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B.Sc./5th Sem (G)/PHS/22(CBCS)

2022

5th Semester Examination

PHYSICS (General)

Paper : SEC - 3 -T

[Renewable Energy and Energy Harvesting]

[CBCS]

Full Marks : 25

Time : Two Hours

The figures in the margin indicate full marks.

*Candidates are required to give their answers
in their own words as far as practicable.*

Group - A

Answer any **three** of the following questions : $2 \times 3 = 6$

1. Distinguish between renewable and non-renewable energy sources.
2. Mention two advantages and two disadvantages of biomass energy.
3. Define caloric value of fuel.
4. What are the uses of carbon captured technology?
5. Write down any two environmental impacts of hydro power sources.

P.T.O.

(2)

Group - B

Answer any *two* of the following questions :

5×2=10

6. (a) Write down the characteristics of piezoelectric effect. 2
- (b) Explain the working principle of Sun tracking systems. 3
7. What is geothermal energy? Describe the types of geothermal resources. 2+3
8. Explain the structure and operation of linear electromagnetic generator. 5

Group - C

Answer any *one* of the following questions :

9×1=9

9. (a) What are the constituents of bio-gas?
- (b) What are the disadvantages of solar energy?
- (c) What is tidal Energy?
- (d) Describe the function of a solar cooker. 2+2+2+3
10. (i) What is ocean thermal energy? Give its conversion principle.
- (ii) Write a short note on wind turbines.
- (iii) What are the advantages of wind energy conversion system (WECS)? 3+4+2