

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST-2 EXAMINATION -OCT 2018

Ph.D 1st Semester (PMS)

Dr. S.K. Khata

COURSE CODE: 15P1WPH215

MAX. MARKS: 25

COURSE NAME: MICROSTRIP ANTENNA DESIGN

COURSE CREDITS: 03

MAX. TIME: 1 Hr 30 Min

Note: All questions are compulsory. Carrying of mobile phone during examinations will be treated as case of unfair means.

1. How microstrip antenna is designed using transmission line model analytically. (5)
2. Calculate the dimensions of a rectangular patch antenna working in S band of microwave range on FR4 substrate of 1.50 mm thickness. (4)
3. Using cavity model calculate the frequency of the dominant modes (TM_{001} , TM_{010} and TM_{020}) in a rectangular patch antenna (6)
4. Calculate the input impedance and position of inset feed of a rectangular microstrip antenna working on substrate of thickness 1.588 mm of dielectric constant 2.2 with resonant frequency 10GHz. (6)
5. What are different feeding methods of microstrip antenna, derive how inset feed is calculated. (4)