

Roll No. 2190180371

Total No. of Questions : 7]
(2032)

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UG (CBCS) IIIrd Year (Annual) Examination

3235

B.Sc. PHYSICS

(Renewable Energy and Energy Harvesting)

(SEC-4)

Paper : PHYS 310 TH

Time : 3 Hours]

[Maximum Marks : 50

Note :- Attempt five questions in all. All questions carry equal marks (10 marks each).

1. What do you mean by renewable energy? Discuss the need of renewable energy. Give a brief account of various renewable energy sources. 10
2. What is Solar Energy? Discuss in detail various practical applications of solar energy. 10
3. Write short notes on the following :
 - (a) Wind farm
 - (b) OTEC

CH-35

(1)

Don't
A/C
Disturb

Turn Over

(c) Tidal Barrage

(d) Tidal Lagoon

(e) Osmotic power

2×5=10

4. (a) What is Geothermal Energy ? Discuss Geothermal drilling.

(b) What is Hydroelectric power ? Discuss the environmental impacts of hydropower sources. 5,5

5. (a) Explain Piezoelectric effect and write its practical applications.

(b) Discuss Electromagnetic energy harvesting. 5,5

6. (a) What is Wind Energy ? Explain the principle of wind energy conversion and wind power generation.

(b) Discuss the major challenges and issues for exploiting wind energy. 5,5

7. (a) What are fossil fuels ? Discuss the environmental impacts of burning them.

(b) What is Nuclear Energy ? Discuss the advantages and disadvantages of nuclear energy. 5,5

HOUSE EXAMINATION

BSc 3rd Year

Renewable Energy and Energy Harvesting (PHYS310TH)

Duration: 1 Hr 30 min

Max. Marks = 15

Instructions:

- i. All question carries equal marks.
- ii. Attempt Five question in total.

- ✓ 1. What do you understand by Fossil fuels? Give their two advantages and two disadvantages.
- ✓ 2. What is nuclear energy? Give its two advantages and two disadvantages.
- ✓ 3. What is Solar Pond? Explain the working of Non-convecting Solar Pond.
- ✓ 4. Describe the working of Solar Water Heating System along with its main components.
- ✓ 5. Explain working of wind turbine along with its main components.
- ✓ 6. Explain the Solar Distillation process along with its instrumental requirements.
- ✓ 7. Obtain expression for the theoretical maximum efficiency of power extraction of Wind turbine.

-----End of the Paper-----