3 7 8 6

C09-M–606C

# 3786

## BOARD DIPLOMA EXAMINATION, (C-09)

## MARCH/APRIL—2021

## DME - SIXTH SEMESTER EXAMINATION

ENERGY SOURCES AND POWER PLANT ENGINEERING

*Time* : 3 hours ] [ *Total Marks* : 80

---

## PART—A

4×5=20

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

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

(3) Answers should be brief and straight to the point and shall not exceed five simple sentences.

**1.** List out different types of renewable energy sources.

**2.** State the use of photovoltaic cell.

**3.** State any three advantages of wind energy.

**4.** List any three types of fuels used in fuel cells.

**5.** What is meant by biogas?

**6.** Express biogas plant capacity.

**7.** Mention three advantages of tidal power plants.

**8.** List three advantages of thermal power plants.

**9.** List three types of ash handling equipment.

**10.** Classify nuclear reactors.

## PART—B

15×4=60

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

(2) Each question carries **fifteen** 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 solar water heater with a neat sketch.

**12.** Describe the working of vertical axis windmill with a neat sketch.

**13.** Explain the working principle of MHD generator with a neat sketch.

**14.** *(a)* Explain the advantages of solar energy conversion.

*(b)* List out different types of jet condensers.

**15.** Explain with neat sketch the single-basin arrangements used in the utilization of tidal energy.

**16.** Explain with a neat sketch the construction and working of a biogas digester.

**17.** Explain gas-cooled reactor with a neat sketch.

**18.** Explain the working of an electrostatic dust collector with the help of a diagram.

★ ★ ★