GUJARAT TECHNOLOGICAL UNIVERSITY PDDC - SEMESTER-I • EXAMINATION – SUMMER 2013

Subject Code: X10901 Date: 07-06-2			
Time: 02.30 pm - 05.00 pm Total Marks: 7		1	
	1. 2. 3.	Attempt all questions. Make suitable assumptions wherever necessary. Figures to the right indicate full marks.	
Q.1	(a)	Explain the similarity & dissimilarity between magnetic circuit & electrical	07
	(b)	Explain the absolute permittivity & relative permittivity of the system & also explain the laws of electrostatics	07
Q.2	(a)	Define (a) M.M.F. (b) Relative Permeability (c) Self Inductance (d) Mutual	07
	(b)	Derive the expression for equivalent capacitance for a group of capacitor are connected in series & parallel	07
	(1)	OR	^ -
	(b)	equation .	07
Q.3	(a)	Compare statically induced emf and dynamically induced emf	07
	(b)	Explain Faraday's laws of electromagnetic induction.	07
0.3	(a)	Find the average value, RMS value, form factor and peak factor for full	07
-		wave rectified circuit.	. –
	(b)	Three voltages are represented by $V1=10$ sinwt, $V2=20$ sin{wt- $\pi/6$ }, V3=30sin{wt+ $\pi/4$ }.Find the magnitude and phase angle of the resultant voltage.	07
Q.4	(a)	Explain the phenomena of A.C. through pure inductor with circuit & vector diagram, also prove that active power consumption is zero.	07
	(b)	Explain B-H curve for magnetic circuit.	07
Q.4	(a)	Discuss resonance in R-L-C series circuit.	07
	(b)	Explain admittance method for a.c parallel circuit	07
Q.5	(a)	Derive an expression for total power for a balanced 3-phase star or delta connected load.	07
	(b)	Explain the phenomena for the generation of three phase power & also state it's advantages & dis advantages over single phase OR	07
Q.5	(a)	Explain measurement of 3-phase power by two wattmeter method	07
	(D)	Explain wiring diagram for tube light.	07
