



C09-M-606 (C)

3786

**BOARD DIPLOMA EXAMINATION, (C-09)
SEPTEMBER/OCTOBER - 2020
DME—SIXTH 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. Differentiate between renewable and non-renewable sources of energy.
2. Explain the principle of solar cell.
3. Write any three important considerations for selecting site for wind energy conversion system.
4. What are the advantages of a fuel cell?
5. What is a biogas? State any two applications of biogas.
6. Write any three important factors to be considered for the selection of site for tidal power plants.
7. What are tides and how are they formed?
8. List out the basic elements of steam power plants.

- * 9. State the advantages and limitations of screw conveyors.
10. Write any three comparisons between nuclear power plants and thermal power plants.

PART—B

10×5=50

Instructions : (1) Answer *any five* questions.

(2) Each question carries **ten** marks.

(3) Answers should be comprehensive and the criterion for valuation is the content but not the length of the answer.

11. Explain the solar absorption refrigeration system with neat sketch and write its advantages and disadvantages.
12. Describe the construction and working of a horizontal axis wind mill with a neat sketch.
13. (a) Explain the working of MHD generator with neat sketch.
(b) State the applications of fuel cells. 7+3=10
14. Explain the working of a fixed dome digester with neat sketch.
15. Draw a layout of a tidal power plant and explain its major components.
16. Draw a neat sketch of electrostatic precipitator and explain its working.
17. Draw a neat sketch of PWR-power plant and describe its working.
- * 18. (a) Describe the principle of solar pond with neat sketch.
(b) Write any five comparisons between surface condensers and jet condensers.
