



C16-M-504

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BOARD DIPLOMA EXAMINATION, (C-16)

OCT/NOV—2018

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. State the advantages and disadvantages of renewable energy sources.
2. State the amount of solar radiation reaching the earth's surface.
3. What are the applications of solar air heater?
4. What are the basic components of a windmill?
5. List out different types of fuel used in fuel cells.
6. Name different types of biogas plant.
7. State the site requirements for installation of tidal power plant.

- * 8. List different types of condenser.
9. What is economizer?
10. State any three characteristics of atomic 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 constructional details and working principle of solar still with the help of a neat sketch.
12. Describe the solar water pumping system with a neat sketch.
13. Explain the basic components of a windmill.
14. Narrate the constructional details and working principle of Bacon's high pressure fuel cell.
15. (a) List the applications of biogas.
(b) Explain the constructional details and working principle of fixed dome type biogas plant.
16. Explain single-basin and double-basin arrangements of tidal energy.
- * 17. Explain dust extraction in electrostatic precipitator.
18. Explain the working principle of a nuclear reactor.
