Reg. No. : | | | | | | | | | | | | |

Question Paper Code: U4304

B.E. / B.Tech. DEGREE EXAMINATION, NOV 2025

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 (i) Symmetrical spacing (ii) Unsymmetrical spacing	CO3 - App	(16)

Or

	(b)	(i) Derive the expression for capacitance of a single-phase overheadline (ii) Find out the capacitance of single-phase line of 30km long consisting of two parallel wires each 15mm diameter and 1.5m apart	CO3-App	(16)
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)