Sanjay Ghodawat University, Kolhapur 2018-19

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

Year and Program: 2018-19 **School of Technology** **Department of S Y B. Tech**

Course Code: EET207 **Course Title: Measurements & Instrumentation** **Semester – III**

Day and Date: Wednesday 12/06/2019 **End Semester Examination (ESE)** **Time: 3Hrs. Max Marks: 100** 2.30 to 5.30 pm.

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 followings**			
a)	Explain D- Arsonaval galvanometer	07	L_1	CO1
	OR			
a)	Distinguish between the gravity control and spring control.	07	L_1	CO1
b)	Explain the Schering Bridge for capacitance measurement. Also draw phasor diagram.	08	L_2	CO2
	OR			
b)	In A Maxwell',s capacitance bridge, the values at balance: For arm 'ad' resistance R2 = 4,000 Ω ; for arm 'bc' resistance R3 = 6,000Ω ; for arm 'cd' resistance R4 = 10,000 Ω ; and capacitance C4 = 1mfd. Calculate the values of R1 and L1 of arm 'ab'. Also calculate the value of storage factor (Q) of coil, if frequency is 1000 Hz.	08	L_4	CO2
Q.2	**Solve the followings**			
a)	Demonstrate how calibration of single phase energy meter is carried.	07	L_3	CO3
	OR			
a)	Discuss how one wattmeter can be used to measure active power in 3 phase balanced load	07	L_2	CO3
b)	Discuss advantages of DSO over CRO	08	L_2	CO4
	OR			

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	b)	State types of transducer and explain resistive position type of transducer	08	L_2	CO4
Q.3		**Solve any Two**			
	a)	Discuss construction and working principle of attraction type Moving iron instruments.	08	L_1	CO1
	b)	Draw Wien's Bridge and explain the working.	08	L_1	CO2
	c)	Describe construction and working of electrodynamometer type wattmeter.	08	L_2	CO3
	d)	Develop equation of pressure applied for Mc-Leod gauge	08	L_4	CO4
Q.4		**Solve any Two**			
	a)	Express selection criteria of strain gauge	09	L_2	CO4
	b)	What is the use of LVDT? Discuss its basic principle of operation	09	L_3	CO4
	c)	Describe construction &working of foil strain gauge	09	L_2	CO4
Q.5		**Solve any Two**			
	a)	Distinguish between a C.T and P.T	09	L_2	CO4
	b)	State and explain various causes of errors in operation of CT. state how these errors can be reduced.	09	L_2	CO4
	c)	Compile the parts of a P.T	09	L_3	CO4
Q.6		**Solve any Three**			
	a)	Illustrate and explain resistive wire strain gauge.	06	L_3	CO3
	b)	State advantages, disadvantages & applications of strain gauges.	06	L_1	CO3
	c)	List out errors in PT and their causes	06	L_3	CO4
	d)	Write a short note on Power analyzer	06	L_2	CO4

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