



C09-M-606C

3786

BOARD DIPLOMA EXAMINATION, (C-09)

OCT/NOV—2015

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. List out the various sources of renewable energy.
2. State the working principle of photo-voltaic conversion.
3. List out the factors considering for site selection for installing wind-mill.
4. Briefly describe the principle of MHD generator.
5. State the advantages and limitations of biogas.
6. Write down the expression for biogas plant capacity
7. State the principle of tidal power generation.

- * 8. State the function of economiser.
- 9. State the necessity of condensing the steam in steam power plants.
- 10. Define nuclear fission and chain reaction.

PART—B

10×5=50

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

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

- 11. Explain the solar water pumping system with a neat sketch.
- 12. Describe the vertical axis windmill with a neat sketch.
- 13. Explain the working of Bacon's fuel cell with a neat sketch.
- 14. Explain the construction and working of fixed dome biogas digester with a neat sketch.
- 15. Draw a layout of tidal power plant and explain the major components of tidal power plant.
- 16. Describe any two coal-handling equipments with line diagram.
- 17. (a) Explain the properties of materials used as moderator.
(b) Explain the effects of nuclear radiation.
- * 18. Write short notes on the following :
 - (a) Solar space heating system
 - (b) De-aeration heating of water treatment
