

22327

11819

3 Hours / 70 Marks

Seat No.

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- Instructions* – (1) All Questions are *Compulsory*.
(2) Answer each next main Question on a new page.
(3) Illustrate your answers with neat sketches wherever necessary.
(4) Figures to the right indicate full marks.
(5) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

Marks

1. **Attempt any FIVE of the following:** **10**
- Classify the hydro-electric plants according to the head and load basis.
 - List the types of turbine used in hydro power plant.
 - Describe the term 'Nuclear shielding' in Nuclear Power Plant.
 - Enlist the nuclear fuels.
 - Why concentrating collectors are used in solar power plant.
 - Explain the concept of following terms.
 - Connected load
 - Maximum demand
 - What is a meaning of load duration curve.

P.T.O.

- 2. Attempt any THREE of the following:** **12**
- a) Draw a block diagram of thermal power plant.
 - b) With a neat diagram explain solar power tower.
 - c) Give the four advantages of vertical axis wind mills.
 - d) Compare base load plant with peak load plant. (any four)
- 3. Attempt any THREE of the following:** **12**
- a) With a neat diagram explain pelton wheel turbine.
 - b) Draw and explain fixed dome type biogas plant.
 - c) Explain Squirrel Cage Induction Generator (SCIG) and also draw a diagram.
 - d) Explain the choice of size and number of generator units in a power plant.
- 4. Attempt any THREE of the following:** **12**
- a) Draw the schematic arrangement for a gas power plant.
 - b) With a neat diagram explain medium head hydro-electric power plants.
 - c) With a neat diagram explain solar photovoltaic power plant.
 - d) Draw a layout of a thermo-chemical based power plant.
 - e) Define the following term -
 - (i) Average demand
 - (ii) Load factor
 - (iii) Plant capacity factor
 - (iv) Plant use factor

- 5. Attempt any TWO of the following:** **12**
- a) With a neat diagram explain pumped storage hydro power plant.
 - b) Draw a diagram of power tower of concentrated solar power plant.
 - c) Give the causes and impact and reasons of grid system fault.
- 6. Attempt any TWO of the following:** **12**
- a) Explain the function of different parts of a typical nuclear power plant with neat sketch.
 - b) What are the criteria for selection of site for hydro electric power plant.
 - c) With a neat diagram explain doubly fed induction generator (DFIG).
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