

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -3 EXAMINATIONS-2022

B.Tech-V Semester (ECE) Backlog

COURSE CODE (CREDITS): 18B1WEC532(4)

MAX. MARKS: 35

COURSE NAME: Microwave Components and Devices

COURSE INSTRUCTORS: Dr. Salman Raju Talluri

MAX. TIME: 2 Hours

Note: All questions are compulsory. Marks are indicated against each question in square brackets.

- Q1. Derive the expression for input impedance of a transmission line using distributed model. [5]
- Q2. Derive the expressions for the field components in a rectangular waveguide for TM mode. [5]
- Q3. Explain in detail about the magic tee junction with its scattering matrix. [5]
- Q4. What do you mean by scattering matrix? Explain the importance of these scattering parameters concerning a two-port network or a filter. [5]
- Q5. With a neat block diagram, explain the basic construction and operation of two-cavity klystron. [5]
- Q6. Write a short note with neat diagrams, the working of the diode AM detector. [5]
- Q7. Define the following terms briefly. [5]
- Impedance matching.
 - Image frequency in mixer operation.
 - Velocity modulation.
 - Return loss and Insertion Loss.
 - Smith chart.