

Code: ECMC2T3

I M.Tech - II Semester-Regular Examinations – September 2015

MICROWAVE NETWORKS AND MEASUREMENTS
(MICROWAVE & COMMUNICATION ENGINEERING)

Duration: 3 hours

Marks: 5x14=70

Answer any FIVE questions. All questions carry equal marks

1. Explain the impedance and transmission matrix relation using equivalent circuits. 14 M

2. What is the significance of S-Matrix? Derive the S-Matrix for transmission line system. 14 M

3. a) Explain the basic properties of Dividers and couplers. 7 M

b) Explain the operation and applications of E-Plane and H-Plane. 7 M

4. a) Derive the S-Matrix of circulator. 7 M

b) Write a note on Quarter wave and half wave plate phase shifters. 7 M

5. Using equivalent circuit, explain aperture coupled and loop coupled cavities. 14 M
6. a) Explain the Floquet's Theorem and spatial harmonics. 7 M
- b) Explain in detail about K_0 - β diagram. 7 M
7. a) Explain any method of measuring Attenuation. 7 M
- b) Explain how to measure the material properties at RF frequencies. 7 M
8. Draw the block diagram of Network Analyzer and explain its function and applications. 14 M