

Reg. No. :

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Question Paper Code: U4304

B.E. / B.Tech. DEGREE EXAMINATION, APRIL 2024

Fourth Semester

Electrical and Electronics Engineering

21UEE404 ELECTRIC POWER TRANSMISSION & DISTRIBUTION

(Regulations 2021)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 2 = 20 Marks)

1. Why High voltage is preferred for Power Transmission? CO1- U
2. Define Feeder and Distributors. CO1- U
3. Differentiate between bundled conductors and stranded conductors. CO1- U
4. State the expression of inductance of a three phase line with symmetrical and unsymmetrical spacing CO1- U
5. State Ferranti effect. CO1- U
6. How is over head transmission lines classified? CO1- U
7. State the methods for improving string efficiency. CO1- U
8. Brief out the causes of failure of insulators. CO1- U
9. List out the major equipment of a substation. CO1- U
10. List out the primary materials utilized in Bus bars. CO1- U

PART – B (5 x 16= 80 Marks)

11. (a) Explain in detail about the structure of electrical power system. CO1 - U (16)
Or
(b) (i) Write short notes on distributed and concentrated loads? (8) CO1 - U (16)
(ii) What are distributors? Explain its types in detail (8)
12. (a) Derive an expression for Inductance of single phase Overhead line transmission line CO2 - App (16)

Or

- (b) Derive the expression for the inductance of a three-phase double circuit line under two scenarios: CO2 - App (16)
(1) with symmetrical spacing between conductors and
(2) with unsymmetrical spacing between conductors
13. (a) State the methods used to determine the parameters of Medium Transmission line. Explain any two methods with expression and phasor diagram CO3- App (16)
- Or
- (b) Draw the nominal T circuit of a medium length transmission line and derive expression for sending end voltage and current. Also draw the respective phasor diagram CO3- App (16)
14. (a) Analyze the various testing methods for Insulator. CO4- Ana (16)
- Or
- (b) Analyze the different method to improve String efficiency of suspension type Insulators. CO4- Ana (16)
15. (a) Explain the following: CO6- Ana (16)
(i) Neutral grounding (8)
(ii) Resistance grounding. (8)
- Or
- (b) Explain the following: CO6- Ana (16)
(i) Solid grounding (8)
(ii) Reactance grounding. (8)