

**DIPLOMA IN ELECTRICAL ENGINEERING  
(DELVI)**

00156 **Term-End Examination**

**June, 2015**

**BIEE-034 : ELECTRICAL POWER TRANSMISSION  
AND DISTRIBUTION**

*Time : 2 hours*

*Maximum Marks : 70*

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**Note : Attempt any five questions. Question no. 1 is compulsory.**

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1. Attempt the following objective type questions :  $7 \times 2 = 14$

- (a) The voltage drop is the main consideration while designing a
- (i) Feeder
  - (ii) Distributor
  - (iii) Service mains
  - (iv) None of the above
- (b) The most reliable distribution system is
- (i) Interconnected System
  - (ii) Radial System
  - (iii) Ring Main System
  - (iv) All of the above

- (c) The major part of investment on secondary distribution is made on
- (i) Conductors
  - (ii) Poles
  - (iii) Transformers
  - (iv) None of the above
- (d) Which of the following equipment is *not* installed in a sub-station ?
- (i) Exciters
  - (ii) Shunt Reactors
  - (iii) Voltage Transformer
  - (iv) Series Capacitor
- (e) The charging reactance of 50 km length of the line is  $1,500 \Omega$ . The charging reactance for 100 km length of the line will be
- (i)  $1500 \Omega$
  - (ii)  $3000 \Omega$
  - (iii)  $750 \Omega$
  - (iv)  $600 \Omega$
- (f) The voltage at the two ends of the transmission line is 132 kV and its reactance is  $40 \Omega$ . The capacity of the line is
- (i) 435.6 MW
  - (ii) 217.8 MW
  - (iii) 251.5 MW
  - (iv) 500 MW

- (g) The efficiency of the transformer is mainly dependent on
- (i) core losses
  - (ii) copper losses
  - (iii) stray losses
  - (iv) dielectric losses
2. (a) Why are the different levels of voltages used for generation, transmission and distribution of power ? 7
- (b) What are the essential differences between H.V. and L.V. switchgears ? 7
3. (a) Explain the effect of ice and wind loading on transmission line. 7
- (b) What are the factors affecting the corona losses ? 7
4. (a) What are the various methods to improve the power factor ? 7
- (b) Explain the application of various types of tariffs. 7
5. (a) Compare HVAC and HVDC transmission. 7
- (b) Draw the layout of 33/11 kV distribution sub-station. 7

6. (a) What are the common types of faults in transmission lines? 7
- (b) What are the tests to be conducted for determining the faults in underground cables? 7
7. Write short notes on any **four** of the following:  $4 \times 3 \frac{1}{2} = 14$
- (a) Voltage Regulation
  - (b) Indian Electricity Rules
  - (c) Rural Community improvement from electricity
  - (d) Recent Trends in Power System
  - (e) Underground vs Overhead lines
  - (f) Energy Conservation
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