



B.Sc. (Electronics) SEMESTER IV

Paper II

(Analogue And Digital Circuits)

Unit I

D/A Converters: Need of converters, D/A converter parameters; range, resolution, linearity and speed, weighted and R-2R ladder type D/A using OP-AMP, its limitations.

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

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

<https://www.youtube.com/watch?v=v0RiPY-cDUw>

A/D Converters:

Single and dual slope

https://www.youtube.com/watch?v=2gF_nfaBV_0

Counter type, successive approximation and, sampling theorem.

<https://www.youtube.com/watch?v=Gp0T7Yuqt4o>

successive approximation type A/D converters

<https://www.youtube.com/watch?v=h0CGtr4SC9s>

flash type A/D converters

<https://www.youtube.com/watch?v=NASkjo7s8f4>

Unit II

DC Power Supply: Concept of regulation, regulated PS, Zener regulator, feedback type regulated power supply, Series pass transistor, ,

[https://www.youtube.com/watch?v=gx-](https://www.youtube.com/watch?v=gx-cDHS89n4&list=PLT2FhSE6kgeC4MgaCQu2jcICntAynp-fW)

[cDHS89n4&list=PLT2FhSE6kgeC4MgaCQu2jcICntAynp-fW](https://www.youtube.com/watch?v=gx-cDHS89n4&list=PLT2FhSE6kgeC4MgaCQu2jcICntAynp-fW)

<https://www.youtube.com/watch?v=yoY69AqoGIc>

short circuit protection

<https://www.youtube.com/watch?v=PsTLUF0wQRM>

General features of IC regulators, advantages, Design of fixed and variable power supply, 78xx and 79xx series of ICS, Switching regulator;

<https://www.youtube.com/watch?v=RraLJ2-ULzc>

<https://www.youtube.com/watch?v=9aj2rtYBdPM>

LM 317, design of dual power supply, LM 317 as variable regulator, Limitations of linear regulator,



<https://www.youtube.com/watch?v=woaLG0YykFs>

SMPS,

<https://www.youtube.com/watch?v=Vo6gDr2F-Mw>

Concept of Low Drop Out regulator; LDO.

<https://www.youtube.com/watch?v=kuY9KpJeZW0>

Unit III

PLL and its Applications: Operation of basic PLL circuit, Closed loop analysis, Voltage controlled oscillator, Monolithic PLL IC 565, application of PLL for AM detection, FM detection, FSK modulation, demodulation, Frequency synthesizing and Clock synchronization.

<https://www.youtube.com/watch?v=mwxR6kysHes>

<https://www.youtube.com/watch?v=kWyAv6vLECI>

<https://www.youtube.com/watch?v=Nx8zaXjdvI>

<https://www.youtube.com/watch?v=S56Hs5UOU-Y>

Unit IV

Applications of Transducer: Tachometer types and principle of operation,

https://www.youtube.com/watch?v=ecotQg_RAm0

Lux meter and Colorimeter using LDR

<https://www.youtube.com/watch?v=4QEsOqgIo6M>

<https://www.youtube.com/watch?v=Kh21fr3-W9s>

Insect Repellent using Piezobuzzer. Biomedical Instrumentation: Introduction, electrodes, Man Instrument system, Block diagram and working of ECG, EEG and EMG, Shock hazards.

<https://www.youtube.com/watch?v=kwLbSx9BNbU>

<https://www.youtube.com/watch?v=T7MKIPYiL48>

https://www.youtube.com/watch?v=J7_LEoYUqww