



C09-M-606C

3786

BOARD DIPLOMA EXAMINATION, (C-09)

OCT/NOV—2014

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.

1. State the need of using renewable energy sources.
2. What is solar collector? List out the different types of solar collector.
3. State the advantages and limitations of wind energy.
4. State the working principle of fuel cell.
5. What are biomass and biogas?
6. What is tide? How are the tides formed?
7. List out the different types of biogas plant.

- * 8. Draw the stages of energy conversion in coal-fired power plants.
9. Explain the importance of water treatment in steam power plants.
10. Distinguish between nuclear fission and nuclear fusion.

PART—B

10×5=50

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

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

11. Explain the solar absorption refrigeration system with a neat sketch.
12. Explain the working of windmill for water pumping with a neat sketch.
13. Explain the working of MHD generator with a neat sketch.
14. Explain the construction and working of float-type biogas digester with a neat sketch.
15. Draw a layout of tidal power plant and explain the major components of tidal power plant.
16. Draw a layout of steam power plant.
17. Draw a neat sketch of PWR power plant and describe its operation.
- * 18. Describe the following with neat sketches :
- (a) Solar still
- (b) Low-level parallel flow jet condenser
