Assignment EMT, Antennas and Propagation EP-303

Submission Date : 23.11.2020

1. Define the following terms in connection with sky wave propagation

(i) Maximum Usable Frequency (MUF) (i) Critical frequency (iii) Skip

Distance

2. What do you mean by (i) space waves,(ii) ground waves, and (iii) sky waves

3. Derive the relation for the refractive index of the ionospheric layer in terms

of its frequency, i.e., .

4. Explain the mechanism by which waves are bent back by Ionospheric layers

with the aid of Snell’s law.

5. A wave originates from the transmitting antenna with 10dB gain and

100watts radiating power at 10MHz. It is received by an antenna with 15dB

gain located at a 20 km distance. Calculate the received power if the wave

1. travels in free space, (b) gets attenuated due to scattering from common

volume of 1000m3 with an effective scattering cross-section of 0.1m2.

6. What do you mean by surface plasma waves(SPW)? Show that the

dispersion relation for surface plasma waves

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