PVP 12

Code: **ECMC2T3**

I M.Tech-II Semester-Regular Examinations-August 2014

MICROWAVE NETWORKS AND MEASUREMENTS

(MICROWAVE & COMMUNICATION ENGINEERING)

Duration: 3 hours Marks: 5x14=70

Answer any FIVE questions. All questions carry equal marks

1 a) Explain about the Transmission matrix- relation to Impedance matrix. 7 M

b) What is H- matrix explain in detail and explain about the applications of Signal flow graphs. 7 M

2 a) Explain about the S- Matrix for Reciprocal and lossless junctions. 7 M

b) Explain Single- stub tuning and Double- stub tuning. 7 M

3 a) Draw and explain about Directional coupler and calculate its S- Matrix. 7 M

b) Draw and explain of E- plane Tee and calculate its S-Matrix, and write its applications. 7 M

4 a) What is phase shifter. Explain about Dielectric Linear phase shifter. 7 M

b) Explain 4- port Circulator and write the applications of Attenuators. 7 M

5 a) Draw the equivalent circuits for cavities and explain loop coupled cavity. 7 M

b) Explain Stepped- line low pass filters and coupled filters with neat diagrams. 7 M

6 a) Draw and explain about $K_0 - \beta$ diagrams and define Group velocity propagation. 7 M

b) Define Floquet's theorem and write the Radiometry, Radar and microwave propagation system applications. 7 M

7 a) Explain the measurement of power by bolometer method. 7 M

b) Explain about the measurement of RF voltage. 7 M

8 a) Explain about Scalar and Vector network analyzer with block diagrams. 7 M

b) Explain Spectrum analyzer with neat block diagram and write its applications. 7 M