PEC
EXPLORE INNOVATE EXCEL

Punjab Engineering College
(Deemed to be University), CHANDIGARH
Mid Term Examination (19202)

Programme: **B.Tech (ECE)** Year/Semester: **2nd/4th sem**
Course Name: **Communication Engineering** Course Code: **ECN-201**
Maximum Marks:25 Time Allowed: 1.5 hr

Q.No.		Marks
1	a) Why TEM mode does not exist in waveguides? b) Derive input impedance from transmission line equations.	2*2=4
2	a) How distortionless line different from lossless line? b) Define evanescent mode? c) Justify why TM01 and TM10 mode do not exist in rectangular waveguides?	1*2=2 2
3	a) In a transmission line S=3 ,maxima occurs at a distance of 11cm from load if distance between two consecutive minima are 2cm and characteristic impedance of transmission line is 20 ohm then determine the value of load impedance? b) A hollow rectangular waveguide is to be used to transmit signals at a carrier frequency of 6 GHz. Choose its dimensions so that the cutoff frequency of the dominant TE mode is lower than the carrier by 25% and that of the next mode is at least 25% higher than the carrier.	4*2=8
4	a) A super heterodyne radio receiver with an intermediate frequency of 455 kHz is tuned to a station operating at 1200 KHz. What is the image frequency? b) What are the characterstics of RF amplifier?	1*2=2
5	Derive an expression of AM wave using square law demodulator. Also gets the original signal using square law demodulator.	2*2=4
6	Draw functional block diagram of Transmitter and Receiver of AM system	3