

	a)	Explain potential gradient and electric field.	7
	b)	Explain in detail Ferro magnetic materials	7
Q-6		Attempt all questions	(14)
	a)	Derive Gauss Law in differential form	7
	b)	What is meant by magnetic hysteresis? Draw hysteresis loop of B-H curve for ferromagnetic materials and explain its each segment.	7
Q-7		Attempt all questions	(14)
	a)	Establish the relation: $\mu_r = 1 + \chi_m$	7
	b)	Write short notes on (i) self-inductance and (ii) mutual inductance.	7
Q-8		Attempt all questions	(14)
	a)	Deduce the expression for energy loss due to hysteresis.	7
	b)	Derive a general expression for capacity of a parallel plate condenser	7

