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C16-M-504

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**BOARD DIPLOMA EXAMINATION, (C-16)**

**JUNE/JULY—2022**

**DME - FIFTH SEMESTER EXAMINATION**

**ENERGY SOURCES AND POWER PLANT ENGINEERING**

*Time : 3 hours ]*

*[ Total Marks : 80*

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**PART—A**

**3×10=30**

- Instructions :** (1) Answer **all** questions.  
(2) Each question carries **three** marks.  
(3) Answers should be brief and straight to the point and shall not exceed five simple sentences.

1. State different types of renewable energy sources.
2. Write the advantages of solar energy conversion.
3. What are different methods used for storage of solar energy?
4. Define the terms (a) coefficient of performance and (b) tip speed ratio.
5. State the different types of fuels used in fuel cells.
6. Write the applications of bio-gas.
7. State the advantages of tidal power generation.
8. Write the function of (a) economiser and (b) air pre heater in thermal power plant.
9. What is the need of condenser in a thermal power plant?
10. Write characteristics of atomic power plants.

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*[ Contd...*

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**PART—B**

10×5=50

- Instructions :** (1) Answer *any five* questions.  
(2) Each question carries **ten** marks.  
(3) Answers should be comprehensive and criterion for valuation is the content but not the length of the answer.

11. Explain the working principle of solar still with the help of a neat sketch.
12. Explain working principle of box type solar cooker with the help of a neat sketch.
13. Explain working principle of horizontal axis wind mill a neat sketch.
14. Explain working principle of aluminium air fuel cell with the help of a neat sketch.
15. Explain working principle of Fixed dome type bio-gas power plant with the help of a neat sketch.
16. Explain the dust extraction in electrostatic precipitator.
17. Explain double basin arrangement in Tidal energy power plant.
18. Explain the working principle of Boiling water reactor with the help of a neat sketch.

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