L.D.R.P Institute of Technology and Research, Gandhinagar
Electronics & Communication Engineering Department
KSV Mid-Semester Examination -2015

Subject Name: Advance Electronics **Date:02/03/2015**
Subject Code: EC-403 **Time:12:30 to 1:30pm**
Semester: 4th **Total Marks:** 30

Instructions: 1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

Q.1 Define Oscillator. What are the requirement of positive feedback amplifier as an oscillator & also explain Barkhausen criterion of oscillations. **(08)**

Q.2 A) Write and Explain Difference between positive feedback and negative feedback **(06)**

B) Define Amplifier & make a comparison table of Different amplifier with their classes. **(06)**

OR

Q.2 A) Determine the voltage gain, input and output impedance with feedback for voltage series feedback having **(06)**

$A = -100$, $R_i = 10\ K\Omega$, $R_o = 20\ K\Omega$ for feedback of

a) $\beta = -0.1$ and

b) $\beta = -0.5$

B) Make short note on Amplifier Distortion. Also make graphical description of Harmonic components of distorted signal. **(06)**

Q.3 Write down the Limitation of RC and LC oscillators. explain characteristic of crystal and base on that explain transistor crystal oscillator. **(10)**

Calculate, if $L = 800$ mH, $C = 0.01$ pF, $R = 1000\ \Omega$ and $C_m = 20$ pF are the Various Value of an ac equivalent circuit of a piezoelectric crystal. Determine fs and fp of the crystal.

OR

Q.3 A) Design and explain R-2R ladder DAC when digital input is 100. **(05)**

B) Write Shot Note On Successive- Approximation ADC. **(05)**

All the Best