QP Code: D 112809	Total Pages: 2	Name:
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FIRST SEMESTER UG DEGREE EXAMINATION, NOVEMBER 2024

(CUFYUGP)

APH1MN105/PHY1MN105 Non- conventional Energy Sources

2024 Admission onwards

Maximum Time :2 Hours | **Maximum Marks :70**

Section A

All Questions can be answered. Each Question carries 3 marks (Ceiling : 24 Marks)

1	Define renewable and non-renewable energy sources. Give examples.
2	What are the principles of converting solar energy into heat?
3	List the advantages and disadvantages of flat plate collectors.
4	Explain the working of solar air heaters.
5	What are the environmental impacts of wind energy?
6	List the basic components of a Wind Energy Conversion System (WECS).
7	Describe the structure of Earth's interior in relation to geothermal energy.
8	What are the advantages of using hydrogen as a fuel?
9	Mention the factors affecting wave energy conversion.
10	Explain the working principle of Ocean Thermal Energy Conversion (OTEC).

Section B

All Questions can be answered. Each Question carries 6 marks (Ceiling : 36 Marks)

11	Discuss the types of collectors used in solar energy collection systems.
12	What are the advantages and disadvantages of concentrating solar collectors?
13	Explain the basic principle of wind energy conversion and the problems faced by large wind power generators.
14	Discuss the advantages and disadvantages of geothermal energy compared to other energy forms.
15	Describe the economic aspects and components of a tidal power plant.
16	Explain the biogas production process and the components of a biogas plant.
17	Discuss the characteristics and advantages of wind energy utilization.
18	Explain the applications and limitations of solar greenhouses in addressing global warming.

Section C	
Answer any ONE .Each Question carries 10 marks (1x10=10 Marks)	
19	Explain the various ocean energy sources and discuss the advantages and disadvantages of tidal and wave energy.
20	Discuss in detail the applications, advantages, and disadvantages of fuel cells and hydrogen energy as alternative fuels.