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Total No. of Printed Pages: [01]

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B. Tech EE (Semester – 7th)
NON-CONVENTIONAL ENERGY RESOURCES
Subject Code: BEEE-0F94
Paper ID: [OE2111505]

Time: 03 Hours

Maximum Marks: 60

Instruction for candidates:

1. Section A is compulsory. It consists of 10 parts of two marks each.
2. Section B consist of 5 questions of 5 marks each. The student has to attempt any 4 questions out of it.
3. Section C consist of 3 questions of 10 marks each. The student has to attempt any 2 questions.

Section – A

(2 marks each)

Q1. Attempt the following:

- a) Define Solar constant.
- b) Define conventional energy source
- c) What is basic principle of wind energy generation?
- d) Write two applications of solar batteries.
- e) What is photosynthesis?
- f) What do you understand by geothermal energy?
- g) Define low head hydrometer.
- h) What is conversion efficiency?
- i) Write two properties of thermo electric materials.
- j) What is MHD?

Section – B

(5 marks each)

- Q2. What is the need for alternative energy sources? How have these sources grown over the past few years?
- Q3. Describe with neat diagram construction of biogas plant.
- Q4. What are different types of photovoltaic cells? Discuss anyone with neat diagram.
- Q5. What are various types of prime movers used for geothermal energy?
- Q6. What do you understand by Tidal energy? Discuss tidal electric generator.

Section – C

(10 marks each)

- Q7. a) What are various biomass conversion technologies? What are their applications? 5
- b) Write a note on history of wind power. Cite its relevance in present day scenario. 5
- Q8. a) Differentiate between concentrated and flat plate solar collectors. 5
- b) How can solar energy be used for space heating? 5
- Q9. a) How is energy produced from hydrogen? How can it be stored? 5
- b) Discuss working of thermo ionic generator. 5