

Q-2 Do as Directed. (08)

1. The intrinsic impedance of free space is symbolized by _____.
2. In the end-fire array, the radiation is along _____.
3. Directivity and resolution are _____.
4. The noise voltage for resistance R is given by _____.
5. Antenna are omni-directional devices.(True/False)
6. All the antenna measurement are accurate.(True/False)
7. The frequency range of operation of helical antenna is around 3KHz to 30KHz.(True/False)
8. A Helical antenna produces radiation which is circular polarized.(True/False)

Q-3 Answer in short.(Any ten) [20]

1. Explain induction field with the help of Biot-Savart law.
2. State Helmholtz theorem.
3. Define: Effective area and effective height of antenna.
4. Explain field pattern and power pattern in antenna.
5. Draw the diagram for Hertzian dipole.
6. Explain antenna aperture.
7. Explain slot impedance.
8. Explain dipole and monopole of antennas.
9. Why signal to noise ratio is required?
10. Give the expression for radiated power. Also find power radiated for $r=1$ cm, $I_{eff}=0.7$ amp. At 5GHz.
11. Explain reflector antenna.
12. Explain patch antenna.

Q-4 Answer the following questions.(Any Four) (32)

1. Obtain the near field due to sinusoidal current distribution.
2. Obtain the far field due to sinusoidal current distribution.
3. Explain effective area of antenna in detail.
4. Explain beam area of antenna with necessary equations.
5. Write a note on: Broadside array.
6. Write a note on: End –fire array.
7. With necessary diagram explain slot antennas in detail.
8. Draw and explain End –fire antenna in detail.

_____ X _____

[2]