

**October 2016**

Time - Three hours  
(Maximum Marks: 75)

*[N.B: (1) Answer any fifteen questions in PART - A and division (A) or division (B) of each question in PART - B.*

*(2) Each question carries 1 (one) mark in PART - A and 12 (twelve) marks in PART - B.]*

PART - A

1. Mentions any three conventional methods of power generation.
2. What is the function of regenerator in gas power plant?
3. Define load curve.
4. Mention the common fuel used in fuel cells.
5. Which system connects distribution S.S and consumers?
6. Why transmission voltage is kept high?
7. What is the reason for using ACSR as line conductor?
8. Why less loaded receiving end voltage is greater than sending end voltage?
9. Mention any two materials used in insulators.
10. What do you understand by the term string?
11. Mention the main purpose of using UG cables.
12. Draw the cross sectional view of SL type cable.
13. Define the term switch gear.
14. Define arc voltage.
15. Expand ABCB.
16. What are the drawbacks in using rewirable fuses?
17. What is the function of protective relay?
18. Mention the types of relay based on operating time.
19. Draw the schematic diagram of smart mho relay.
20. Draw the resistance grounding system arrangement.

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PART - B

21. (A) Draw the schematic layout of nuclear power station and give a brief account on it.

(Or)

- (B) Write notes on: (i) Biomass energy source (ii) Load factor.

22. (A) Justify the necessity of high transmission voltage.

(Or)

- (B) A three phase 50Hz, 10km long overhead line supplies 1000kW at 11kV, 0.8 pf lagging. The line resistance is 0.03 ohm per phase per km and line inductance is 0.6mH per phase per km. Calculate (i) sending end voltage (ii) voltage regulation (iii) efficiency of transmission line.

23. (A) Derive the voltage across each disc in a 3 disc string of suspension type insulator.

(Or)

- (B) Give brief account on: (i) Screened cables (ii) Capacitance grading of cable.

24. (A) Explain the following terms related to CB.  
(i) Capacitive current interruption (ii) Auto reclosing.

(Or)

- (B) Explain the various types of fuses used in HV applications.

25. (A) With neat sketch, explain the operation of non directional induction type over current relay.

(Or)

- (B) Write notes on: (i) Smart reactance relay (ii) Earthing transformer.

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