



OEPH211

Reg. No.

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II Semester B.Sc. (NEP) Degree Examination, October - 2022

PHYSICS(Open Elective)

Energy Sources

(Freshers Scheme 2021-22 and Onwards)



Time : 2½ Hours

Maximum Marks : 60

Instructions to Candidates:

Follow the instructions given under each part.

PART - A

Answer any **Ten** questions. Each question carries **One** mark.

(10×1=10)

1. What is energy?
2. Which is the main element in fossil fuels?
3. The sun's energy comes from reaction that takes place deep in the sun.
4. Expand CNG
5. What is a flat plate solar collector?
6. In ocean thermal energy conversion what is the minimum temperature difference between surface and deep ocean water?
7. What is geothermal energy?
8. Mention any one main resource of biomass energy?
9. Which type of renewable energy source uses the least land per unit of GWh energy production?
10. Wind turbines convert wind energy to _____ energy.
11. Is Ocean energy renewable? (yes/no).
12. Is geothermal energy constant throughout the year? (yes/no)

[P.T.O.]



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PART - B

Answer any **Ten** questions. Each question carries **Two** marks.

(10×2=20)

13. Define primary source of energy with an example.
14. What are the constituents of natural gas?
15. Mention any two crude oil producing locations in our country.
16. Mention the factors that cause winds.
17. Offshore wind energy generation is advantageous as compared to onshore. Explain.
18. Mention any two biomass-feedstocks.
19. What is biochemical conversion?
20. Mention any two applications of solar energy.
21. What is the basic principle of wind energy conversion?
22. Mention any two limitations of Tidal power generation.
23. Explain the principle of working of a battery.
24. Mention any two wave energy conversion devices.

PART - C

Answer any **Five** questions. Each question carries **Six** marks.

(5×6=30)

25. a) What is carbonization? (2+4)
b) Mention the different types of coal depending upon the carbon content.
26. Describe the process of refining crude petroleum and mention the products obtained from it. (6)
27. What is renewable source of energy and give any five types of renewable sources of energy? (6)
28. Describe the characteristics of photo-voltaic system. (6)
29. a) Write a note on sun tracking system.
b) How does geothermal heat get transferred from the interior of earth to its surface? (3+3)



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30. Mention any three merits and demerits of renewable energy sources. (6)
 31. Explain briefly about the horizontal axis wind mills with a neat diagram. (6)
 32. Explain any two wave energy conversion devices. (6)
 33. Explain briefly about components of hydro-electric power scheme with a neat diagram. (6)
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