Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

B. E. - SEMESTER – VI • EXAMINATION – WINTER 2012

Subject code: 161003 **Date: 04/01/2013**

Subject Name: Antenna and Wave Propagation

Time: 02.30 pm - 05.00 pm **Total Marks: 70**

Instructions:

1. **Attempt any five questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

Q.1	**(a)**	Explain Antenna Field Zones.	**07**
	(b)	Explain the Principle of Pattern Multiplication.	**07**
Q.2	**(a)**	Explain Beam Area and Directivity.	**07**
	(b)	Explain Radiation Resistance of Loop Antenna	**07**
		OR	
	(b)	Explain Radio Communication Link with Transmitting Antenna and a Receiving Antenna.	**07**
Q.3	**(a)**	Explain Yagi-Uda Array-Function and its design.	**07**
	(b)	Write a short note on Embedded Antennas.	**07**
		OR	
Q.3	**(a)**	Write a short note on Microstrip Antennas.	**07**
	(b)	Explain Impedance of a Slot Antenna.	**07**
Q.4	**(a)**	Explain Log Periodic Antenna.	**07**
	(b)	Explain Experimental Setups for the Measurement of Gain of the Antenna.	**07**
		OR	
Q.4	**(a)**	Define: 1) Virtual Height 2) MUF 3) Fading.	**07**
Q.4	**(b)**	Give the Structure of Troposphere and Ionosphere.	**07**
Q.5	**(a)**	Explain Non-metallic Dielectric Lens Antenna.	**07**
	(b)	For two element array consisting identical radiators carrying equal currents in phase, obtain positions of maxima and minima of the radiation pattern if the distance of separation $d = \lambda$.	**07**
		OR	
Q.5	**(a)**	Explain different types of Reflector Antennas.	**07**
	(b)	Explain Broad-side array and End-Fire array.	**07**

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