ACHARYA NAGARJUNA UNIVERSITY
Nagarjuna Nagar, Guntur Dist., AP
B.Sc. Computer Maintenance Syllabus, CBCS from 2015
Semester I: Fundamentals of Analog Circuits

UNIT 1: Passive Electronic Components: Introduction, Resistors, Capacitors, Inductors, Switches, Fuses, Relays, Cables, Connectors, and Batteries
UNIT 2: Test and Measuring Instruments: Block Diagram and working principles of CRO, CRT, Multimeter, Function Generator. Average and RMS Value - Measurement of Phase – Power and Power Factor - Applications of CRO
UNIT 3: Network Theorems: Kirchhoff’s Current and Voltage Laws, Maximum Power Transfer Theorem, Thevenin’s and Norton’s Theorems, Superposition Theorem, and Reciprocity Theorem.
UNIT 4: RC, RL, RLC Circuits, Series and Parallel - LRC Resonance Circuits
UNIT 5: Low pass, High pass and Band pass filters - Band elimination filters, Clipping and Clamping Circuits, Star Delta Transformation

Test books:
1. DV Prasad Electronic Components, Primer House 3rd Edition
2. P.Gnanasivam, Circuit Analysis, Pearson Education
4. Network Lines And Field Buy Ryder PHI.
5. A. Sudhakar and Syam Mohan, Circuit and Networks, TMH.

Computer maintenance Lab-1
(CIRCUITS LAB) (All experiments should be done)

1. Measurements using multimeter, power supply, wave generator
2. Measure Frequency using CRO.
3. Thevenin’s theorem and Norton’s theorem – verification.
4. Maximum power transfer theorem – verification.
5. CR circuits- Frequency response- (Low pass and High pass).
6. LR circuits- Frequency response- (Low pass and High pass).

Lab manual reference:

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Semester II: Electronic Devices and Linear Integrated Circuits

UNIT 1: Working Principles, IV Characteristics, Applications of Diode, Zener diode, Varactor, Photo diode and LED

UNIT 2: Transistors: Configuration, Biasing, Operating Point, VI characteristics, Load line, UJT characteristics, FET characteristics, MOSFET.

UNIT 3: Amplifiers: different types/ classification of amplifiers, biasing point, gain, output impedance, Frequency Response - Op-Amp: Inverting and Non inverting OP AMP, different parameters of OP-AMP, Cascade of amplifiers feedback amplifiers, Applications of OP-AMP

UNIT 4: Modulators: Introduction to Amplitude, Frequency, Phase and Pulse Modulation, Oscillators: Introduction, Tuned, Phase shift oscillator, Crystal Oscillator

UNIT 5: Power Supplies: Block diagram of Power Supply, transformer, Half & Full wave rectifier, Bridge rectifier, Voltage Regulator with operational principles and design, Regulated Power Supply: Zener, Series, Shunted and Feedback - Multivibrators

Reference books
2. DV Prasad Electronic Components, Primer House 3rd Edition,
3. NN Bhargava, SC Gupta, Basic Electronics & Linear Circuits, Tata McGrawhill

Computer maintenance Lab-II

(ELECTRONIC DEVICES LAB)
(All experiments should be done)
1. VI characteristics of PN-Junction Diode and Zener Diode
2. VI characteristics BJT and MOSFET
3. Characteristics Op AMP
4. Characteristics Inverting and Non-Inverting OP-AMP.
5. Modulation and Demodulation of AM and FM.
6. Study of Oscillators, function of Crystal Oscillator
7. Study of Power Supplies, Voltage Regulator and Bridge Rectifier.
8. Square Wave Generation using bistable multivibrator

Lab manuals:
2. Sugaraj Samuel R. Horsley Solomon. B.E.S. PRACTICALS.