



C14-M-603

4753

BOARD DIPLOMA EXAMINATION, (C-14)

MARCH/APRIL—2018

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. Write any three differences between renewable and non-renewable energy sources.
2. State the principle of photovoltaic cell.
3. Write a short note on solar pond.
4. Write any three advantages of fuel cells.
5. What is a biogas? State any two applications of biogas. 1+2
6. State the working principle of tidal power generation.
7. Write any three types of nuclear power plants.
8. List out any three comparisons between nuclear and thermal power plants.
9. Explain the function of soot blower.
10. What is global warming?

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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 the help of a neat sketch. 5+5
- 12.** (a) Explain the working of a horizontal axis wind mill with a neat sketch. 3+3
(b) Write any four important considerations for selecting site for wind energy conversion system. 4
- 13.** Explain the working of following with simple sketches :
(a) Bacon fuel cell 5
(b) MHD generator 5
- 14.** Explain with a neat sketch, the construction and working of float-type biogas digester. 5+5
- 15.** Draw a layout of a tidal power plant and explain its working. 6+4
- 16.** List out different types of dust collectors. Describe the working of cyclone-type dust collector with a sketch. 2+4+4
- 17.** Write the basic components of nuclear reactor. Draw a neat sketch of PWR nuclear power plant and explain its working. 2+4+4
- 18.** What is thermal pollution? What are the effects of thermal pollution? How to control it? 2+4+4
