

'I' Scheme

Sample Question Paper

Program Name : Electrical Engineering Program Group

Program Code : EE/EP/EU

Semester : Third

Course Title : Electric Power Generation

Max. Marks : 70

22327

Time: 3 Hrs.

Instructions:

- (1) All questions are compulsory.
- (2) Illustrate your answers with neat sketches wherever necessary.
- (3) Figures to the right indicate full marks.
- (4) Assume suitable data if necessary.
- (5) Preferably, write the answers in sequential order.

Q.1 Attempt any FIVE of the following.

10 Marks

- a) Name any two thermal power stations in Maharashtra with their installed capacity.
- b) List the turbines used in hydro power plant on the basis of water head.
- c) State any two disadvantages of hydro power plant.
- d) Define “firm power”.
- e) Elaborate the purpose of reflector in a nuclear power plant.
- f) Describe the term ‘Nuclear shielding’ in NPP.
- g) Classify different types of gas power plant

Q.2 Attempt any Three of the following.

12 Marks

- a) List any four applications of diesel power plant
- b) Describe any four safe practices to be followed with respect to hydro power plants.
- c) Classify different types of condensers used in thermal power plant and write their functions
- d) List any four causes of faults on grid system

Q.3) Attempt any Three of the following.

12 Marks

- a) Draw a block diagram of gas turbine power plant. Name each block
- b) State any four factors for selection of site for hydro power plant.
- c) Describe the purpose of coal and ash handling unit. Also write different activities that are carried out in this unit.
- d) Enumerate four properties of a fuel used in nuclear power plant

Q.4) Attempt any Three of the following.

12 Marks

- a) Describe the purpose of following components of a thermal power station:
i) Economiser ii) Air-preheater iii) Alternator iv) super-heater.
- b) Justify the location of a nuclear power station
- c) Describe the fuel system and exhaust system of a diesel power station.
- d) Compare base load plant with peak load plant on any four points.
- e) Describe the meaning of
i) Demand factor ii) Diversity factor iii) Plant capacity factor iv) Plant use factor.

Q.5) Attempt any Two of the following.

12 Marks

- a) Elaborate the function of different parts of a typical nuclear power plant with neat sketch.
- b) State the classification of hydro-turbine based on water head available. describe working of any one
- c) ‘Running and maintenance costs of thermal power station are more than hydro power stations’ Justify the statement

Q.6) Attempt any Two of the following.

12 Marks

- a) State the location and function of the following elements used in hydro plant.
(i) Fore bay (ii) Spillway (iii) Penstock (iv) Tail Race v) Dam vi) Surge tank
- b) Describe the procedure of disposal of nuclear waste in short.
- c) A generating station has the following daily load cycle:

Time Hours)	0-6	6-10	12-16	16-20	20-24
Load (MW)	30	50	60	70	50

Draw the load curve and find:

- i) Maximum demand ii) units generated per day.iii) average load iv) load factor.

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Sample Test Paper - I

Program Name : **Electrical Engineering Program Group**
Program Code : **EE/EP/EU**
Semester : **Third**
Course Title : **Electric Power Generation**
Max. Marks : **20**

22327

Time: 1 Hour

Instructions:

- (1) All questions are compulsory.
 - (2) Illustrate your answers with neat sketches wherever necessary.
 - (3) Figures to the right indicate full marks.
 - (4) Assume suitable data if necessary.
 - (5) Preferably, write the answers in sequential order.
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Q.1 Attempt any FOUR.

08 Marks

- a) List out any two thermal power stations in India with capacity
- b) State the function of cooling tower in thermal power plant.
- c) Elaborate the meaning of calorific value. Write calorific value of Bituminous coal
- d) Elaborate the function of penstock in Hydroelectric Plant.
- e) Classify hydro power plant on the basis of load and head available.
- f) Define the terms: i) Hydrology ii) Surface Runoff

Q.2 Attempt any THREE.

12 Marks

- a) Overall efficiency of thermal power station is low. Give reasons
- b) Draw a neat layout of thermal power station and label it.
- c) State any two advantages and any two disadvantages of Hydro-electric power station.
- d) Describe the energy conversion process in hydro electric plant.

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Sample Test Paper - II

Program Name : **Electrical Engineering Program Group**
Program Code : **EE/EP/EU**
Semester : **Third**
Course Title : **Electric Power Generation**
Max. Marks : **20**

22327

Time: 1 Hour

Instructions:

- (1) All questions are compulsory.
- (2) Illustrate your answers with neat sketches wherever necessary.
- (3) Figures to the right indicate full marks.
- (4) Assume suitable data if necessary.
- (5) Preferably, write the answers in sequential order.

Q.1 Attempt any FOUR.

08 Marks

- a) List out any two nuclear power stations in India with capacity
- b) State any two advantages and disadvantages of diesel power plants.
- c) Distinguish between different type of gas power plant
- d) Define the term chain reaction as referred to nuclear power station.
- e) State the term "Black Out"
- f) Define cold reserves and hot reserves of a power system.

Q.2 Attempt any THREE.

12 Marks

- a) Describe the process of controlling the nuclear reactor
- b) Elaborate why gas/diesel power plant is preferred as peak load plant
- c) A generating station has the following daily load cycle

Time (hours) :	0-6	6-10	10-12	12-16	16-20	20-24
Load (MW) :	60	70	80	70	50	40

Draw the load curve and find :i) Maximum demand) Units generated per day iii)
Average load and iv) Load factor.

- d) Describe the importance of Load curve