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**B.E Degree Examination May 2012**  
**EC 385 RF & MICROWAVE ENGINEERING**  
**VI Semester Electronics and Communication Engineering**  
**Regulation :2004**

**Duration :3 Hours**

**Part A (10X2 =20 Marks)**

**Max Marks:100**

- 1.State the advantages and disadvantages of microstrip and striplines lines
- 2.Why S-Matrix representation is preferred to characterize a network at microwave frequencies?
- 3.Outline the basic principle of working of a wave meter.
4. What is the significance of irises in impedance matching
- 5.Define GUNN effect
- 6.Write the Manley Rowe relation and give its significance
- 7.What are the detrimental RF effects on the performance of a microwave tube?
- 8.Bring out the significance of slow wave structures in the amplification process of microwaves
- 9.What is the principle behind dielectric constant measurement?
- 10.Differentiate –Scalar and Vector network analyzers

**Part B (5X16 =80 Marks)**

- 11.i) State and explain the properties of S-matrix (8)  
ii) Derive the S-matrix of a Hybrid TEE junction (8)
- 12.a) i) Explain the working of a variable attenuator (8)  
ii) With neat diagram explain the working of a faraday rotation isolator (8)  
(OR)
- 12 b) i) Give the construction and special features of a matched termination and a short circuit plunger (10)  
ii) Give the equivalent circuit representation of a series TEE and shunt TEE and explain (6)
- 13a) Describe how a two cavity klystron amplifier functions.Derive the expression for velocity modulation of electrons  
(OR)
- 13 b) Explain with neat diagrams the PI mode of oscillations in Magnetron