Enrollment No: _____ Exam Seat No:_____

C.U.SHAH UNIVERSITY

Winter Examination-2019

Subject Name : Antennas & Wave Propagation

Subject Code : 4TE06AWP1 **Branch: B.Tech (EC)**

Semester: 6 **Date: 09/09/2019** **Time: 10:30 To 01:30** **Marks: 70**

Instructions:

(1) Use of Programmable calculator & any other electronic instrument is prohibited.
(2) Instructions written on main answer book are strictly to be obeyed.
(3) Draw neat diagrams and figures (if necessary) at right places.
(4) Assume suitable data if needed.

Q-1 **Attempt the following questions:** **(14)**

a) What is linear polarization? What are its types?
b) Define Gain of an antenna.
c) What does Poynting Vector provide?
d) Define: Antenna Angular Resolution.
e) What is Sky wave propagation?
f) Define: Radiation Intensity
g) What does Fading term refer in Wireless Communication?
h) What is Antenna Diversity in terms of Smart Antenna?
i) Define Resonant and Non-resonant antennas
j) What is Maximum Usable Frequency (MUF)
k) Helix antenna can produce which polarization?
l) Define Front to Back Ratio.
m) Define Effective Aperture
n) Can static source produce electromagnetic fields from antenna?

Attempt any four questions from Q-2 to Q-8

Q-2 **Attempt all questions** **(14)**

(a) Describe Rectangular Horn Antennas. **07**

(b) Explain the any one type of antenna measurements. **07**

Q-3 **Attempt all questions** **(14)**

(a) Explain radiation from an oscillating dipole. **07**
(b) Distinguish between Hertzian Dipole and Folded Dipoles. **07**

Q-4 **Attempt all questions** **(14)**

(a) Describe Yagi-Uda Antenna. **07**
(b) Describe Helical Antenna geometry. **07**

Q-5		**Attempt all questions**	**(14)**
	(a)	Describe Reflector lens	**07**
	(b)	Draw block diagram of log-periodic antenna	**07**
Q-6		**Attempt all questions**	**(14)**
	(a)	Explain different feeding methods in Microstrip patch antenna	**07**
	(b)	Describe Rician Fading.	**07**
Q-7		**Attempt all questions**	**(14)**
	(a)	Describe Ground Wave Propagation	**07**
	(b)	Explain different layers of ionosphere.	**07**
Q-8		**Attempt all questions**	**(14)**
	(a)	Derive Friis Transmission Formula	**07**
	(b)	Describe Rayleigh Fading	**07**