

THE KAVERY ENGINEERING COLLEGE*(An Autonomous Institution)***UG/PG DEGREE END SEMESTER THEORY EXAMINATIONS, APRIL-MAY 2026****Second Semester****M.E Power System Engineering****PPST2421 – ADVANCED POWER SYSTEM PROTECTION****Regulations - 2024****Duration : 3 Hrs****Maximum : 100 Marks****PART – A (ANSWER ALL QUESTIONS) (Marks 10*2=20)**

Q.No	Questions	BLT	CO	Marks
1.	Outline the concept of aliasing.	L2	1	2
2.	Compare analog and digital domain representation of signals.	L1	1	2
3.	Mention the effects of harmonics on the performance of amplitude comparator.	L1	2	2
4.	What is travelling wave fault location?	L2	2	2
5.	Why is over fluxing is harmful for transformers?	L1	3	2
6.	List the digital protection Schemes available for synchronous generator.	L2	3	2
7.	Differentiate IDMT and DMT relays.	L2	4	2
8.	How to create discrimination between two relays?	L1	4	2
9.	List out the different software used.	L2	5	2
10.	What are the challenges to design a PC based protective relaying scheme?	L2	5	2

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

Q.No	Questions	BLT	CO	Marks
11.	a With the help of neat block diagram explain the functions of various blocks involved in digital protection relay and list the merits of digital relays over conventional relays.	L3	1	16
	Or			
	b Describe the construction and operation of numerical over current relay using microprocessor.	L3	1	16
12.	a Discuss the hardware and software realization of digital relay for transmission line protection.	L3	2	16
	Or			
	b Discuss the digital protection used for EHV/UHV transmission line based upon traveling wave phenomenon	L3	4	16

13.	a	With neat block diagram explain the various Digital protection schemes of Synchronous Generator.	L4	3	16
Or					
	b	Discuss the various types of fault encountered in synchronous generator.	L4	3	16
14.	a	With neat block diagram explain the Man machine Interface subsystem used for relay protection schemes.	L3	4	16
Or					
	b	Discuss the process of distance relay coordination with relevant examples.	L3	4	16
15.	a	With neat diagram discuss the protection of high voltage long transmission lines from the travelling waves by using the ultra-high-speed protective relays.	L4	5	16
Or					
	b	Enumerate with neat diagram the PC based integrated software for SC studies with relevant examples.	L4	5	16
