

**SARDAR PATEL UNIVERSITY**  
**Programme: B.Sc (Electronics & Communication)**  
**Semester: V**  
**Syllabus with effect from: June -2013**

<b>Paper Code: US05CELC05</b>	<b>Total Credit: 3</b>
<b>Title Of Paper: Antenna &amp; Its Applications</b>	

Unit	Description in detail	Weighting (%)
I	<b>Radiation</b> Potential function and the electromagnetic field, alternating current element, power radiated by current element, application to short antennas, current distribution, radiation from monopole or dipole.	
II	<b>Antenna Basics</b> Basic antenna parameters, radiation intensity, directivity and gain, directional properties of dipole antenna, antenna aperture, effective area, effective height, antenna terminal impedance, transmission loss between antennas, antenna temperature & S/N ratio, space communication.	
III	<b>Antenna Array</b> Two dipole array, mathematics of linear array, antenna synthesis, general pattern of two isotropic radiators, broadside and end-fire array, binomial array, tchebyscheff distribution, super directive array, multiplication of patterns.	
IV	<b>Antenna Family</b> Introduction, Loops, dipoles, slot, coaxial, twin-line antenna, waveguide antennas, parabolic dish, end-fire antenna, log periodic, patch antenna, helical antennas, reflector antennas, horn antennas, lens antennas, microstrip antennas, broadband antennas, yagi-uda antenna.	

**Basic Text & Reference Books:-**

- Electromagnetic Waves and Radiating System – E.C.Jordan & K.G.Balmain
- Antennas – J.D.Krauss (McGraw Hill)
- Electronic Communication System – George Kennedy (McGraw Hill)

