B. Sc. Semester V (Honours) Examination-2020

Subject: Electronic Science

Paper: DSE-1 (Transmission Line, Antenna & Wave Propagation)

(*Answer any* ***EIGHT*** *questions. All questions are of equal marks:* ***Total Marks: 40)***

5×8=40

1. Derived the Telegrapher's equation for a steady state high frequency transmission line.
2. What is VSWR? How can we use a quarter wave transformer for impedance matching?
3. Plot the variation of open and short circuit impedances along the length of transmission line?
4. Discus the three cases of propagation constant in the rectangular waveguide?
5. Draw the constructional diagram of a rectangular waveguide and show the field diagram when it is excited at TE10 mode.
6. What is skin depth? discuss some disadvantages of waveguide?
7. Draw the construction diagram of a two-hole directional coupler and discuss the coupling the directivity?
8. Write short not on microwave circulator and isolator?
9. Discuss main three parameter of antenna? What do you mean by antenna impedance bandwidth?
10. Discuss different types of planar transmission line?

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