PRN:		Course Code :	ELE2705

Final Year **B. Tech** End Semester Examination Summer 2024

HVDC Transmission

Day and Date: 31 MAY 2024, Friday Max Marks: **50**

Time : 10:30AM To 12:30PM Duration: **02** hrs

Instructions: All questions are compulsory.

			Marks	Bloom's Level	CO
Q.1	**Attempt any two from the following**				
	a)	What are the types of DC links? Explain them with neat sketch.	06	2	1
	b)	Give the comparison between HVDC and EHVAC transmission systems.	06	2	1
	c)	Discuss the hierarchical levels in transmission and distribution and standard rated voltage of HVDC and EHVAC.	06	2	1
Q.2	**Attempt any two from the following**				
	a)	Explain the control characteristics of HVDC.	06	2	2
	b)	Analyze the line commutated converter operation in HVDC operation.	06	4	2
	c)	Discuss the desired features of HVDC control.	06	3	2
Q.3	**Attempt the following**				
	a)	State and explain the types of converter faults.	06	2	3
	b)	Explain protection against over current in HVDC convertor station.	07	3	3
		or			
	b)	What are the causes of overvoltage? Draw and explain overvoltage protection in HVDC converter station.	07	3	3
Q.4	**Attempt the following**				
	a)	State causes for generation of harmonics. Also explain problems of harmonics in detail.	06	3	4
	b)	Write a short note on characteristic harmonics and non-characteristic harmonics.	07	4	4
		or			
	b)	State the types of filters. Derive the formula for resonance frequency and quality factor (Q-factor).	07	4	4

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