

Code: ECMC2T3

I M.Tech - II Semester - Regular Examinations - December 2013

**MICROWAVE NETWORKS AND MEASUREMENTS
(MICROWAVE & COMMUNICATION ENGINEERING)**

Duration: 3 hours

Marks: 5x14=70

Answer any FIVE questions. All questions carry equal marks

1. a) Draw and explain of equivalent circuit for two- port network. 7 M
b) Explain about impedance and admittance matrices. 7 M
2. a) Explain about Transition between a co-axial line and Waveguide. 7 M
b) Write the differences between single- stub tuning and double- stub tuning. 7 M
3. a) Draw and explain of Magic Tee, and calculate its S-matrix. 7 M
b) Design Multi- Hole Directional coupler, and explain its working in brief. 7 M
4. a) Explain in detail the Quarter- wave and Half- wave plate phase shifters. 7 M
b) Explain the working of fixed and variable attenuators and write their applications. 7 M

5. a) Explain Rectangular and Cylindrical cavities, and its equivalent circuits. 7 M
- b) Explain about Stepped- line Low pass and Coupled line filters. 7 M
6. a) Explain wave analysis of periodic structure in loaded Transmission line. 7 M
- b) Explain Floquet's theorem and explain Radiometry. 7 M
7. a) Explain step by step procedure for the measurement of attenuation using microwave test bench set-up. 7 M
- b) Explain about the measurement of RF voltage. 7 M
8. a) Explain the working of spectrum analyzer with block diagram, and write its applications. 7 M
- b) Explain Scalar and Vector Network analyzer with neat block diagrams. 7 M