

**B.Tech. – VIEP – ELECTRICAL ENGINEERING  
(BTELVI)**

**Term-End Examination**

00193

**June, 2018**

**BIEE-003 : POWER SYSTEM – I**

*Time : 3 hours*

*Maximum Marks : 70*

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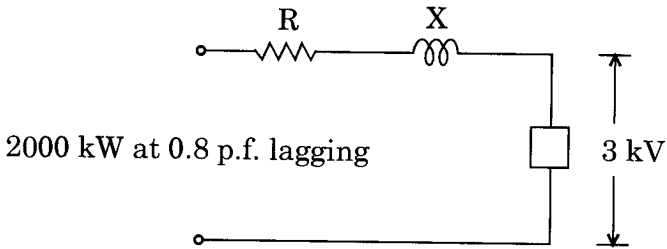
**Note :** Attempt any **seven** questions. All questions carry equal marks. Use of scientific calculator is allowed.

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1. What do you understand by “Corona Loss” ? Define Corona Current. What are the advantages and disadvantages of corona in EHVAC and DC transmission ? 10
  
2. State and explain “Radio Interference Phenomenon”. What are the advantages and disadvantages of this phenomenon ? 10
  
3. Find the ABCD parameters of the following : 10
  - (a) Medium transmission line
  - (b) Long transmission line
  
4. State and explain the “Ferranti Effect”. What are the limitations and significances of this effect ? Explain in brief. 10

5. Input to a single-phase short line shown in Figure 1 is 2000 kW at 0.8 lagging power factor. The line has a series impedance of  $(0.4 + j0.4)$  ohms. If the load voltage is 3 kV, find the load and receiving end power factor. Also find the supply voltage. 10



*Figure 1*

6. State and explain “Kelvin’s Law”. What are the limitations and significances of this law ? 10
7. Write short notes on the following : 10
- (a) Types of Cables
  - (b) Types of Towers
8. What is the importance of “Vibration Dampers” ? Also mention their limitations. 10
9. Explain the “Surge impedance loading of transmission lines”. What are the significances of this loading in transmission lines ? Explain. 10