

12/12/25 SE Sem-II (NEP 2020) chemical - NCES (DE)

(Open Elective) Non-Conventional Energy Sources

(NEP 2020)

(3 Hours)

Total Marks: 60

N.B.

1. Question No. 1 is Compulsory.
2. Attempt any **Three** Questions from remaining **Five** Questions
3. Assume Suitable Data if needed and Justify the Same
4. Figures to the right indicate full marks.

Que.1

- a) Give any three reasons for the need for renewable energy in India [03]
- b) What are commercial and non-commercial energy sources? Give one example of each. [04]
- c) Explain Classification of WEC systems [04]
- d) What are the advantages of using solar energy storage systems? [04]

Que.2

- a) Describe the global energy scenario with respect to fossil fuel consumption [07]
- b) Describe the construction and working of an open cycle OTEC plant with neat diagram. [08]

Que.3

- a) Describe the basic components of a wind turbine with their functions. [07]
- b) Explain the steps involved in conducting an energy audit. [08]

Que.4

- a) Explain the positive and negative environmental impacts of renewable energy projects [07]
- b) Describe the working principle of a thermal energy storage system in solar power plants. [08]

Que.5

- a) Explain the advantages, disadvantages, and applications of OTEC. [07]
- b) Explain in detail Biomass Conversion Technologies [08]

Que.6

- a) Discuss the adverse environmental effects of oil and gas extraction [05]
- b) Explain in detail the various applications of wind energy. [05]
- c) Discuss the factors affecting biogas generation [05]