(Pages : 2)

B.TECH. DEGREE EXAMINATION, MAY 2016

Sixth Semester

Branch : Electrical and Electronics Engineering

ELECTRICAL POWER TRANSMISSION (E)

(Old Scheme—Prior to 2010 Admissions)

[Supplementary/Mercy Chance]

Time : Three Hours

Maximum : 100 Marks

Part A

Answer all questions.
Each question carries 4 marks.

1. Define resistance of a transmission line.

2. What is proximity effect ?

3. Define vibration and dampers.

4. Explain the mechanical characteristics of overhead lines.

5. List out the different methods for voltage control.

6. Explain power circle diagram.

7. What is local corona ?

8. Explain neutral grounding.

9. Define Graetz circuit.

10. What are the requirements of EHV lines.

(10 × 4 = 40 marks)

Part B

Answer all questions.
Each full question carries 12 marks.

11. Derive the expression for the capacitance of a three phase overhead transmission line :

    (i) Symmetrical spacing ;

    (ii) Unsymmetrical spacing.

Or

12. Discuss about bundled conductors.

13. Elaborate the various methods to improve the string efficiency.

Or

Turn over

14. With a neat sketch explain the construction of pin type insulator ?

15. Write a short note on :

    (a) Phase modifier ;

    (b) Booster transformer.

Or

16. A three phase 5 km long transmission line, having resistance of 0.5 Ω / km and inductance of 1.76 mH/km is delivering power at 0.8 pf lagging. The receiving end voltage is 32 kV. If the supply end voltage is 33 kV, 50 Hz, find line current, regulation and efficiency of the transmission line.

17. Discuss the advantages and disadvantages of corona.

Or

18. Write short notes on :

    (a) Neutral Grounding ;

    (b) Resistance earthing.

19. Explain why EHV transmission is preferred. What are the problems involved in EHV AC transmission ?

Or

20. Explain the principle of HVDC. Mention its advantages and disadvantages.

(5 × 12 = 60 marks)