	Enrollmo	ent No: Exam Seat No:			
		C.U.SHAH UNIVERSITY			
	Summer Examination-2017				
	Subject Name: Antennas & Wave Propagation				
	Subject (Code: 4TE06AWP1 Branch: B.Tech (EC)			
	Semester	c: 6 Date: 13/04/2017 Time: 02:30 To 05:30 Marks :70)		
	(2) I (3) I	ons: Use of Programmable calculator & any other electronic instrument is prohibited. Instructions written on main answer book are strictly to be obeyed. Draw neat diagrams and figures (if necessary) at right places. Assume suitable data if needed.			
Q-1	a) b) c) d) e) f) g) h) i) j) k) n)	Define the following terms: Antenna. Field pattern. Major lobe. Radiation Intensity. Back lobe. Directive gain. Front to back ratio. Antenna beam width. Polarization. Effective aperture. Beam solid angle. Antenna beam efficiency. Resolution of antenna. Radiation Resistance.	(14)		
Atte	mpt any f	Four questions from Q-2 to Q-8			
Q-2	(a) (b)	Attempt all questions Explain radiation from an oscillating dipole What is Directivity? Derive the expression for directivity.	(14)		
Q-3	(a) (b)	Attempt all questions Explain the hertzian dipole Explain briefly a short dipole and monopole.	(14)		
Q-4	(a) (b)	Attempt all questions Explain Reciprocity theorem What is power gain? Derive the relation between power gain and radiation Page 1 2	(14)		



efficiency.

Q-5		Attempt all questions	(14)
	(a)	Explain the broad side and end fire array	
	(b)	Derive the Friss transmission formula for radio communication link.	
Q-6		Attempt all questions	(14)
	(a)	Define Loop antenna. List applications of loop antenna. Explain application of loop antenna as direction finder.	
	(b)	Explain with suitable sketches perpendicular mode of radiation in helical antenna.	
Q-7		Attempt all questions	(14)
	(a)	What is basic concept of reflector antenna? With the help of neat sketch explain the principle of parabolic reflector.	
	(b)	Explain in detail the Yagi-Uda antenna.	
Q-8		Attempt all questions	(14)
	(a)	Explain in detail the slot antenna and complementary dipole antenna.	
	(b)	Describe the structure and the characteristics of Ionospheric layers	

