UNIT-1: ANTENNA FUNDAMENTALS & DIPOLE ANTENNAS

2 MARKS QUESTIONS

1. Define Antenna and it's Radiation Pattern.
2. Define Radiation Intensity and Beam Efficiency of Antennas.
3. Define Directivity and Gain of Antenna.
4. Define Aperture and Effective Height of Antenna.
5. Define Antenna temperature, Radiation Resistance and Front to back Ratio.

10 MARKS QUESTIONS

1. How do you obtain the Beam area or Beam Solid angle of an Antenna from its Radiation Pattern.
2. List Antenna Theorems, State and prove the Theorem related to Effective Length.
3. Obtain the Field Terms of an Alternating Current Element or Oscillating Electric Dipole.
4. Obtain the Formulas for Radiation Resistance of Small Dipoles and Monopoles.
5. Obtain the Radiation Resistance of Half wave Dipole or Quarter wave Monopole Antennas.

UNIT-2: VHF, UHF AND MICROWAVE ANTENNAS-I

2 MARKS QUESTIONS

1. Compare the Far Field components of Loops and Electric Dipoles.
2. Write different Formulas for Radiation Resistance of Small loop antennas.
3. Calculate the Radiation Resistance of current element whose overall length is $\lambda/50$.
4. Write short notes on Folded Dipole and Parasitic Elements in Yagi-Uda Antenna.
5. Write short notes on different modes in Helical Antenna.

10 MARKS QUESTIONS

1. With a neat diagram Explain Structure and operation of Yagi-Uda Antenna.
2. Obtain the Voltage and Current Relations in Yagi-Uda Antenna.
3. With a neat diagram explain about the Geometry of Helical Antenna.
4. How will be the radiations in Axial and Normal modes of Helical Antenna.
5. Derive the equations required for the design of Horn Antennas.

UNIT-3: VHF, UHF AND MICROWAVE ANTENNAS-II

2 MARKS QUESTIONS

1. Write Four main advantages of Micro Strip Antennas.
2. Give Applications of Micro Strip Antennas.
3. What are the advantages of Cassegrain feed.
4. Compare Parabolic and Corner Reflector Antennas.
5. Write short notes on Zoning and Tolerances of Lens Antennas.

10 MARKS QUESTIONS

1. With a neat diagram Explain Structure and operation of Micro strip antennas.
2. What is the impact of different parameters on characteristics of Micro Strip Antennas.
3. With neat sketches explain the structure and operations of Reflector Antennas.
4. With neat sketches explain the structure and operation of Parabolic reflector Antennas.
5. Explain in detail about E-Plane and H-plane Metal plate Lens Antennas.

UNIT-4: ANTENNA ARRAYS AND MEASUREMENTS

2 MARKS QUESTIONS

1. **What is Antenna Array and Write the Principle of Multiplication of Patterns.**
2. **Write short notes on Binomial Arrays.**
3. **What is the Basic concept in Antenna measurements.**
4. **Whar are the several advantages of Far field measurement.**
5. **What are the different sources of errors in antenna measurements.**

10 MARKS QUESTIONS

1. **Obtain the radiation pattern of 8-isotropic elements fed in phase and spaced $\lambda/2$ apart using Principle of Multiplication of patterns.**
2. **With neat sketches explain about Broad Side, End Fire and increased End Fire Arrays.**
3. **Explain in detail about the Binomial Arrays.**
4. **What are the different methods used for Gain measurement and explain about them.**
5. **How the pattern and Directivity of antennas can be measured.**

UNIT-5: WAVE PROPAGATION

2 MARKS QUESTIONS

1. **Define Critical frequency and MUF.**
2. **Define LUF and UF.**
3. **Define Virtual Height and Skip distance.**
4. **Obtain the relation between MUF and Skip distance.**
5. **What are the different types of wave propagations that can exists.**

10 MARKS QUESTIONS

1. **Explain in detail about Ground wave propagation.**
2. **Explain in detail about Space wave propagation.**
3. **Explain in detail about Sky wave propagation.**
4. **Write short notes on Multiple HOP and Duct Propagations.**
5. **What are sunspots, Sudden Ionospheric Disturbances (SID) and Ionospheric Storms.**