



C16S-M-506(C)

5901

BOARD DIPLOMA EXAMINATION, (C-16S)

NOVEMBER - 2019

DME - V SEMESTER EXAMINATION

ENERGY SOURCES & 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) Answer should be brief and straight to the point.

- 1 Differentiate between renewable and non-renewable sources of energy.
- 2 What is solar collector ? List any three types of solar collectors.
- 3 Write any three important considerations for selecting site for wind energy conversion system.
- 4 State any three applications of fuel cells.
- 5 State the advantages and limitations of Bio-energy.
- 6 What is a Tide any how they are formed ?
- 7 Distinguish between surface condenser and jet condenser.

5901]

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[Contd...

- 8 State the advantages and limitations of steam power plant.
- 9 Draw a neat sketch of nuclear power reactor and name the parts.
- 10 Define thermal pollution. List out the sources of thermal pollution.

PART - B

10×5=50

Instructions :

- (1) Answer any **FIVE** questions.
- (2) Each question carries **TEN** marks.
- (3) Answer should be comprehensive and criterion for valuation is the content but not the length of the answer. <http://www.sbtetonline.com>

- 11 Explain the solar water pumping system with neat sketch.
- 12 Describe the construction and working of a horizontal axis wind mill with a neat sketch.
- 13 (a) Explain the working principle of aluminium air fuel cell. 5
(b) State the advantages and disadvantages of fuel cells. 5
- 14 Draw a neat sketch of a fixed dome digester and explain its working.
- 15 List out the components of the tidal power plant and write the advantages and disadvantages of tidal power plant.

16 Write short notes on the following : $2\frac{1}{2} + 2\frac{1}{2} + 2\frac{1}{2} + 2\frac{1}{2} = 10$

- (a) Nuclear fuels.
- (b) Control rod materials.
- (c) Cladding materials.
- (d) Shielding materials.

17 Draw a layout of steam power plant and explain the functions of major components.

- 18 (a) What is a pollutant ? How they are classified ? 5
- (b) Describe the adverse effects of pollutants on men, materials, animals and plants. 5

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