Code: P18EET14

R18

HALL TICKET NUMBER

PACE INSTITUTE OF TECHNOLOGY & SCIENCES::ONGOLE
(AUTONOMOUS)
IV B.TECH I SEMESTER END REGULAR EXAMINATIONS, NOV-2022
SWITCHGEAR AND PROTECTION
(EEE Branch)

Time: 3 hours Max. Marks: 60

Note: Question Paper consists of Two parts (Part-A and Part-B)

PART-A

Answer **all** the questions in Part-A (**5X2=10M**)

Q.No.		Questions	Marks	CO	KL
1.	a)	What is restriking voltage?	[2M]	1	1
	b)	Explain about relay current setting?	[2M]	2	2
	c)	List out various faults occurs in Generators?	[2M]	3	1
	d)	Define PSM?	[2M]	4	1
	e)	List out advantages of Digital Relays?	[2M]	5	1

PART-B

Answer One Question from each UNIT (5X10=50M)

Q.No.		Questions	Marks	CO	KL
		UNIT-I			
2.	a)	Explain basic operating principle of Circuit breaker?	[5M]	1	4
	b)	Explain the operation of SF_6 circuit breaker with neat diagram?	[5M]	1	4
		OR			
3.	a)	Describe the concept of Current chopping phenomenon?	[5M]	1	4
	b)	Explain about Oil circuit breaker with neat diagram?	[5M]	1	4
		UNIT-II			
4.	a)	Derive the equation for torque developed in an induction relay?	[5M]	2	3
	b)	Explain the operation of percentage differential relays?	[5M]	2	4
		OR			
5.	a)	Discuss the fundamental requirements of protective relaying?	[5M]	2	6
	b)	Explain the working principle of distance relays?	[5M]	2	4
		UNIT-III			
6.	a)	Explain about earth fault protection schemes of transformers?	[5M]	3	2
	b)	Describe the construction and working of a Buchholz relay?	[5M]	3	4
		OR			
7.	a)	Describe with a neat diagram the balanced earth protection for small-size generators	[5M]	3	4
	b)	Explain with a neat diagram the application of Merz-Price circulating current principle for the protection of alternator.	[5M]	3	2
		UNIT-IV			
8.	a)	What are the requirements of protection of lines?	[5M]	4	1
	b)	Protection of bus bars by using Differential protection.	[5M]	4	6
		OR			
9.	a)	Explain about over current protection schemes of transmission lines?	[5M]	4	2
	b)	Describe the differential pilot wire method of protection of feeders?	[5M]	4	4

UNIT-V					
10.	a)	Explain about static distance relay with neat diagram?	[5M]	5	5
	b)	Explain about insulation coordination?	[5M]	5	5
OR					
11.	a)	Describe briefly about basic microprocessor based digital relays?	[5M]	5	4
	b)	Explain the operation of valve type lightning arrestor?	[5M]	5	5

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