Roll No…….. **Total No. of Printed Pages: [01]**
Total No. of Questions: [09]

B. Tech. (Civil Engg.) (Semester – 6th/7th/8th)
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.