



Sanjay Ghodawat University, Kolhapur

Established as State Private University under Govt. of Maharashtra. Act No XL, 2017

2018-19

EXM/P/09/01

Year and Program: 2018-19

School of Technology

Department of Electrical Engineering

FY M.Tech

Course Code: ELE507.2

Course Title: Advance
Protection of power system
End Semester Examination
(ESE)

Semester – I

Time: Max Marks: 100

10 to 1.00 pm

Day and Date

Monday - 24-12-2018

Instructions:

- 1) All questions are compulsory.
- 2) Assume suitable data wherever necessary.
- 3) Figures to the right indicate full marks.

Q.1	Solve the following	Marks	Bloom's Level	CO
	a) Describe electromagnetic induction type relays.	07	L ₂	CO1
	OR			
	a) Formulate with explanation plug setting multiplier and Time multiplier setting	07	L ₅	CO1
	b) Illustrate the stator protection schemes.	08	L ₄	CO1
	OR			
	b) Design stator inter turn fault protection for generator.	08	L ₅	CO1
Q.2	Solve the following			
	a) Determine restricted earth fault protection connections for transformer.	07	L ₆	CO2
	OR			
	a) Justify the use of harmonic restraint relay for transformer.	07	L ₆	CO2
	b) Describe circulating current scheme for busbar.	08	L ₂	CO2
	OR			
	b) Describe time graded protection for feeder.	08	L ₂	CO2
Q.3	Solve any Two			
	a) Describe CT and PT.	08	L ₂	CO1
	b) Determine causes of overvoltage.	08	L ₃	CO1
	c) Demonstrate with neat diagram CT interconnections for transformer protection.	08	L ₃	CO2

	d) Describe carrier aided protection scheme for transmission line protection.	08	L ₂	CO2
Q.4	Solve any Two			
a)	Compose basic construction of static relays.	09	L ₆	CO3
b)	Derive directional static over current relay.	09	L ₅	CO3
c)	Derive static differential relay.	09	L ₅	CO3
Q.5	Solve any Two			
a)	Illustrate differential protection for motors.	09	L ₄	CO4
b)	Illustrate thermal overloading protection of motors.	09	L ₄	CO4
c)	Illustrate Starting and Stalling currents and effect of negative Sequence current.	09	L ₄	CO4
Q.6	Solve any Three			
a)	Categorize comparators and associated elements of static relays.	06	L ₄	CO3
b)	Derive static time over current relay.	06	L ₅	CO3
c)	Describe microprocessor based digital relaying.	06	L ₂	CO4
d)	Analyze Starting and Stalling currents and effect of negative Sequence current.	06	L ₄	CO4
