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Question Paper Code: U4304

B.E. / B.Tech. DEGREE EXAMINATION, NOV 2023

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. Write short note on interconnected system. CO1- U
2. State the advantages of FACTS controllers. CO1 -U
3. List the factors affecting the corona. CO2 -U
4. State the factors depend upon the skin effect? CO2 -U
5. Define Transmission Efficiency. CO2 -U
6. Show the nominal T and π model of Medium Transmission line with its parameter filled CO2 -U
7. Mention the test performed on the insulators CO1- U
8. State two different methods of grading of cables. CO1 -U
9. Define Sag CO1- U
10. Write short note on interconnected system. CO1- U

PART – B (5 x 16= 80 Marks)

11. (a) Write short notes on distributed and concentrated loads? What are distributors? Explain its types in detail CO1 - U (16)
Or
(b) Explain with neat diagram about STATCOM and UPFC CO1- U (16)
12. (a) Derive the inductance of three phase double circuit line by CO3 - App (16)
(i) Symmetrical spacing
(ii) Unsymmetrical spacing

Or

- (b) (i) Derive the expression for capacitance of a single-phase overheadline CO3-App (16)
(ii) Find out the capacitance of single-phase line of 30km long consisting of two parallel wires each 15mm diameter and 1.5m apart
13. (a) Using rigorous method, derive expression for sending end voltage and current for a long transmission line CO3- Ana (16)
Or
(b) Derive the expression power flow through transmission line and explain various steps involved in sending end power circle diagram with neat sketch CO3-Ana (16)
14. (a) (i) Explain the constructional features of one LT and HT cable. CO1 U (8)
(ii) Compare overhead lines and underground cables. CO1 U (8)
Or
(b) What are the various types of insulators? Draw and explain about suspension type and pin type insulators. CO1-U (16)
15. (a) Explain the following: Neutral grounding Resistance grounding CO1-U (16)
Or
(b) Write short notes on GIS. CO1-U (16)