**13EC2204-PULSE &ANALOG CIRCUITS**

(Common for EEE & ECE)

Credits: 4

Lectures/Week: 4Hrs. Sessional Marks: 40

Univ.Exam.Duration: 3Hrs Univ.Exam.Marks: 60

**UNIT-I**

**Wave shaping circuits**: Types of waveforms, RC low pass and high pass circuits, rise time, tilt, Diode as a switch, Diode clipper and clamper circuits.

**UNIT-II**

**Multivibrators:** BJT switch and switching times, Bistable & triggering methods, Schmitt-trigger, Mono-stable and Astable multi-vibrators using BJT.

**UNIT-III**

**Time Base circuits:** RC sweep circuits, constant current Miller and Bootstrap time base generators using BJT’s, UJT relaxation oscillators, and sampling gates.

**UNIT-IV**

**MOS Transistor:** MOS and CMOS Structure, operation (enhancement and depletion mode), I/V Characteristics, Second Order effects - MOS Device capacitance and Small signal model.

**UNIT-V**

**Power Amplifiers:** Class-A, Transformer coupled Class-A, Class-B Push-pull, Complementary Class-B push-pull amplifiers.

**Tuned amplifiers:** Introduction, Q-factor, small signal tuned amplifiers, effect of cascading single tuned amplifier on bandwidth and stagger tuned amplifiers.

**TEXT BOOKS:**

1. Milliman & Taub “Pulse & Digital switching waveforms”, McGraw-Hill.

2. Pulse and Digital circuits by A.Anand Kumar, 2005, PHI.

3. Design of analog CMOS Integrated circuits by Behadrazhavi.

4. Millman and Halkias, “Integrated Electronics”, McGraw- Hill Co.

5. Electronic Circuit analysis by A.P Godse & Bakshi

**REFERENCE:**

1. David A. Bell, Solid state pulse circuits, PHI.

2. Electronic devices and circuits by Boylestad, Louis Nashelsky, 9ed..,2008PE