's surface?

Section-B

2. Attempt any five questions from this section. (5x10=50)

- (a) What are the conventional and non-conventional energy sources? Write short notes on classification of energy resources.
- (b) What is meant by dry steam, wet steam and hot water geothermal system?
- (c) Explain with sketches the various methods of tidal power generation. Write the Advantages and limitations of tidal power.

(2)

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- (d) Write the difference between a geothermal power plant and thermal power plant.
- (e) Describe the principle of working of a fuel cell with reference to Hydrogen Oxygen cell. Also discuss advantages and limitations of fuel cells.
- (f) Write short notes on-

(i) MHD

(ii) Local apparent time (LAT)

(iii) MNRE

(h) What is the basic principle of wind energy conversion? What methods are used to overcome the fluctuating power generation of a windmill?

Section-C

Attempt any two questions from this section. (2×15=30)

- 3. (a) Write about the solar cells, its material and applications.
 - (b) Describe the basic principle of ocean thermal energy conversion (OTEC). What are the main types of OTEC power plants? Describe their working in brief.

(3) P.T.O.

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- (a) Describe the various operational and environmental problems encountered in obtaining the geothermal energy.
- (b) Describe the working of a Thermo-electric generator. Derive an expression for its power output.
- 5. What is Biomass? How does biomass conversion take place? Describe the materials used for biogas generation and factors that affect the size of a biogas plant.

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4.

(4)