PVP 12

Code: **ECMC1T4**

I M.Tech - I Semester - Regular Examinations – March 2014

MICROSTRIP COMPONENTS AND MICROSTRIP ANTENNAS

(MICROWAVE & COMMUNICATION ENGINEERING)

Duration: 3 hours Marks: 5x14=70

Answer any FIVE questions. All questions carry equal marks

1. a) Explain about practical microstrip line losses and Shelding techniques? 8 M

   b) A 2.0mm thick fused FR-4 substrate with permittivity 4.4 is used to construct a microstrip antenna. If the line resonant frequency is 2.4 GHz find patch dimensions and return loss? 6 M

2. a) Write about planar microwave lumped elements ? 7 M

   b) Design a Micro strip resonators and what are the advantages of it ? 7 M

3. a) Write about microstrip high pass filter prototype models for Butterworth response ? 7 M

   b) Why we need terminations and explain about different Microstrip terminations? 7 M

4. a) Explain the radiation mechanism of a microstrip Antenna? 7 M

   b) Explain surface phenomenon effect in Microstrip Antennas? 7 M

5. a) What is a spectral domain of full-wave analysis derive the input impedance? 7 M

   b) Explain about cavity model for TM10 and TM01 Mode? 7 M

6. a) Derive the field and current components for cavity model for a circular microstrip? 7 M

   b) Write short notes on half disc antenna annular antennas? 7 M

7. a) Write the applications of tapered and annular slot antennas? 7 M

   b) Write the design method of microstrip-fed slot antennas? 7 M

8. a) Discuss the importance of coplanar fed coupling methods to microstrip antennas? 7 M

   b) Explain in detail about aperture coupling in microstrip antennas? 7 M