**Program: B.Sc Electronics and Communication System** Course title: **Core - 7: Electronic Circuits** Subject Code: 4CT07 Year: II Semester: IV Credits: 4 Hrs/Week: 4

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**Unit - I: Power Supplies**

Introduction – Linear mode power supply - Rectifiers: Half and Full Wave Rectifiers - Ripple Factor - Rectification Efficiency - Transformer Utilization Factor - Filters: Inductor Filter- Capacitor Filters - LC Filter - Pi Filter – Introduction to Voltage Regulator.

**Unit - II: Amplifiers**

Introduction – Classification - Single stage amplifiers: CE, CC and CB amplifiers - Small signal Analysis - FET Amplifiers: CS and CD amplifiers - Multi Stage Amplifier - Coupling Methods - Frequency Response of RC Coupled Amplifier - Transformer Coupled Amplifier - Direct coupled Amplifier - Tuned Amplifier.

**Unit - III: Power Amplifiers**

Amplifier classification based on biasing condition - Class A large signal amplifier - Transformer coupled class A Audio power amplifier - Efficiency of class A amplifier - Class B amplifier - Efficiency of class B amplifier - Class B Push pull amplifier – Cross over distortion - Class C Amplifier - Introduction to class D and class S amplifiers

**Unit - IV: Feedback Amplifiers**

Introduction - Basic concept of Feedback - Effect of Negative Feedback - Types of Negative Feedback Configurations - Stability of feed back Amplifiers

**Unit - V: Oscillators and Waveform Generators**

Introduction - Classification of Oscillators - Condition for Oscillation (Barkhausen criterion) - Hartley Oscillator - Colpitts Oscillator – RC Oscillator (Phase Shift) - Wien Bridge Oscillator - Crystal Oscillator - Frequency Stability of Oscillator - Multivibrators – Schmitt trigger.

**Books for Study:**

1. S. Salivahanan, N. Suresh Kumar, A. Vallavaraj, “Electronic Devices and Circuits”, TMH Publishing Company Ltd., Seventh Reprint 2001.

**Books for Reference:**

1. V.K. Mehta, “Principles of Electronics”, S Chand and Company Ltd., 2nd Edition, 2001.

2. R. S. Sedha, “A test book of Applied Electronics”, S Chand and Company Ltd., 2nd Edition, 2001