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JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

Test -2 EXAMINATIONS, OCTOBER 2019

B.Tech Semester V

COURSE NAME: Microwave Components and Devices

MAX.MARKS:25

COURSE CODE: 18B1WEC532

MAX.TIME: 1.5 HR.

Note: Carrying of mobile phones during examinations will be treated as a case of unfair means.

Answer all questions. Each question carries five marks.

1. Explain the operation of H-plane tee junction. Derive the scattering parameters for it using the properties such as reciprocity, lossless and mis-matching.
2. What do you mean by Faraday's rotation? Explain in detail. List the microwave components that use this property along with their scattering parameters.
3. What do you mean by voltage standing wave ratio? Derive the expression for finding the VSWR using the double minima method.
4. How do you measure the unknown load impedance using the slotted section? List all the steps along with related equations.
5. Describe the following briefly.
 - a. Dominant mode in a rectangular wave guide.
 - b. Dip method (to measure frequency) operating principle.
 - c. Rat-race coupler (Hybrid ring).
 - d. TEM waves.
 - e. Quarter wave transformer.