Meenakshi Sood

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT
TEST -1 EXAMINATION- September 2016
M.Tech III Semester

COURSE CODE: **13M1WEC334**   MAX. MARKS: **15**

COURSE NAME: **ANTENNA THEORY & TECHNIQUES**

COURSE CREDITS: **03**   MAX. TIME: **1Hr**

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

Q1 Explain the radiation mechanism in antenna with necessary conditions for radiation.   [4]

Q2 Elaborate the radiation parameters of an antenna.   [4]

Q3 An antenna has Radiation Resistance (R_r) = 72 Ω, loss resistance $(R)_l$= 8Ω, power gain(G) = 16 .

Find out the directivity and radiation efficiency of the antenna.   [2]

Q4. An antenna has a field pattern given by $E(\Theta) = \cos^2\Theta$ for $0^0 \le \Theta \le 90^0$

Find the half power beam width and beamwidth between first nulls.   [2]

Q5 Differentiate between Fresnel and Fraunhofer regions of antenna.   [3]