

**SARDAR PATEL UNIVERSITY**  
**Programme: B.Sc (Electronics)**  
**Semester: V**  
**Syllabus with effect from: June - 2013**

<b>Paper Code: US05CELE01</b>	<b>Total Credit: 3</b>
<b>Title of Paper: Discrete &amp; Linear Circuits</b>	

Unit	Description in detail	Weightage (%)
I	<b>Negative Feedback:</b> Non linear distortion, Classification of feedback amplifiers, Feedback concept, Transfer gain with feedback, General Characteristics of negative feedback, Input resistance, Output resistance, Voltage series feedback amplifier (single stage), Current series feedback amplifier, Current Shunt feedback amplifier, Voltage Shunt feedback	25%
II	<b>Positive Feedback</b> Classification of oscillators, Phase shift oscillator, Wein bridge oscillator, Resonant circuit oscillator, general form of an oscillator, Hartley oscillator, Colpitt's Oscillator, Clapp oscillator, Crystal oscillator- series resonant oscillator, parallel resonant oscillator	25%
III	<b>Power Amplifier:</b> Classification of power amplifiers, Class A large signal amplifier, Transformer coupled Audio power amplifier, Second harmonic distortion, Higher harmonic distortion, efficiency, Push pull amplifiers – Class A push pull amplifier, Class B push pull amplifier, class AB push pull amplifier, Complimentary Symmetry Amplifier,	25%
IV	<b>Power Supply:</b> Block diagram of regulated power supply, Discrete voltage regulator circuits – shunt regulator, Series regulator, IC regulators , Three terminal Voltage regulators – 78** and 79** regulator, Parameters of voltage regulator, General purpose Voltage Regulator IC 723 regulator, applications of IC 723 regulator – low voltage regulator, High Voltage regulator, switching regulator	25%

**Basic Text & Reference Books:**

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| <ul style="list-style-type: none"> <li>➤ Integrated Electronics(Unit 1,2,3)</li> <li>➤ Linear Integrated Circuits and its applications</li> <li>➤ Electronics circuit and devices</li> </ul> | <p style="margin: 0;">J.Millman and C. Halkias<br/> P. W. Wani and P. V. Bhat<br/> G. K. Mital</p> |
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