

C14-EE-503

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BOARD DIPLOMA EXAMINATION, (C-14)  
MARCH/APRIL—2021  
DEEE - FIFTH SEMESTER EXAMINATION  
POWER SYSTEMS - II

Time : 3 hours ]

[ Total Marks : 80

**PART—A**

4×5=20

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

1. State the advantages of DC and AC transmission systems.
2. Define regulation.
3. State the ferranti effect.
4. List any four advantages of HVDC transmission.
5. State the requirement of line supports.
6. Give the requirements of a good insulator.
7. Compare overhead lines with underground cables.
8. List the equipments used in substation.
9. Classify the types of distribution system.
10. Define feeder and distributor.

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## PART—B

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

- 11.** Derive an expression for inductance of 1-phase transmission line. 15
- 12.** Explain corona effect in transmission lines and the methods of reducing corona. 7+8=15
- 13.** (a) Explain the concept and applications of Hotline technique. 7  
(b) State the advantages and disadvantages of radial distribution system. 8
- 14.** Describe the need of arcing horns and guard rings. 15
- 15.** Describe the methods of fixing of different types of guys. 15
- 16.** Derive an equation for the insulation resistance of a cable. 15
- 17.** State the relative merits of indoor substation and outdoor substation. 15
- 18.** List the steps involved in the voltage drop calculations in AC distributors. 15

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