

Prof. Dr. S.V. Bhooshan (ECE)

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

END TERM TEST- JULY -2016

B.TECH-SUMMER SEMESTER

COURSE CODE: 16B1WEC831

MAX. MARKS: 50

COURSE NAME: ANTENNA AND WAVE PROPAGATION

COURSE CREDITS: 03

MAX. TIME: 2 HRS

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

- Q1. Derive the expressions of radiated field components in spherical coordinate system for a small circular loop antenna. [10]
- Q2. (a) Explain the different modes of operation of Helical antenna. [5]
(b) Draw and explain the structure of log periodic antenna and arrays. [5]
- Q3. (a) Derive the expression for resonant frequency of circular patch antennas. [5]
(b) Explain various methods of achieving circular polarized radiated field from microstrip antennas. [5]
- Q4. Describe various transmission losses in wave propagation. [10]
- Q5. (a) Describe various atmospheric effects on wave propagation. [5]
(b) Define the following:
(i) Critical angle
(ii) Maximum usable frequency
(iii) Lowest usable frequency [2+1.5+1.5]