

**Department of Electronics and Communication Engineering**

**SUBJECT: EMTL (PC 404 EC)**

**ASSIGNMENT-II**

1. What is Lorentz’s condition and show that time varying Electric scalar potential and magnetic vector potential satisfy wave equations in Lorentz’s condition is assumed?
2. Derive the relationship between E and H?
3. Write short notes on EM wave polarization?
4. In a medium E = 16e-x/20 sin (2 x 108t – 2x)iz V/m, find the direction of propagation, the propagation constant, wavelength, speed of the wave and skin depth.
5. State and prove poynting theorem.
6. Obtain an expression for reflection coefficient interms of ZR. What is its value for matched load, open circuit load and short circuit load.
7. Obtain the equations of finite and infinite transmission lines?

**Note**: Last date for submission of assignment-I is 05-04-2019