C09–M–606C

3786

BOARD DIPLOMA EXAMINATION, (C–09)

MARCH/APRIL—2016

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 renewable source of energy.

2. State the working principle of photovoltaic cell.

3. Define solar constant.

4. Classify the fuel cells.

5. List out the applications of biogas.

6. State the chemical composition and properties of biogas.

7. State the advantages of tidal energy.

8. Define nuclear fission and chain reaction.

9. List out various types of coal handling equipment.

10. Write down the functions of soot blower.

PART—B

10×5=50

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

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

11. Draw a neat sketch of natural circulation solar water heater and explain its working.

12. What are the factors to be considered for site selection for wind mill?

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

14. *(a)* Write short notes on photovoltaic cell with a neat sketch.

(b) List out different types of surface condensers and explain any one with a neat sketch.

15. Explain the working principle of fixed dome type biogas plant with a sketch.

16. Explain the components of tidal power plant.

17. Explain the working principle of nuclear reactor with a neat sketch.

18. *(a)* List out different types of dust collectors.

(b) Describe the working of cyclone type dust collector.

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