

EC8452 ELECTRONIC CIRCUITS II

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UNIT I FEEDBACK AMPLIFIERS AND STABILITY 9

Feedback Concepts – gain with feedback – effect of feedback on gain stability, distortion, bandwidth, input and output impedances; topologies of feedback amplifiers – analysis of series-series, shunt-shunt and shunt-series feedback amplifiers-stability problem-Gain and Phase-margins-Frequency compensation.

UNIT II OSCILLATORS 9

Barkhausen criterion for oscillation – phase shift, Wien bridge - Hartley & Colpitt 's oscillators – Clapp oscillator-Ring oscillators and crystal oscillators – oscillator amplitude stabilization.

UNIT III TUNED AMPLIFIERS 9

Coil losses, unloaded and loaded Q of tank circuits, small signal tuned amplifiers – Analysis of capacitor coupled single tuned amplifier – double tuned amplifier - effect of cascading single tuned and double tuned amplifiers on bandwidth – Stagger tuned amplifiers - Stability of tuned amplifiers – Neutralization - Hazeltine neutralization method.

UNIT IV WAVE SHAPING AND MULTIVIBRATOR CIRCUITS 9

Pulse circuits – attenuators – RC integrator and differentiator circuits – diode clampers and clippers –Multivibrators - Schmitt Trigger- UJT Oscillator.

UNIT V POWER AMPLIFIERS AND DC CONVERTERS 9

Power amplifiers- class A-Class B-Class AB-Class C-Power MOSFET-Temperature Effect- Class AB Power amplifier using MOSFET –DC/DC convertors – Buck, Boost, Buck-Boost analysis and design

TEXT BOOKS:

1. Sedra and Smith, —Micro Electronic CircuitsII; Sixth Edition, Oxford University Press, 2011. (UNIT I, III, IV, V)
2. Jacob Millman, Microelectronics ' , McGraw Hill, 2nd Edition, Reprinted, 2009. (UNIT I, II, IV, V)

REFERENCES:

1. Robert L. Boylestad and Louis Nasheresky, —Electronic Devices and Circuit TheoryII, 10th Edition, Pearson Education / PHI, 2008
2. David A. Bell, —Electronic Devices and CircuitsII, Fifth Edition, Oxford University Press, 2008.