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**4759****BOARD DIPLOMA EXAMINATION, (C-14)****MARCH/APRIL-2019****DME - SIXTH SEMESTER EXAMINATION****ENERGY SOURCES & POWER PLANT ENGINEERING**

Time: 3 Hours ]

[Max.Marks: 80

**PART -A****10 x 3 = 30M**

**Instructions:** 1) Answer **all** questions. Each question carries **three** marks.  
2) Answers should be brief and straight to the point and shall not exceed five simple sentences.

- 1) Differentiate between Renewable energy and Non-Renewable energy.
- 2) Define a) Beam radiation b) Diffuse radiation c) Global radiation.
- 3) Define power coefficient and Tip speed ratio of a Wind mill.
- 4) List out the various types of fuels used in fuel cells.
- 5) What is biogas? And write any two applications of biogas.
- 6) Mention advantages and disadvantages of tidal energy.
- 7) What are the desirable properties of coolants used in nuclear power plant?
- 8) Write any three differences between jet condenser and surface condenser.
- 9) List out the basic elements of thermal power plant.
- 10) Write short notes of global warming.

**PART-B**

**5X10=50M**

- Instructions:* 1) Answer any **five** questions.  
2) Each question carries **ten** marks.  
3) Answers should be comprehensive and the criteria for valuation is the content but not the length of the answer.
- 11) Describe the working of solar absorption refrigeration system with neat sketch.
- 12) Explain the working of Vertical axis wind mill with neat sketch.
- 13) Describe the construction and working of Floating type Biogas Digester with neat sketch.
- 14) Explain various methods for the utilization of tidal energy.
- 15) Explain the construction details and working principle of Hydrogen fuel cell with a neat sketch.
- 16) Draw a layout of thermal power plant and explain the functions of major components.
- 17) Describe the operation of BWR power plant with neat sketch.
- 18) Write short notes on the following.
- a) Effects of nuclear radiation                      b) Effect of thermal pollution.

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