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BOARD DIPLOMA EXAMINATION, (C-16)

JANAURY/FEBRUARY—2022

DME - FIFTH SEMESTER EXAMINATION

ENERGY SOURCES AND POWER PLANT ENGINEERING

Time : 3 hours] [*Total Marks* : 80

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. What are the disadvantages of non-renewable energy sources?

2. Write the applications of solar air heater.

3. State the limitations of solar energy conversion.

4. What are the different considerations for site selection for installation of a windmill?

5. State the working principle of Fuel cell.

6. What are the properties of biogas?

7. State the limitations of Tidal power generation.

8. What are the different types of Fuel handling equipment used in Thermal power plant?

9. What are the different types of condensers?

10. What are the effects of Nuclear radiation?

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 pond with the help of a neat sketch and state the applications of solar pond.

12. Write the working principle of natural circulation type solar water heater with the help of a neat sketch.

13. Explain the working principle of vertical axis windmill with the help of a neat sketch.

14. Explain the working principle of MHD generator with the help of a neat sketch.

15. Explain the working principle of Floating dome type biogas power plant with the help of a neat sketch.

16. Explain the functions of important elements in the layout of a thermal power plant.

17. Explain single basin arrangement in tidal energy power plant.

18. Explain the working principle of pressurised water reactor with the help of a neat sketch.

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