

315374

25226

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) Assume suitable data, if necessary.
(6) Use of Non-programmable Electronic Pocket Calculator is permissible.
(7) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

Marks

1. Attempt any FIVE of the following : 10
- a) Name any four types of power plant.
 - b) State types of fuels used in conventional power plant.
 - c) State any four fuel handling system used in steam power plant.
 - d) State any four components of gas turbine power plant.
 - e) List different types of Nuclear fuel.
 - f) Name the regulating agencies for nuclear power plant.
 - g) Define Average load and Peak load.

P.T.O.

- 2. Attempt any THREE of the following : 12**
- a) State importance of power plant.
 - b) Explain fuel handling system in steam power plant.
 - c) Explain need of co-generation with suitable example.
 - d) What is perform Achieve and Trade (PAT) scheme under NMEEE.
- 3. Attempt any THREE of the following : 12**
- a) State advantage and disadvantages of steam power plant.
 - b) Explain with neat sketch closed cycle gas turbine power plant.
 - c) Explain with neat sketch operating principle of nuclear power plant.
 - d) Explain fixed cost and running cost of a power station.
- 4. Attempt any THREE of the following : 12**
- a) Discuss factors considered for site selection of steam power plant.
 - b) Draw schematic diagram of boiler feed water control system and state its importance in thermal power plant.
 - c) State applications of gas turbine power plant.
 - d) Compare between Boiler Water Reactor (BWR) and Pressurised Water Reactor (PWR).
 - e) Define plant capacity factor and plant use factor. Give their mathematical expression.

5. Attempt any TWO of the following : 12

- a) Explain world and national scenario of demand and supply of energy in India.
- b) Explain with a neat sketch working principle of Fluidized Bed Combustion (FBC) boiler. Also state types of FBC boiler.
- c) Compare between gas turbine, steam turbine and hydroelectric power plant.

6. Attempt any TWO of the following : 12

- a) Explain with neat sketch general arrangements of nuclear power plant.
 - b) A generating station has a maximum demand of 30MW, a load factor of 0.6 and plant capacity factor 0.48.
Find :-
 - i) Daily energy produced
 - ii) Reserve Capacity of plant
 - iii) Plant Use Factor
 - c) Describe with neat sketch electrostatic precipitators.
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