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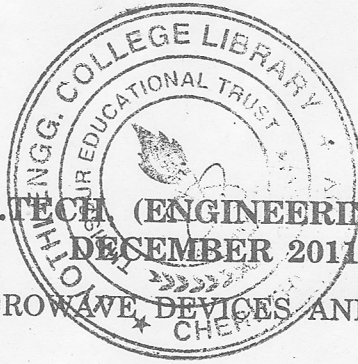
SEVENTH SEMESTER B.TECH. (ENGINEERING) DEGREE EXAMINATION DECEMBER 2011

EC 04 702—MICROWAVE DEVICES AND COMMUNICATION

Time : Three Hours

Maximum : 100 Marks

1. Short Type Questions :

   (a) Write the basic idea of operation of Circular Cavity resonator.

   (b) Explain the Theorems based on which the characteristics of a three-port junction can be understood.

   (c) Explain the operation of coaxial magnetron.

   (d) Enumerate some of the major differences between Travelling wave Tubes and Klystron.

   (e) Explain the operation of Gunn diode with characteristics.

   (f) Explain the working of Cd Te diodes.

   (g) What are multiple spot beams ? Explain.

   (h) Explain in brief orbital spacing.

(8 × 5 = 40 marks)

2. (a) Explain the operation of microwave circulators and isolators with neat diagrams.

Or

   (b) Derive the expressions for power transmitted and power losses in rectangular waveguides.

3. (a) Explain the Bunching Process in a Two Cavity Klystron.

Or

   (b) Explain with diagram working of cylindrical magnetron and derive the equations for electron motion.

4. (a) Explain the construction, working of Ga As MESFET and its characteristics.

Or

   (b) Explain the working of TRAPATT and BARITT diodes and their microwave performance.

5. (a) Explain the block schematic of Transmitter and receivers in microwave communication.

Or

   (b) Explain the digital link analysis in satellite communication system.

(4 × 15 = 60 marks)