Purnea College of Engineering,

Quiz-5 (Analog circuit)

Branch – ECE, 4th sem Marks=10

Que:-1. Define and discuss +ve feedback. Also give Barkhausan condition required in order to sinusoidal oscillation to be sustained.

Que:-2. With the help of suitable ckt diagram, discuss the Tuned amplifier

Que:-3. An amplifier with an open-loop gain of $A_v = 1000$ delivers 10 W of output power at 10% second harmonic distortion when input signal is 10mV. If 40 dB -ve & series feedback is applied, and output power remain 10W, then determine
(a) % of harmonic distortion
(b) required input signal

Que:-4. (a) Draw hybrid-π model for a transistor in CE configuration. Compute frequency at which the short ckt CE current gain attain unit magnitude

(b) Calculate overall lower 3-dB and upper 3-dB frequencies for five non-interacting stages amplifiers having an individual stage lower 3-dB $f_1 = 40$ Hz and upper 3-dB freq. $f_2 = 2$ MHz.