Seat No.: _____

Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY			
PDDC- SEMESTER-IV - EXAMINATION – SUMMER 2017			
Subject Code: X40904			Date:02/06/2017
Subject Name: Theory of Electromagnetics			
Time: 10:30 AM TO 01:00 PMTotal Mar			Total Marks: 70
Instructions:			
 Attempt all questions. Make suitable assumptions wherever necessary 			
3. Figures to the right indicate full marks.			
		8 8	
Q.1	(a)	What is coordinate system? Explain any one coordinate systems	. 06
	(b)	Explain following terms with suitable example:	U8
		1. Closs product 2. Dot product 5. Curl operator 4. Onit vect	.01.
Q.2	(a)	Describe Coulomb's law with necessary sketches and equations.	07
	(b)	Explain Gauss's law with suitable diagrams.	07
	(b)	Explain Divergence theorem.	07
0.2	(a)	State and explain Longlood's law with passage a constian	07
Q.3	(a) (h)	State and explain Poisson's law with suitable example	07
	(0)	OR	07
Q.3	(a)	State and explain Biot Savart's law with suitable example.	07
	(b)	State and explain Ampere's circuital with necessary equation.	07
Q.4	(a)	State and explain Faraday's law.	07
	(b)	State and explain Lorentz force equation.	07
0.4		OR	^
Q.4	(a) (b)	Write a short note on Magneto Hydrodynamic (MHD) generator	·. 07
	(U)	State and explain maxwell's equation for electrostatic.	07
Q.5	(a)	Explain FDM method with suitable example.	10
	(D)	Enlist advantages of Numerical techniques.	04
0.5	(a)	Explain FEM method with suitable example.	10
¥	(b)	Explain different applications of Numerical techniques.	04
