



C16-EE-402

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BOARD DIPLOMA EXAMINATION, (C-16)
MARCH/APRIL—2018
DEEE—FOURTH SEMESTER EXAMINATION

POWER SYSTEMS—I
(GENERATION AND PROTECTION)

Time : 3 hours]

[*Total Marks* : 80

PART—A

3×10=30

- Instructions** : (1) Answer **all** questions.
(2) Each question carries **three** marks.
(3) Answers should be brief and straight to the point and shall not exceed *five* simple sentences.

1. Classify energy sources with examples.
2. List out any six benefits of energy conservation.
3. State any three advantages and three disadvantages of thermal power plant. 1½+1½
4. What is the function of surge tank in hydroelectric power plants?
5. Define nuclear fission and list various nuclear fuels used in nuclear power stations. 1½+1½
6. Write any three factors to be considered for selection of site for wind mill.
7. What is meant by integrated operation? List any three merits of integrated power station. 1½+1½
8. List any six properties of SF₆ gas.
9. State the different types of faults in an alternator.
10. Classify the relays based on time of operation.

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PART—B

10×5=50

- Instructions** : (1) Answer *any five* questions.
(2) Each question carries **ten** marks.
(3) Answers should be comprehensive and the criterion for valuation is the content but not the length of the answer.

- 11.** Draw a neat sketch of a thermal power plant and explain the function of each part.
- 12.** (a) Write any two advantages and two disadvantages of hydroelectric power plants. 2
(b) Explain the working of high head hydroelectric power plant with a neat sketch. 8
- 13.** (a) List the various types of reactors used in nuclear power plant. 2
(b) Draw a neat sketch of nuclear reactor and briefly explain the function of each component. 8
- 14.** Explain the working of roof top solar power generation with block diagram.
- 15.** (a) What are the objectives of tariff? 3
(b) Classify the various types of tariffs and explain any two tariffs. 7
- 16.** Explain the principle and working of A·B·C·B with a neat sketch.
- 17.** (a) State the different types of faults in a transformer. 2
(b) Explain the working of Buchholz relaying system for protection of transformer. 8
- 18.** (a) Discuss the effect of load factor and diversity on the cost of electrical energy generated. 5
(b) Explain the working of the valve-type lightning arrester with a neat sketch. 5
