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BOARD DIPLOMA EXAMINATION, (C-16)

MARCH/APRIL—2021

DME - FIFTH 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. What do you mean by renewable source of energy and what is its necessity?

2. Write the working principle of photo voltaic cell.

3. Define solar energy. Explain solar radiation.

4. List out the advantages and disadvantages of wind energy.

5. What are the applications of fuel cells?

6. List out the different types of bio-gas plants.

7. State the factors to be considered for selection of site for tidal power plant.

8. What are the functions of condenser in a steam power plant?

9. State the advantages of pulverized coal.

10. How are nuclear reactors classified?

PART—B

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

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

(3) Answers should be comprehensive and criterion for valuation is the content but not the length of the answer.

11. Explain the working of focusing collector with a neat sketch. 10

12. Describe the following with neat sketches :

(a) Solar still

(b) Solar dryer. 5+5

13. Describe the constructions and working of a vertical axis wind mill with a neat sketch. 10

14. Explain the working of Bacon's high pressure fuel with a legible sketch. 10

15. Draw a neat sketch of a fixed dome digester and explain its working principle. 10

16. Explain single basin and double basin arrangements with a neat sketch. 10

17. With line sketches explain any two coal handling equipments. 10

18. Draw a neat sketch of BWR-power plant and explain its working. 10

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