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Total No. of Printed Pages: 1

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B. Tech. (Aerospace Engineering) (Semester – 7th)
NON- CONVENTIONAL ENERGY RESOURCES

Subject Code: BEEE0F94

Paper ID: [OE2110305]

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. Write the classification of energy resources.
- b. Define the term "solar constant" and explain its significance.
- c. Discuss the basic principle of wind energy conversion.
- d. Describe different sources of geothermal energy.
- e. Outline the process of hydrogen production.
- f. Explain the origin of tides
- g. What is the principle of Ocean Thermal Energy Conversion?
- h. What are different types of bio-fuels?
- i. Express the advantages and disadvantages of Hydroelectricity.
- j. List out various photovoltaic solar energy applications

Section – B

(5 marks each)

- Q2. Enumerate different types of solar concentrating type collectors.
- Q3. Determine the use and working of wind sock in aviation industry
- Q4. Classify the Biomass energy conversion systems and explain them in brief.
- Q5. Distinguish between wave and tidal energy.
- Q6. How do you classify hydrogen production methods? Explain any one in detail

Section – C

(10 marks each)

- Q7. Explain the working of pyranometer and pyr heliometer.
- Q8. Explain with a sketch the basic components of the wind energy conversion system (WECS).
- Q9. Write a note on
 - (a) magneto hydrodynamic power and (b) Nuclear fusion energy