



B.Sc. (Electronics) SEMESTER III

Paper II

(Linear Integrated Circuits)

Unit I

Basic Operational Amplifier: Concept of differential amplifiers (Dual input balanced and unbalanced output), construction and working,

<https://www.youtube.com/watch?v=JT9UUpYMGjY>

<https://www.youtube.com/watch?v=T5rq69oisJs>

Block diagram of an operational amplifier (IC 741)

https://www.youtube.com/watch?v=I8tbRibujcY&list=PLPD7Ds2_I10ggKZeS7jsx8N7k1DovnjTg

Op-Amp parameters: input offset voltage, input offset current, input bias current, differential input resistance, input capacitance, offset balancing, input voltage range, common mode rejection ratio, slew rate, supply voltage rejection ratio, Open and closed loop configuration, Frequency response of an op-amp in open loop and closed loop configurations.

<https://www.youtube.com/watch?v=jhtPWEoihII>

https://www.youtube.com/watch?v=i_z6ikX80fk

https://www.youtube.com/watch?v=Ff_Top73fH0

Unit II

Op-Amp Circuits: concept of virtual ground:

<https://www.youtube.com/watch?v=AuZ00cQ0UrE>

Inverting and Non-inverting amplifier, sign changer,

<https://www.youtube.com/watch?v=EOZyofNXWxc>

Voltage follower

<https://www.youtube.com/watch?v=gtJPeh3HvHU>

Summing and difference amplifier:

<https://www.youtube.com/watch?v=h0Gmc-9IVVo>

Integrator

<https://www.youtube.com/watch?v=XECPETLYCdA>

Differentiator:

<https://www.youtube.com/watch?v=aU24RWIgjVs>

Unit III

Comparator: Basic types of comparator:

<https://www.youtube.com/watch?v=fWN17g-JGro>



Schmitt Trigger using OP-AMP.

<https://www.youtube.com/watch?v=gFp9vttbFLQ>

IC 555: Pin diagram, Block diagram, Applications as Monostable, Astable multivibrator, PAM and PWM.

<https://www.youtube.com/shorts/yhkYBPzQvSw>

<https://www.youtube.com/watch?v=uXfykqj65oo>

Unit IV

Signal conditioning circuits: Necessity,

<https://www.youtube.com/watch?v=SUUm8xf0toI>

Sample and hold circuit systems.

<https://www.youtube.com/watch?v=Ou4HJen-1gw>

Active filters: First order low pass and high pass butterworth filter, Second order filters, Band pass filter, Band reject filter.

https://www.youtube.com/watch?v=q9cRpDsh0lg&list=PLPD7Ds2_I10ghS4JUBJMPm75dBVMhvXPN