



C09-M-606 C

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BOARD DIPLOMA EXAMINATION, (C-09)

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. List out various types of renewable energy sources.
2. What are the advantages and disadvantages of solar energy?
3. What are the differences between horizontal axis and vertical axis type windmills?
4. List out various types of fuels used in fuel cells.
5. What are the various applications of biogas?
6. Express biogas plant capacity.
7. What are the site requirements for installation of a tidal power plants?
8. What are the advantages and disadvantages of thermal power plants?

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9. What are the differences between nuclear and thermal power plants?
10. What are the main fuels used in nuclear reactors?

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.
(4) Use of steam table is permissible for the examination.

11. Explain solar water pumping system with a neat sketch.
12. Explain the method of generation of electrical power using windmill.
13. Explain the construction details and working principle of Bacon's high pressure fuel cell with a line diagram.
14. Explain the working of floating dome-type biogas plant with a neat sketch.
15. Explain different operation methods of utilization of tidal energy.
16. Explain the following methods of feed water treatments in thermal power plants : 5+5=10
(a) Desecration heating
(b) Zeolite treatment
17. Explain the working of a nuclear reactor with a neat sketch.
18. Write short notes on the following : 5+5=10
(a) Solar photovoltaic arrays
(b) Edward airpump
