Register No : _____

THE KAVERY ENGINEERING COLLEGE

(An Autonomous Institution)

UG/PG DEGREE END SEMESTER THEORY EXAMINATIONS, APRIL-MAY 2026

Sixth Semester

Electrical and Electronics Engineering

EE3601 – PROTECTION AND SWITCHGEAR

Regulations - 2021

Duration : 3 Hrs ***Maximum : 100 Marks***

PART – A (ANSWER ALL QUESTIONS) (Marks 10*2=20)

Q.No	*Questions*	*BLT*	*CO*	*Marks*
1.	Identify the sources of fault.	L2	1	2
2.	Compare short circuit and an overload.	L2	1	2
3.	Infer which type of relay is best suited for long distance very high voltage transmission lines.	L2	2	2
4.	Classify the types of electromagnetic relays.	L2	2	2
5.	Mention the protection methods used for transmission line.	L2	3	2
6.	List out the main safety devices available with transformer.	L1	3	2
7.	Recall the uses of numerical relay.	L1	4	2
8.	Sketch the static inverse time-current characteristics.	L2	4	2
9.	Compare re-striking voltage and recovery voltage.	L2	5	2
10.	What protective functions are performed by Peterson coil?	L2	5	2

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

Q.No			*Questions*	*BLT*	*CO*	*Marks*
11.	a	i	Explain the overlapping of protective zones with neat sketch.	L3	1	8
		ii	Discuss different types of earthing with relevant sketches.	L2	1	8
			Or			
	b	i	Explain the essential qualities of protection.	L3	1	8
		ii	Describe the different faults in power system. Which of these are more frequents.	L2	1	8
12.	a		Describe the construction and principle of operation of non- directional induction-disc relay.	L3	2	16
			Or			
	b		Explain with suitable diagram the principle of working of transley relay.	L3	2	16
13.	a		A star connected 3-phase,20MVA,11KV Alternator has a per phase reactance of 0.75 ohms/phase. It is protected by Merz price circulating current principle which is to operate for fault currents not less than 175A. Formulate the value of earthing resistance to be provided in order to ensure only 10% of the alternator winding remains unprotected.	L3	3	16
			Or			
	b		A 3-phase transformer having line voltage ratio of 0.4 KV /11 KV is connected in star delta and protective transformer on 400 V Side have a current ratio of 500/5. What must be the ratio of the protective transformer on the	L3	3	16

11KV side?

14.	a	Explain with neat block diagram of the function of Mho Relay using Static Phase Comparator.	L2	4	16
		Or			
	b	Illustrate with neat block diagram of the function of Impedance Relay using Amplitude Comparator.	L2	4	16
15.	a	Demonstrate the constructional details of SF6 circuit breaker and its operation. Give its advantages and disadvantages.	L3	5	16
		Or			
	b	Elucidate the construction, working principle, operation and application of Vaccum circuit breakers.	L3	5	16