
 <p>NAGARJUNA COLLEGE OF ENGINEERING AND TECHNOLOGY</p>	<p>NAGARJUNA COLLEGE OF ENGINEERING AND TECHNOLOGY NBA Accredited *NAAC Accredited with “A” grade (An ISO 9001 – 2008 Certified Institution) Affiliated to Visvesvaraya Technological University (VTU) Recognized by Govt. of Karnataka & Approved by A.I.C.T.E. NewDelhi DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING</p>	 <p>25 YEARS OF EXCELLENCE</p>
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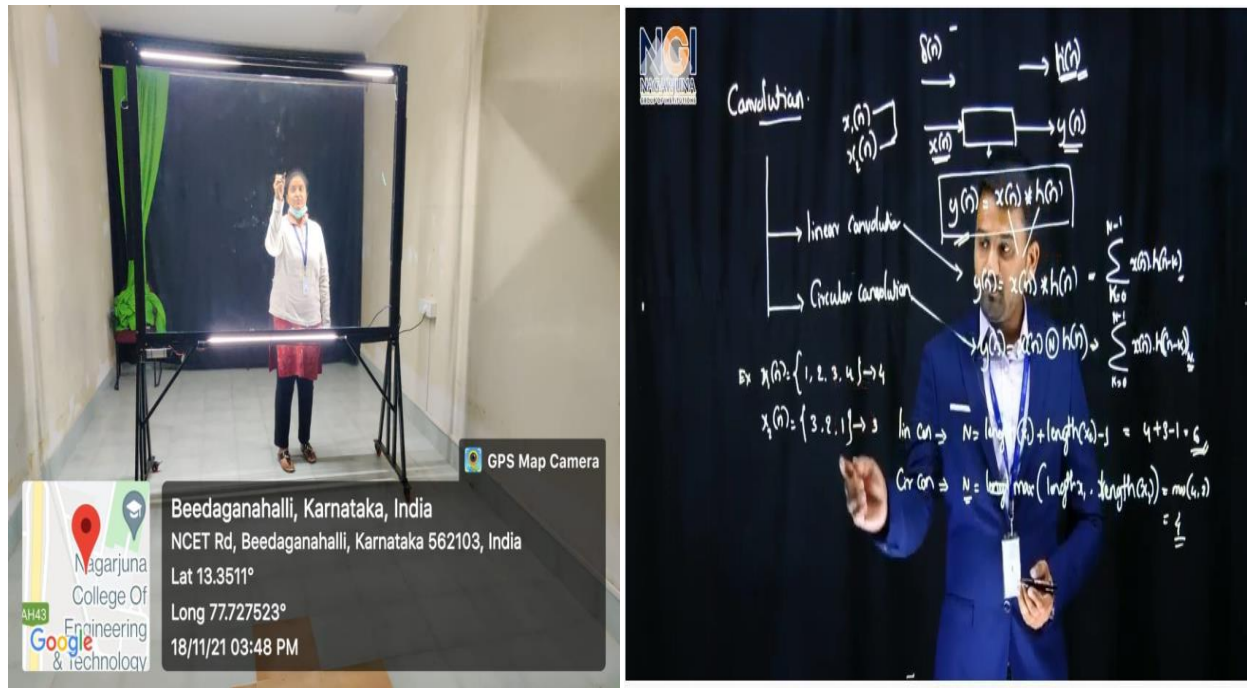
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KeyIndicator-4.3.4

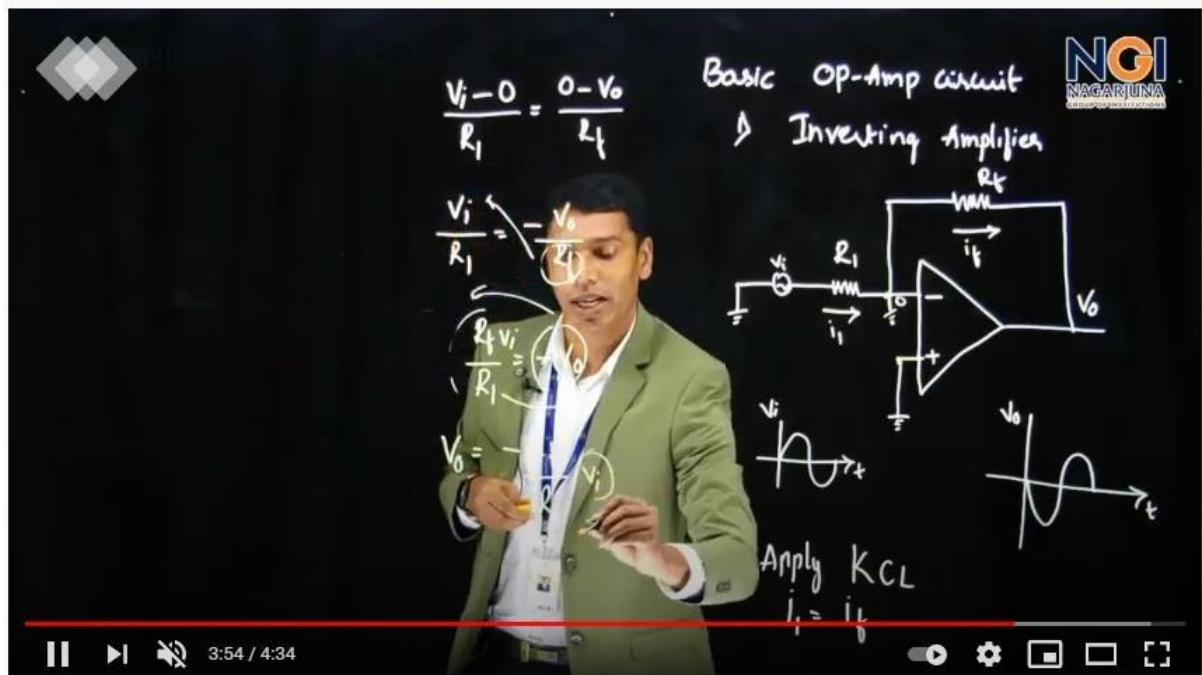
Document relating to ICT enabled tools for effective teaching-learning process

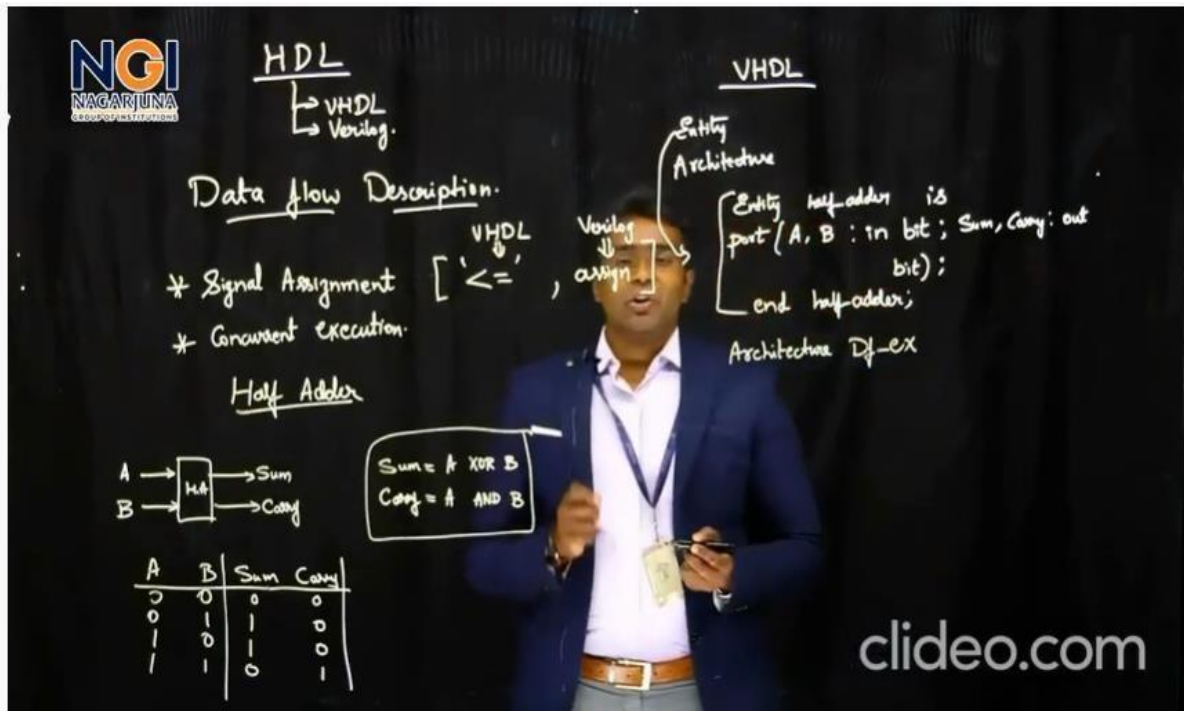
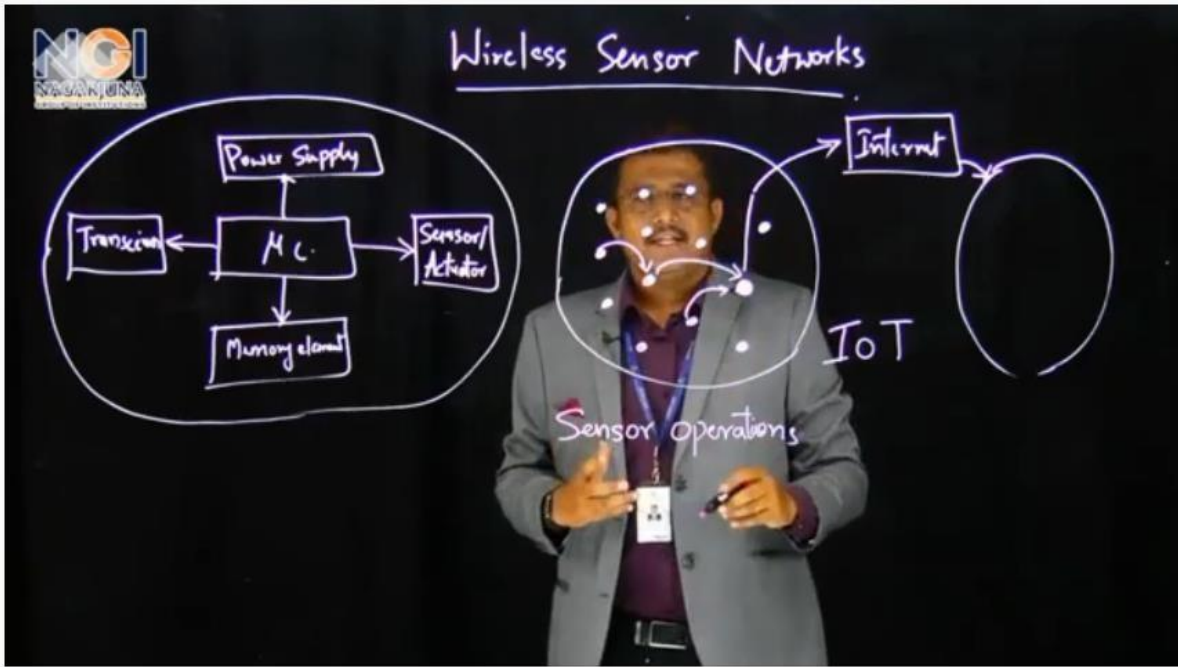
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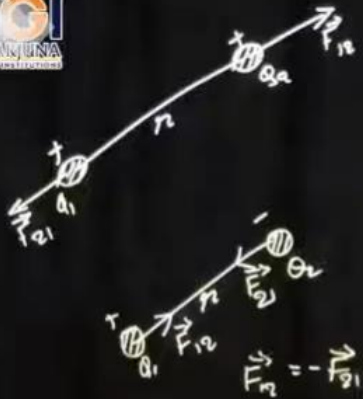
Geotagged Photo of Media centre and language lab



SNAPSHOTS OF LIGHT BOARDS IMPLEMENTED FOR VIDEO LECTURES:







$$F_{12} \propto \frac{|q_1| |q_2|}{r^2}$$

$$F_{12} = \frac{1}{4\pi\epsilon} \frac{|q_1| |q_2|}{r^2}$$

Convolution

$y(n) = x(n) * h(n)$
 $y(n) = x(n) * h(n) = \sum_{k=0}^{N-1} x(k) \cdot h(n-k)$
 $y(n) = x(n) \otimes h(n) = \sum_{k=0}^{N-1} x(k) \cdot h(n-k) \frac{1}{N}$

Ex $x_1(n) = \{1, 2, 3, 4\} \rightarrow 4$
 $x_2(n) = \{3, 2, 1\} \rightarrow 3$

Lin con $\Rightarrow N = \text{length}(x_1) + \text{length}(x_2) - 1 = 4 + 3 - 1 = 6$
 Cir con $\Rightarrow N = \text{length}(\max(\text{length}(x_1), \text{length}(x_2))) = \max(4, 3) = 4$

Internet of Things (IoT) Components

Process of IoT → **DATA** (unprocessed/raw) → **Information** (filtering, processing & Analyzing) → **Knowledge** (Structured/Organized)

Components: Home Appliances - Lights, AC, Washing Machine, Computers, Smartphones

Connecting & Communicate: Industry, Agriculture, Education, Retail, Home & Lifestyle Control

Example: Data = Sensing, Temp = 28°C → Cool ✓, 10°C → HOT ✓

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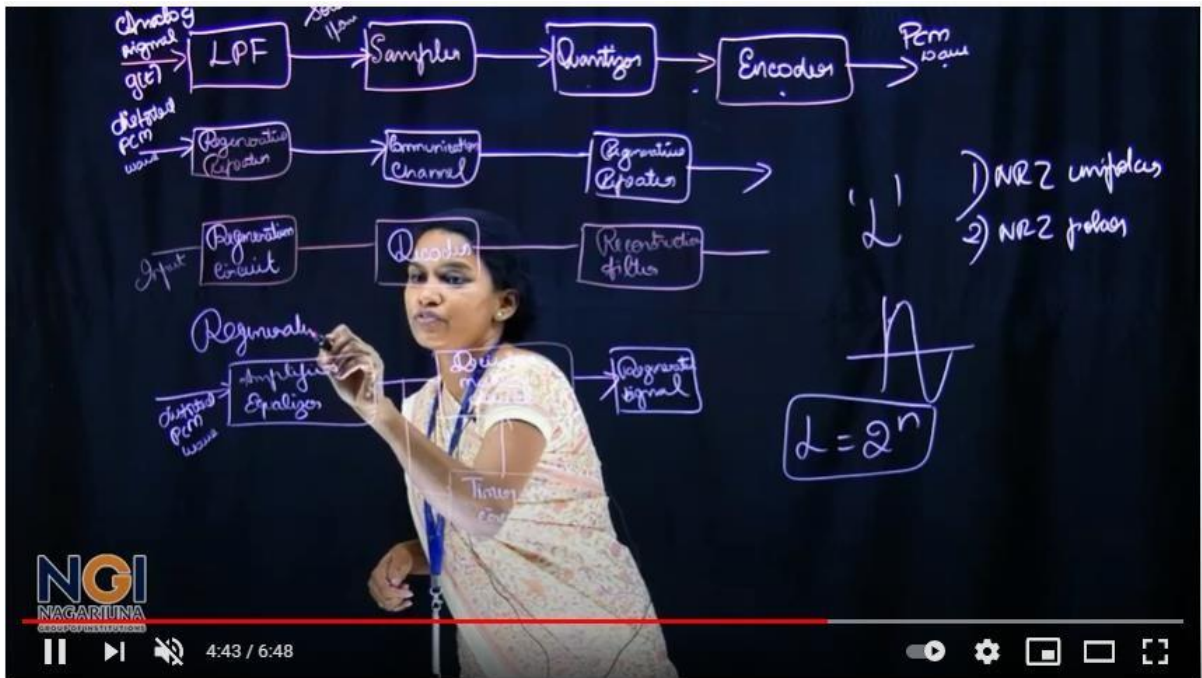
Microprocessor & Microcontroller

Microprocessor Structure:

- Input Device:** Keyboard, Mouse (a=10, b=20)
- Internal Components:** ALU, Registers, Control Unit
- Memory:** RAM, ROM
- Output Device:** Printer, Console, Screen
- Timing & Control signals:** (connected to Control Unit)

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4:00 / 4:12



Google Classroom Snippets:

The screenshots show the following classroom details:

- 6th ECE_DC_B SECTION:** Class code: 3zmfyH. Topics include RECORDS_DC LAB, QUESTION BANK, MODULES, TOTAL MARKS, AAT-2, CIE-2, and QUESTION BANK.
- 17ECT72 B:** Class code: msa1s7. Recent assignments include CIE-2 (Dec 14, 2020) and AAT-2 (Dec 18, 2020).
- DSP Section A:** Topics include DSP Lab FFT (Cross Correlation), DSP Lab FFT (Difference Equation), DSP Lab (THECLAB) Manual, DSP AAT-2, DSP Make up CIE, DSP Module 5 Question Bank, DSP Module 1 Question Bank, DSP Module 5 Notes, DSP CIE 2, and DSP Module 3 & Module 4 Question Bank.

CLASS TAKEN USING DIGITAL NOTEPADS:

Processing Gain (spreading factor)

$PG = SF = T_b / T_c$

Period of one data bit T_b

Period of one chip T_c

PN \rightarrow

Prf. code - fixed for a pos'd

TX Logic

5.5

FSK generation:

Binary wave $M(t)$

$(1, \omega)$

$(0, \omega_0)$

$S_1(t)$

$S_2(t)$

$\phi_1(t) = \sqrt{\frac{P}{2}} \cos(\omega_1 t)$

$\phi_2(t) = \sqrt{\frac{P}{2}} \sin(\omega_2 t)$

Binary FSK wave $S(t) = S_1(t) + S_2(t)$

*fsk modulation and demodulation

Interactive 1

Stopped

Level: 0

Plots: [?]

- modulated signal V(t)
- message signal V(t)
- carrier signal V(t)
- demodulated signal V(t)

7:18 / 12:21

Miss Jyothi s k EC