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Total No. of Printed Pages: [01]

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**B. Tech. (Civil Engg.) (Semester – 6<sup>th</sup>/7<sup>th</sup>/8<sup>th</sup>)**

**RENEWABLE ENERGY SOURCES**

**Subject Code: BELE0-F94**

**Paper ID: [OE2110714]**

**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) What do you understand by renewable energy sources?
- b) Define solar constant.
- c) Give classification of solar energy collectors.
- d) Define photosynthesis.
- e) What is geothermal energy?
- f) What is tidal energy?
- g) Name any two hydrogen production methods.
- h) What do you understand by thermionic generation?
- i) Define distillation.
- j) What are the important factors to be considered for selection of a site for wind power plants?

**Section – B**

**(5 marks each)**

- Q2. Give brief description of various renewable energy sources.
- Q3. Discuss the basic principle of wind energy conversion.
- Q4. Explain the principle of conversion of solar radiation into heat.
- Q5. Describe a hot dry rock geothermal resource power plant.
- Q6. Name and explain briefly, the various methods of hydrogen storage?

**Section – C**

**(10 marks each)**

- Q7. Compare concentrated and flat plate solar collectors.
- Q8. With the aid of neat diagram, explain the construction and working of a fixed dome type biogas plant.
- Q9. Write short note on:
  - (a) Solar energy storage.
  - (b) Tidal energy.