

THE KAVERY ENGINEERING COLLEGE*(An Autonomous Institution)***UG/PG DEGREE END SEMESTER THEORY EXAMINATIONS, APRIL-MAY 2026*****Second Semester******Power System Engineering*****PPST2423 - POWER SYSTEM TRANSIENTS*****Regulations – 2024******Duration: 3 Hrs.******Maximum: 100 Marks******PART – A (ANSWER ALL QUESTIONS) (Marks 10*2=20)***

Q.No	Questions	BLT	CO	Marks
1.	What is back flashover?	L1	1	2
2.	Mention the various insulation levels in a substation.	L2	1	2
3.	List out the causes of Switching over voltages?	L1	2	2
4.	Outline the concept temporary over voltages?	L2	2	2
5.	Write the voltage and current wave equation.	L2	3	2
6.	What are the effect of shunt capacitance at the terminal of a shunt capacitance?	L1	3	2
7.	Define insulation co-ordination?	L1	4	2
8.	List out the characteristics of protective devices?	L1	4	2
9.	What are the features of EMTP?	L1	5	2
10.	What is the need for line parameter evaluation program?	L1	5	2

PART – B (ANSWER ALL QUESTIONS) (Marks 5*16 = 80)

Q.No	Questions	BL T	CO	Marks
11.	a i Explain the lightning mechanism in power system.	L2	1	8
	ii With neat diagram construct the protection offered by ground wires.	L2	1	8
	Or			
	b i Explain the concept of tower footing resistance.	L2	1	8
	ii Sketch the characteristics of direct lightning stroke.	L2	1	8
12.	a Develop the methods to control the over voltages caused by switching.	L4	2	16
	Or			
	b Analyze the function about very fast transient over-Voltages (VFTO).	L4	2	16

13.	a	Derive the expression for reflection coefficient and refraction co-efficient?	L4	3	16
Or					
	b	Explore steps involved in Beweley's lattice diagram construction?	L4	3	16
14.	a	i Organize the volt-time curve construction and explain.	L2	4	8
		ii Explain about Basic insulation level (BIL).	L2	4	8
Or					
	b	i Write short notes on-Arresters.	L2	4	8
		ii Explain in detail about insulation co-ordination in AIS and GIS.	L2	4	8
15.	a	Explain the formulation and method of solution for the Electromagnetic transient program.	L3	5	16
Or					
	b	Explain the model of a lossless two-line station and gas insulated substations.	L3	5	16
