B.Tech III Year 5th Semester

Year(2022)

Branch ECE

Subject : Antenna and wave propagations   **Class Test 1st**

Time : 1 Hour   **M.M : 15**

Note : Attempt All question

1. Write the basic functions of the antenna.   (2)
2. Derive the near and far magnetic fields for small current element.   (3)

3. Calculate the maximum effective aperture of a short dipole.   (2)
4. In a microwave communication link, two identical antennas operating at 10 GHz are used with power of 40 dB. If the transmitter power is 1 Watt, find the received power for 30Km range of the link.   (3)
5. Write five controls that can control the overall pattern of the array.   (2)
6. Design a four element broadside array of $\lambda/2$ spacing between elements. The pattern is to be optimum with a side lobe-level 18 dB down the main lobe maximum.   (3)