



**M 26155**

Reg. No. : .....

Name : .....

**VII Semester B.Tech. Degree (Reg./Sup./Imp. – Including Part Time)  
Examination, November 2014  
(2007 Admn. Onwards)  
PT 2K6/2K6 EC 702 : MICROWAVE ENGINEERING**

Time : 3 Hours

Max. Marks : 100

***Instruction : Answer all questions.***

**PART – A**

- I. 1) Explain rectangular cavity resonator and derive the resonant frequency. **(8×5=40)**
- 2) Draw various slow wave structures of TWT.
- 3) What are the different types of directional couplers ?
- 4) Explain the working of isolator.
- 5) What are the different geometries of microwave power transistor and their figure of merits ?
- 6) Explain with diagram, structure and working of IMPA TT diode.
- 7) Write short note on wave velocity.
- 8) Explain  $k-\beta$  diagram.

**PART – B**

- II. Explain the bunching process in a two cavity klystron. **15**

OR

- III. Explain with diagram working of cylindrical magnetron and derive the equations for electron motion. **15**

P.T.O.



IV. Derive the S-matrix for a E plane Tee and 4 port circulator. 15

OR

V. Explain the basic characteristics of a Magic Tee. Derive the S-matrix for an ideal matched Magic Tee. 15

VI. Explain different modes of operation of Gunn diode with neat diagrams. 15

OR

VII. Explain with suitable diagrams, the different methods for measuring microwave frequency. 15

VIII. Discuss in detail the term stability with respect to microwave amplifier. 15

OR

IX. Explain the low pass to high pass, low pass to band pass and low pass to band stop filter transformation. 15

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