

April 2024

Time – Three hours  
(Maximum Marks: 100)

- [N.B. 1. Answer all questions under Part-A. Each question carries 3 marks.  
2. Answer all the questions either (A) or (B) in Part-B. Each question carries 14 marks.]

**PART – A**

1. Write about choice of site for locating a hydro power plant.
2. Name the supplementary fuels used in co-generation plants.
3. State the advantages of high transmission voltage.
4. What is Span? State the factors affecting it.
5. State the advantages of Glass insulators.
6. List the disadvantages of UG cables.
7. Define short time rating.
8. Classify fuses.
9. State the fundamental requirements of protective relaying.
10. What is system grounding?

[Turn over.....

PART – B

11. (a) Draw the schematic of a Hydro power plant and explain.

(Or)

(b) Explain any one type of renewable energy systems.

12. (a) Draw and explain typical AC power supply scheme.

(Or)

(b) Draw and explain any two D.C. link configurations.

13. (a) Draw and explain UPFC FACTS Controller with a block diagram.

(Or)

(b) Derive an expression for voltages across a string of three suspension insulators. Also define string efficiency.

14. (a) Explain the principle of working of Circuit Breaker with a neat sketch.

(Or)

(b) Explain the harmful effects of lightning. List the types of lightning arrestors.

15. (a) Classify relays based on timing characteristics and explain.

(Or)

(b) Explain the methods of neutral grounding.

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