Sanjay Ghodawat University, Kolhapur 2019-20

Established as State Private University under Govt. of Maharashtra. Act No XL, 2017 EXM/P/09/01

Year and Program:2019-20 **School of Technology** **Department of FY M.Tech**

Course Code: ELE507.2 **Course Title: Advance Protection of power system** **Semester – I**

Day and Date Friday 20/12/19 **End Semester Examination (ESE)** **Time:** 3hr 10.30am to 1.30

Max Marks: 100

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

		Marks	Bloom's Level	CO
Q.1	**Solve the following**			
a)	Analyze the performance of electromagnetic induction type relays.	07	L_4	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)	Summarize 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)	Differentiate 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)	Interpret 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)	Explain microprocessor based digital relaying.	06	L_2	CO4
	d)	Analyze Starting and Stalling currents and effect of negative Sequence current.	06	L_4	CO4

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ESE