The Zenith

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Device brings silicon computing power to brain research and prosthetics

"Nobody has taken these 2D silicon electronics and matched them to the three-dimensional architecture of the brain before," said Abdulmalik Obaid, a graduate student in materials science and engineering at Stanford. "We had to throw out what we already know about conventional chip fabrication and design new processes to bring silicon electronics into the third dimension. And we had to do it in a way that could scale up easily."

The device, the subject of a paper published March 20 in Science Advances, contains a bundle of microwires, with each wire less than half the width of the thinnest human hair. These thin wires can be gently inserted into the brain and connected on the outside directly to a silicon chip that records the electrical brain signals passing by each wire -- like making a movie of neural electrical activity. Current versions of the device include hundreds of microwires but future versions could contain thousands.

"Electrical activity is one of the highest-resolution ways of looking at brain activity," said Nick Melosh, professor of materials science and engineering at Stanford and co-senior author of the paper. "With this microwire array, we can see what's happening on the single-neuron level."

Abstract illustration of neuron and binary code (stock image).
Credit: © robsonphoto / Adobe Stock

The researchers tested their brain-machine interface on isolated retinal cells from rats and in the brains of living mice. In both cases, they successfully obtained meaningful signals across the array's hundreds of channels. Ongoing research will further determine how long the device can remain in the brain and what these signals can reveal. The team is especially interested in what the signals can tell them about learning. The researchers are also working on applications in prosthetics, particularly speech assistance.

Worth the wait

The researchers knew that, in order to achieve their aims, they had to create a brain-machine interface that was not only long-lasting, but also capable of establishing a close connection with the brain while causing minimal damage. They focused on connecting to silicon-based devices in order to take advantage of advances in those technologies.

"Silicon chips are so powerful and have an incredible ability to scale up," said Melosh. "Our array couples with that technology very simply. You can actually just take the chip, press it onto the exposed end of the bundle and get the signals."

One main challenge the researchers tackled was figuring out how to structure the array. It had to be strong and durable, even though its main components are hundreds of minuscule wires. The solution was to wrap each wire in a biologically-safe polymer and then bundle them together inside a metal collar. This assures the wires are spaced apart and properly oriented. Below the collar, the polymer is removed so that the wires can be individually directed into the brain.

Existing brain-machine interface devices are limited to about 100 wires offering 100 channels of signal, and each must be painstakingly placed in the array by hand. The researchers spent years refining their design and fabrication techniques to enable the creation of an array with thousands of channels -- their efforts supported, in part, by a Wu Tsai Neurosciences Institute Big Ideas grant.

"The design of this device is completely different from any existing high-density recording devices, and the shape, size and density of the array can be simply varied during fabrication. This means that we can simultaneously record different brain regions at different depths with virtually any 3D arrangement," said Jun Ding, assistant professor of neurosurgery and neurology, and co-author of the paper. "If applied broadly, this technology will greatly excel our understanding of brain function in health and disease states."

After spending years pursuing this ambitious-yet-elegant idea, it was not until the very end of the process that they had a device that could be tested in living tissue.

*Source: Standford **University***
www.sciencedaily.com

Using sound and light to generate ultra-fast data transfer

What distinguishes terahertz quantum cascade lasers from other lasers is the fact that they emit light in the terahertz range of the electromagnetic spectrum. They have applications in the field of spectroscopy where they are used in chemical analysis.

The lasers could also eventually provide ultra-fast, short-hop wireless links where large datasets have to be transferred across hospital campuses or between research facilities on universities -- or in satellite communications.

To be able to send data at these increased speeds, the lasers need to be modulated very rapidly: switching on and off or pulsing around 100 billion times every second.

Engineers and scientists have so far failed to develop a way of achieving this.

A research team from the University of Leeds and University of Nottingham believe they have found a way of delivering ultra- fast modulation, by combining the power of acoustic and light waves. They have published their findings today (February 11th) in Nature Communications.

John Cunningham, Professor of Nanoelectronics at Leeds, said: "This is exciting research. At the moment, the system for modulating a quantum cascade laser is electrically driven -- but that system has limitations.

"Ironically, the same electronics that delivers the modulation usually puts a brake on the speed of the modulation. The mechanism we are developing relies instead on acoustic waves."

A quantum cascade laser is very efficient. As an electron passes through the optical component of the laser, it goes through a series of 'quantum wells' where the energy level of the electron drops and a photon or pulse of light energy is emitted.

One electron is capable of emitting multiple photons. It is this process that is controlled during the modulation.

Instead of using external electronics, the teams of researchers at Leeds and Nottingham Universities used acoustic waves to vibrate the quantum wells inside the quantum cascade laser.

The acoustic waves were generated by the impact of a pulse from another laser onto an aluminium film. This caused the film to expand and contract, sending a mechanical wave through the quantum cascade laser.

Tony Kent, Professor of Physics at Nottingham said "Essentially, what we did was use the acoustic wave to shake the intricate electronic states inside the quantum cascade laser. We could then see that its terahertz light output was being altered by the acoustic wave."

Professor Cunningham added: "We did not reach a situation where we could stop and start the flow completely, but we were able to control the light output by a few percent, which is a great start.

"We believe that with further refinement, we will be able to develop a new mechanism for complete control of the photon emissions from the laser, and perhaps even integrate structures generating sound with the terahertz laser, so that no external sound source is needed."

Professor Kent said: "This result opens a new area for physics and engineering to come together in the exploration of the interaction of terahertz sound and light waves, which could have real technological applications."

University of Leeds

www.sciencedaily.com

Expert Lecture/Seminars/Courses/Industrial Visits Organized

- Industrial visit to Nashik road railway station for SE students under the subject Control System on 2nd and 9th March 2020.

- Students of SE have secured a runner up position at GCoE, Jalgaon in Hackathon 1.0 competition 4th and 5th March 2020.

  Students participated:

  a. Bhavar Aditya Parasharam
  b. Bangar Mandar Rajendra

GOVERMENT COLLEGE OF ENGINEERING , JALGAON
(An Autonomous Institute of Government of Maharashtra)

HACK-A-THON 1.0

CERTIFICATE OF PARTICIPATION

This Certificate is awarded to

ADITYA BHAVAR

for Winner / 1st Runner up / 2nd ~~Runner~~/participating in
GCoE, Jalgaon Hackathon 1.0 (~~Software~~/Hardware) organized on 04-05 March 2020

Dr. B. M. Dawari
Faculty Convener

Dr. R. D. Kokate
Principal, GCoE, Jalgaon

GOVERMENT COLLEGE OF ENGINEERING , JALGAON
(An Autonomous Institute of Government of Maharashtra)

HACK-A-THON 1.0

CERTIFICATE OF PARTICIPATION

This Certificate is awarded to

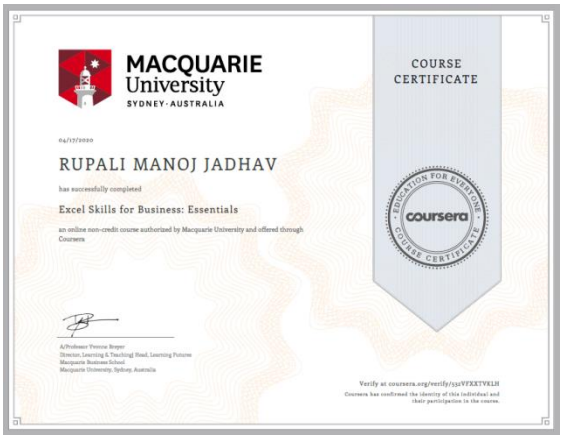
BANGAR MANDAR

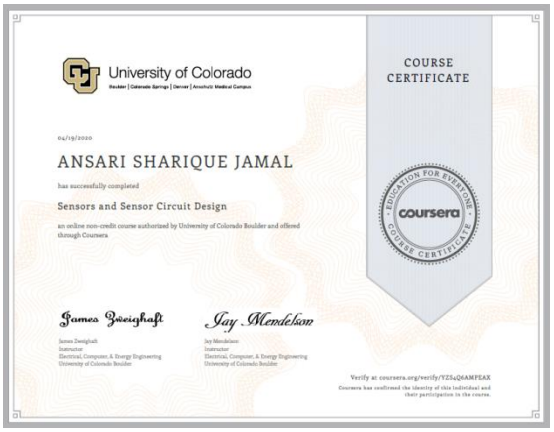
for Winner / 1st Runner up / 2nd ~~Runner~~/participating in
GCoE, Jalgaon Hackathon 1.0 (~~Software~~/Hardware) organized on 04-05 March 2020

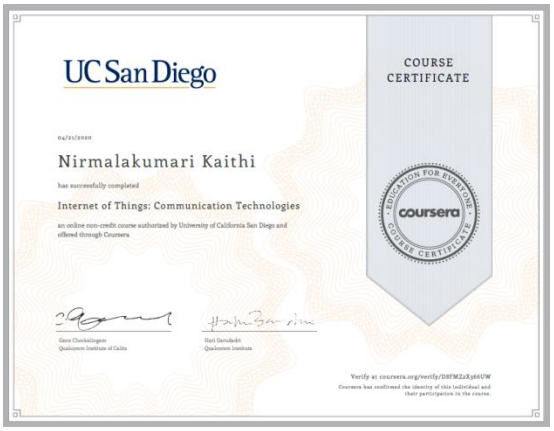
Dr. B. M. Dawari
Faculty Convener

Dr. R. D. Kokate
Principal, GCoE, Jalgaon

Coursera Certification by Staff







- Staff has completed various courses on coursera.

E &TC		
Sr. No	**Name of Staff**	**Course Name**
1.	Prof. Dr. D. M. Chandwadkar	Leadership and Emotional Intelligence
2.	Dr. S. S. Morade	Programming for everybody (getting started with python)
3.	S. P. Munot	Programming for everybody(getting started with python)
4.		Python Basics
5.		Excel skills for business: essentials
6.	Dr. S. A. Patil	Programming for everybody (getting started with Python)
7.		Leadership and Emotional Intelligence
8.	M. P. Joshi	Internet of Things: Communication Technologies
9.		Project Management: the basics for success
10.	V. R. Lele	Programming for everybody (getting started with Python)
11.		Python Data Structures
12.	D. C. Shimpi	Programming for everybody (getting started with Python)
13.		Internet of Things: Communication Technologies
14.	S. A. Karpe	AI for Everyone
15.	S. V. Shelke	Programming for Everybody (Getting Started with Python)
16.		Interfacing with the Arduino
17.	S. D. Patil	SQL for data science
18.		The Data Scientists toolbox
19.		Excel skills for business- essentials

20.		Excel skills for business- Intermediate 1
21.		Excel skills for business- Intermediate 2
22.		Programming for Everybody (Getting started with Python)
23.	P. J. Mondhe	Neural Networks and Deep Learning
24.		Neural Network from Scratch in TensorFlow
25.		Introduction to Project Management
26.	S. A. Zalte	Introduction to Electronics
27.		AI for Everyone
28.		Programming for Everybody (Getting Started with Python)
29.		Excel Skills for Business: Essentials
30.	J. R. Shinde	Building Arduino robots and devices
31.		Grammar and punctuation

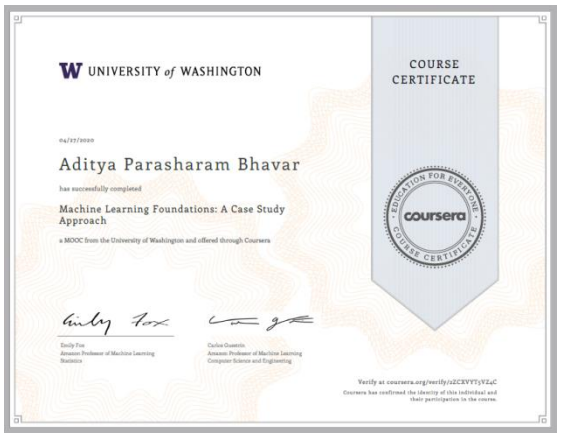
Electronics		
Sr. No	**Name of Staff**	**Course Name**
1	Prof. Dr. M. R. Admane	Neural Networks and Deep Learning
2		Neural Network from Scratch in TensorFlow
3		Introduction to Project Management
4	Dr. K. S. Holkar	Control of Mobile Robots
5	R. R. Khinde	Computer communication
6	K. Nirmalakumari	Internet of Things: Communication Theory
7		Internet of Things: Multimedia Technologies
8	S.A. Ansari	Sensors and Sensor Circuit Design

9	N. M. Bhujbal	Programming for Everybody (Getting Started with Python)
10		Sensor and sensor circuit design
11	K. S. Navale	Introduction to TensorFlow for Artificial Intelligence, Machine Learning, and Deep Learning
12		Convolutional Neural Networks in TensorFlow
13		Natural Language Processing in TensorFlow
14		Getting Started with AWS Machine Learning
15		Sequences, Time Series and Prediction
16		Computer Vision - Image Basics with OpenCV and Python
17		Video Basics with OpenCV and Python
18	S. S. Dongare	AI for Everyone
19		Electrodynamics: An Introduction
20	P. P. Patil	Internet of Things: Communication Theory
21		Internet of Things: Multimedia Technologies
22		Programming for Everybody (Getting Started with Python)
23	D. D. Khartad	Programming for Everybody (Getting Started with Python)
24		Python in data structures
25		AI for Everyone
26	V. S. Taware	Building Arduino robots and devices
27		Programming for Everybody (Getting Started with Python)

Supporting Staff		
Sr. No	**Name of Staff**	**Course Name**
1	A. A. Hadpe	Write professional emails in English
2		Speak English professionally: In person ,online & on phone
3		Build your professional eportfolio in English
4	S. M. Shinde	Write professional emails in English
5		Speak English professionally: In person ,online & on phone
6		Build your professional eportfolio in English
7	S. R. Gangurde	Write professional emails in English
8		Speak English professionally: In person ,online & on phone
9		Build your professional eportfolio in English
10		Excel skills for Business Specialization
11	R. M. Jadhav	Excel skills for Business Specialization
12		Write Professional Emails in English
13		Speak English professionally: in person, online and on phone
14		Build your professional eportfolio in English
15		Programming for Everybody (Getting Started with Python)
16	L. N. Chaudhari	Write a professional emails in English
17		Speak english professionally: in person, online and on phone

18		Build your professional eportfolio in English
19	S. S. Khaire	Excel skills for Business Specialization
20		Write Professional Emails in English
21		Speak English Professionally: In Person, Online & On the Phone
22		Build Your Professional ePortfolio in English
23	K. R. Dhikale	Excel skills for Business Specialization
24		Programming for Everybody (Getting Started with Python)
25		Write Professional Emails in English
26		Speak English Professionally: In Person, Online & On the Phone
27		Build Your Professional ePortfolio in English

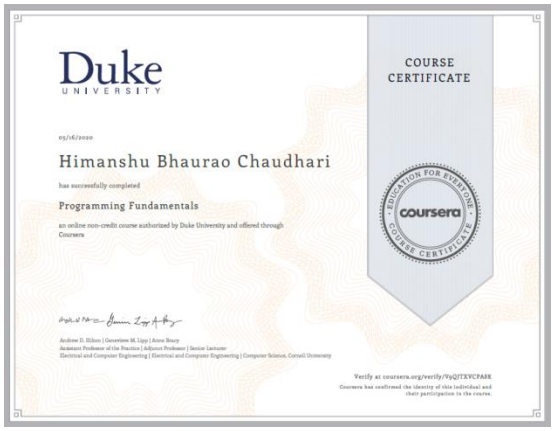
Coursera Certification by Students

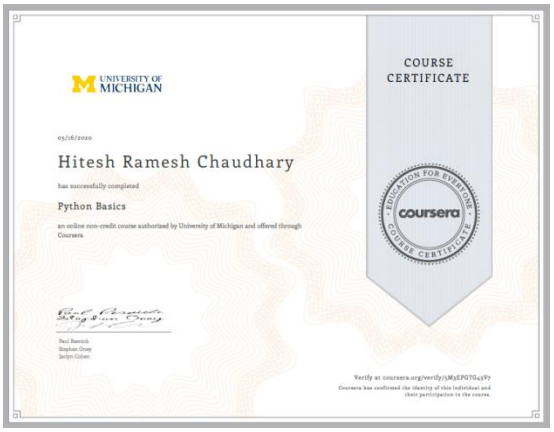


IBM
COURSE CERTIFICATE
04/25/2020
Swarali Surendra Varkhede
has successfully completed
Introduction to Cybersecurity Tools & Cyber Attacks
an online non-credit course authorized by IBM and offered through Coursera
Coursera

DTU Technical University of Denmark
COURSE CERTIFICATE
05/16/2020
Bhagyata Kansara
has successfully completed
Introduction to solar cells
an online non-credit course authorized by Technical University of Denmark (DTU) and offered through Coursera
Coursera

YONSEI UNIVERSITY
COURSE CERTIFICATE
04/18/2020
Divya Gupta
has successfully completed
First Step Korean
an online non-credit course authorized by Yonsei University and offered through Coursera
Coursera


Duke UNIVERSITY
COURSE CERTIFICATE
05/16/2020
Himanshu Bhaurao Chaudhari
has successfully completed
Programming Fundamentals
an online non-credit course authorized by Duke University and offered through Coursera
Coursera


UNIVERSITY OF MICHIGAN
COURSE CERTIFICATE
05/16/2020
Hitesh Ramesh Chaudhary
has successfully completed
Python Basics
an online non-credit course authorized by University of Michigan and offered through Coursera
Coursera

UNIVERSITY OF MICHIGAN
COURSE CERTIFICATE
05/12/2020
MALODE SHRUTI SUNIL
has successfully completed
Programming for Everybody (Getting Started with Python)
an online non-credit course authorized by University of Michigan and offered through Coursera
Coursera

UNIVERSITY OF MICHIGAN
COURSE CERTIFICATE
05/18/2020
Shubham Rajesh Jeve
has successfully completed
Capstone: Retrieving, Processing, and Visualizing Data with Python
an online non-credit course authorized by University of Michigan and offered through Coursera
Coursera

SUNY The State University of New York
COURSE CERTIFICATE
04/10/2020
Atharv Vijay Shimpi
has successfully completed
How to Write a Resume (Project-Centered Course)
an online non-credit course authorized by The State University of New York and offered through Coursera
Coursera

- Students have completed various courses on coursera.

FE Electronics		
Sr. No.	**Name**	**Course Name**
1	Chaudhari Himanshu Bhaurao	Programming For Everybody (Getting Started With Python)
2		Programming Fundamentals
3	Chaudhary Hitesh Ramesh	Python Basics
4	Malode Shruti Sunil	Programming For Everyone(Getting Started With Python)
5	Shaikh Fardin Aziz	Programming For Everyone(Getting Started With Python)
SE Electronics		
Sr. No.	**Name**	**Course Name**
6	Bhavar Aditya Parasharam	Machine Learning Foundations: A Case Study Approach
7	Chandwadkar Shivam Shamrao	Programming For Everybody (Getting Started With Python)
8		Python Data Structures
9	Jeve Shubham Rajesh	Programming For Everybody (Getting Started With Python)
10		Python Data Structures
11		Capstone: Retrieving, Processing, And Visualizing Data With Python
12	Jha Raghvendram Ranjan Sundaram	Programming For Everybody (Getting Started With Python)
13		Python Data Structures
14		Using Python To Access Web Data
15		Capstone: Retrieving, Processing, And Visualizing Data With Python
TE Electronics		
Sr. No.	**Name**	**Course Name**
16	Arya Aniket -	The Arduino Platform And C Programming
17		Plastic Electronics By École Polytechnique

18		Cameras, Exposure, And Photography
19	Thanekar Nimish Vinod	Programming For Everybody (Getting Started With Python)
20		Introduction To Augmented Reality And Arcore
21		Technical Support Fundamentals
BE Electronics		
Sr. No.	**Name**	**Course Name**
22	Ghutke Tanaya Anandkumar	Business English : Networking
23	Kharche Parag Vijay	Programming For Everybody (Getting Started With Python)
24	Kshirsagar Tejashree Shankar	Python Programming Essentials
25	Mahajan Shubham Prakash	Python For Everybody
SE E&TC		
Sr. No.	**Name**	**Course Name**
1	Bhavsar Abhishek Ravindra	Programming For Everybody (Getting Started With Python) University Of Michigan
2		Python Data Structures University Of Michigan
3	Kasat Apeksha Manoj	Google Cloud Platform Fundamentals: Core Infrastructure
4		Essential Google Cloud Infrastructure : Foundation
5	Kharde Shweta Sunil	Programming For Everybody Getting Started With Python
6	Saiyyad Saniya Irfan	Programming For Everybody (Getting Started With Python) University Of Michigan
7	Varkhede Swarali Surendra	"Programming For Everybody (Getting Started With Python) University Of Michigan"

8		Introduction To Cybersecurity Tools & Cyber Attacks
9		Cybersecurity Roles, Processes & Operating System Security
10		Cybersecurity Compliance Framework & System Administration
TE E&TC		
Sr. No.	**Name**	**Course Name**
11	Digholkar Vrushali Shashikant	Fundamentals Of Graphic Design
12		Introduction To Typo Graphy
13	Mahajan Hrishikesh Vinod	Introduction To HTML5
14		Programming For Everybody (Getting Started With Python)
15		Python Data Structures
16	Shimpi Atharv Vijay	Python Data Structures
17		Programming For Everybody (Getting Started With Python)
18		How To Write A Resume (Project-Centered Course)
BE E&TC		
Sr. No.	**Name**	**Course Name**
19	Gupta Divya Sanjay	First Step Korean
20		Programming For Everybody (Getting Started With Python)
21	Kansara Bhagyata Surendra	Introduction To Solar Cells

YouTube Video Lecture by staff

E &TC			
Sr. No.	**Name of Faculty**	**Topic**	**YouTube Links**
1	Prof. Dr. D. M. Chandwadkar	Chopper part 1, 2, 3, 4 , Motor applications	https://www.youtube.com/watch?v=tkF8cIkxbRs
			https://www.youtube.com/watch?v=VT_sIJzlXXY
			https://www.youtube.com/watch?v=2RlY5GXm73I
			https://www.youtube.com/watch?v=o7kStXvmA-U
		Quadrant operation of choppers	https://youtu.be/H1dEhMkucZ8
		AC to AC converter with R load	https://youtu.be/8-PJVUqwdJw
2	Dr. S. S. Morade	ADC of LPC 2148	https://youtu.be/0iJBWUXcb28
		I2C interface with LPC2148	https://www.youtube.com/watch?v=rv3UhWKk940
		DSP Programming	https://youtu.be/H6wFsEYvPj8
3	S. P. Munot	Analog IIR filter design	https://youtu.be/hLT39hoRdpM
		IIR Filter Design	https://youtu.be/9CYvJgRB2Ko
		Chebyshev	https://youtu.be/tFta8imQcJc
4	Dr. S. A. Patil (Ugale)	Satellite subsystems Part 1, 2, 3	https://youtu.be/f0vrKMF7oUM
			https://youtu.be/x0WtiP41KBg
			https://youtu.be/xJATeIRhV_c
		Satellite Link Design-Part1	https://youtu.be/pNc-J8gBj6w
		Satellite Link Design-Part 2	https://youtu.be/VMp2bK8vplc
5	M.P. Joshi	Fundamental of Acoustics	https://youtu.be/AjL8ZDowKG4I

		Auditorium Acoustics	https://youtu.be/J1v6n83T-fE
		Various Digital Recorders and players (CD,DVD,Blu-Ray Players)	https://youtu.be/2GTm9AmzGFU
		Mobile TV	https://youtu.be/TI5_qx7611Y
		DMM	https://youtu.be/h9uN-eHblZs
		Function Generator	https://youtu.be/4LV6iI5Cmhw
		Power supply	https://youtu.be/FrkN3b_OhMA
		Electronics Instuments: DSO, Ammeter, Voltmeter and Auto Transformer	https://youtu.be/Bs_2ROMNydI
			https://youtu.be/fyP6rtIffA4
6	V. R. Lele	Polymorphism in C++	https://youtu.be/H64W_BuerdE
		Java keywords	https://youtu.be/oC4N5m636h8
7	D. C. Shimpi	PLC programming	https://www.youtube.com/watch?v=Ctrw7TJtYuQ
		Introduction to CNC and Industrial Communication	https://www.youtube.com/watch?v=1CV9REVHnRU
		Introduction SCADA	https://www.youtube.com/watch?v=N9yPNWhdnJo
		Pulse code modulation	https://www.youtube.com/watch?v=5qegCp3-fLQ
		Noise in communication system	https://www.youtube.com/watch?v=En3SYKqq0qc
		Noise in communication system part-II	https://www.youtube.com/watch?v=CqMKtRGFepc

		Interfacing of HMI with PLC	https://youtu.be/CSxXMXxsN3o
		Study of FM spectrum	https://youtu.be/eS8-gvluBxM
8	R. V. Chothe	Transmission media	https://youtu.be/3ebzL0rk_mg
		Error detection and correction codes	https://youtu.be/IilLTbooc-A
9	S. C. Shinde	Page replacement algorithm and numericals	https://www.youtube.com/watch?v=5Dtu1hA-UaQ
			https://www.youtube.com/watch?v=bxnL3hfyIBg&t=5s
			https://youtu.be/BCQyAQXm5PE
		Process State diagram	https://youtu.be/RjZ021vSokk
		Bankers Algorithm for deadlock detection	https://youtu.be/vAZ1tfhkT4g
10	S. V. Shelke	Number system and conversion	https://youtu.be/eQz1Bdu4aVA
		SR flipflop and its working	https://youtu.be/yRHC9gpdrBc
		JK T D Flip flop	https://youtu.be/Puke6B1zQ1o
		Electronic Instrumentation	https://www.youtube.com/watch?v=VaItT7rVJkU
		Sensors part 1	https://www.youtube.com/watch?v=-hIM3Y3LAAY
		Sensors part 2	https://www.youtube.com/watch?v=zLihtS7caOs
		Communication system Modulation techniques in communication	https://youtu.be/GqRnFU4vlMY
			https://youtu.be/kpEJvHcgZ8E

		systems	
11	S. D Patil	Computation of State Transition Matrix, Properties of State Transition Matrix, Computation of Transfer Function.	https://youtu.be/MbxgrlA3AL4
			https://youtu.be/fV2kGVRRX94
			https://youtu.be/GfPpvSLDbLk
		Basics of Controllers	https://youtu.be/TiBedTJ8JRY
		Geothermal Energy-Technological aspects	https://youtu.be/X0FRb5DPHBM
12	P. J. Mondhe	Evolution of Cellular Standards & An Introduction to GSM	https://youtu.be/HFOay1yt8SA
		GSM: Architecture	https://youtu.be/Ka8Lwvy3-x0
		GSM: Radio Subsystem & Traffic Channels	https://youtu.be/Ha_-ErD4428
		LTE Architecture Part - I	https://www.youtube.com/watch?v=xzdvVdVg89Y
		LTE Architecture Part - II	https://www.youtunbe.com/watch?v=TGFsKsYt-nk
13	S. A. Zalte	1bit memory cell	https://www.youtube.com/watch?v=h-iYozOvTQs&t=222s
		S-R Flip Flop	https://www.youtube.com/watch?v=D0DdsIOhxCQ&t=113s
		D Flip Flop	https://www.youtube.com/watch?v=Ho5OItPz4eo&t=23s
		LVDT	https://www.youtube.com/watch?v=BfIaw1rrTwE

		Temperature Sensors	https://www.youtube.com/watch?v=8-hBFjOjp0I
14	J. R. Shinde	Bedside Patient Monitoring system	https://youtu.be/2qgo1--muos
		Stress testing system	https://youtu.be/ftpKRHQcouA
		Defibrillator	https://youtu.be/ADvbcSMkMkA
		X ray machine	https://youtu.be/hd0L7V81j9Y
		Bio Electric potential, Bio Electrodes: its types and Electrodes used for ECG, EEG and EMG,	https://youtu.be/L0BpvUKtvfs https://youtu.be/3RcS4cDgK08
		Simuation of semiconverter in Matlab Simulink (Practical)	https://youtu.be/CmfdX4lYuZg

Electronics			
Sr. No.	**Name of Faculty**	**Topic**	**YouTube link**
1	Prof. Dr. M. P. Satone	LPC2148 ADC	https://www.youtube.com/watch?v=pZeNMIOAbys
		LPC2148 DAC	https://www.youtube.com/watch?v=uGj4BTb7SRM
		UART of LPC2148	https://www.youtube.com/watch?v=oqNIB9OverE
		X-OR using Neural networks	https://www.youtube.com/watch?v=B-0ksz-qQjw
		Back Propagation Neural Network	https://www.youtube.com/watch?v=F5bvzzWpuk4

		Back Propagation Program in MATLAB	https://www.youtube.com/watch?v=T_ZW-d4LClc
		LPC2148: Interfacing of LCD	https://youtu.be/B-0YjVHEi8o
		LPC2148:LED flashing program and GPIO Registers	https://youtu.be/Met6JRrE94k
2	Dr. K. S. Holkar	PID controller part-1	https://youtu.be/qSoZCnDAIbY
		PID controller part-2	https://youtu.be/St6rkTG8kdY
		PID controller Part-3	https://m.youtube.com/watch?v=pyK-sX8k-lI
		Standard input signals and response of first order system	https://youtu.be/NKlcvfZNTiU
		Time response specifications and steady state error constants	https://youtu.be/tevvN5xMabY
3	R. R. Khinde	Network Layers	https://youtu.be/KWZ_8HiMspM
		Transport Layer(Unit-5)	https://youtu.be/tnptnsE5KJ8
		Congestion control &Quality of service(Unit-5)	https://youtu.be/OEuRC9rISOo
		TCP/IP Model & Network Addressing	https://youtu.be/k17oW6LTURk
		OSI Model	https://youtu.be/mmDnzlyT8c0
4	K. Nirmala kumari	Introduction to Verilog	https://www.youtube.com/watch?v=NB_Yxp3-BZU&feature=youtu.be
		Verilog Task and Function	https://www.youtube.com/watch?v=RYSVkOSM7hI

		Writing Testbech in Verilog	https://www.youtube.com/watch?v=Gu-A92Rhw-Y
		DVD	https://www.youtube.com/watch?v=LxxRdM5F9zI
		CD	https://www.youtube.com/watch?v=11wsn4bzISM
		DTV	https://www.youtube.com/watch?v=uqfAybrS3Ts
		Introduction to VHDL	https://www.youtube.com/watch?v=MYwsDv7QwM8
5	N.M. Bhujbal	Introduction to Human Machine interface	https://www.youtube/yG43PjMyuQ
		PLC commissioning	https://www.youtube/3GblQ3Bi5j0
		Introduction to Human Machine interface Part 2	https://youtu.be/9nRC_ezMSZ4
		Safety system in automotive	https://youtu.be/sVqsLU8p5Yo
		Automotive Diagnostic	https://youtu.be/oJ-LMr9HuOE
		PLC Program to control lights in sequence	https://youtu.be/yDql5yR9evs
		Automotive communication protocol	https://youtu.be/YXfibuHnb1U
6	S.S Ansari	Active filters1	https://youtu.be/2_2bayzS7ho
		Active Filters2	https://youtu.be/k7cwO6ArSyI
7	K.S. Navale	Exception Handling in JAVA	https://youtu.be/SzL5dKxGC3o
		DSM strategies	https://www.youtube.com/watch?v=nH70FKZfvRY

		DSM overview	https://www.youtube.com/watch?v=WCoYi9cC6Xk
		Inheritance in JAVA	https://youtu.be/hgZlxe-OiEo
		Interface in JAVA	https://youtu.be/99yf_mv1CXw
8	S.S. Dongare	Elements of Communication System	https://youtu.be/C_8K2DnZC8A
		Electromagnetic Spectrum	https://youtu.be/hu34Jzwk6KI
		Modes of Signal Transmission	https://youtu.be/AVzwi-NBeMU
		Communication Media	https://youtu.be/JiVYIjPPbh4
		Modulation & Its Need	https://youtu.be/_ru8U5ilDrA
9	P.P. Patil	Analog communication Practical _Amplitude modulation	https://youtu.be/u6psYQGTw7s
		Analog communication Practical _Frequency modulation	https://youtu.be/SBQdb59ISkU
		Pulse modulation	https://youtu.be/FSaJtNY9VBs
		Noise	https://youtu.be/cg7wdVRJwGU
		Noise Factor and Noise Figure	https://youtu.be/nl7S-NJxspE
		AM -DSB-FC,DSB-SC,SSB(Unit-1)	https://www.youtube.com/watch?v=N4-kN-q-7jQ
		AM super heterodyne Receiver(Unit-2)	https://www.youtube.com/watch?v=r8cnRF6922o&t=45s
10	D.D. Khartad	Energia software	https://youtu.be/JeDRZWqWetk

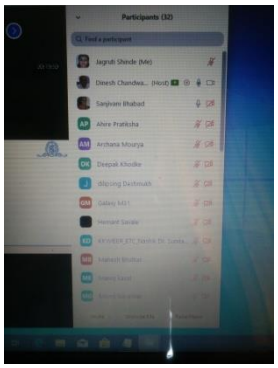
		tool	
		How to add C2000 launchpads in energia	https://www.youtube.com/watch?v=2CTnUodV5Vs
		Information of Energia IDE and How to use it	https://www.youtube.com/watch?v=hiDuahzyCWQ
		Digital Input/Output Functions used in Energia	https://www.youtube.com/watch?v=BvtHcJ9hQzQ
		Analog Input/Output and Delay functions used in Energia	https://www.youtube.com/watch?v=Csqohpj3pAo
		Character Functions used in Energia	https://www.youtube.com/watch?v=GrWrqJ0ttw&feature=youtu.be
		Mathematical Functions used in Energia (Part-I)	https://www.youtube.com/watch?v=faUNqvUCYkg&t=122s
		Mathematical Functions used in Energia (Part-II)	https://www.youtube.com/watch?v=sbpClqEBl3o
11	Vrushali Taware	MSP430 - [ADC: Blocks and their function]	https://youtu.be/DNEbPbtNlrw
		MSP430 - [ADC: Register formats]	https://youtu.be/HNwX-S4ycFQ

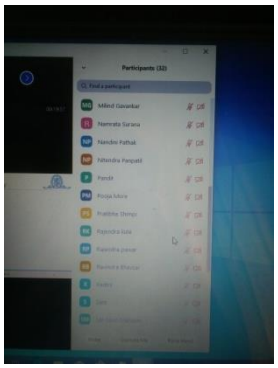
Parents-Teacher Meet

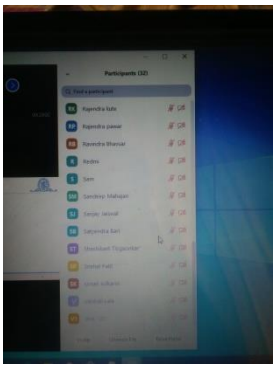
Department of Electronics & Telecommunication have organized an online Parent-Teacher meet for every class individually.

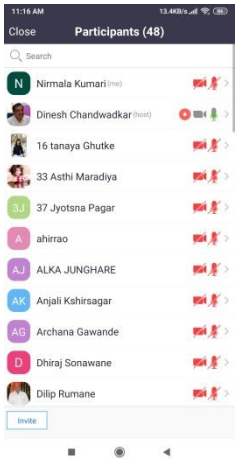
- BE E&TC-16th April 2020
- TE E&TC-17 April 2020
- SE E&TC- 18 April 2020
- SE Electronics – 20th April 2020
- TE Electronics – 21st April 2020

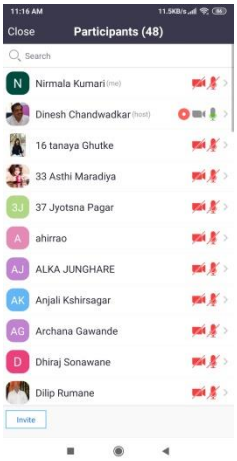
- BE Electronics – 22nd April 2020

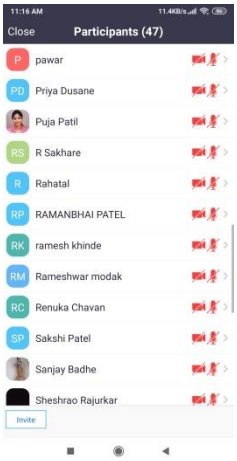


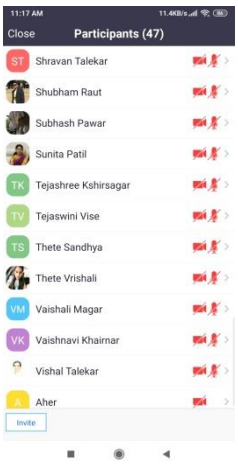


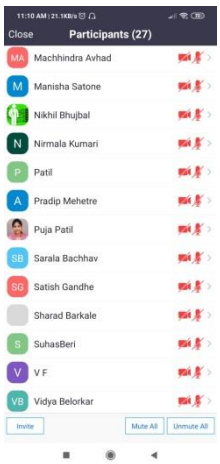


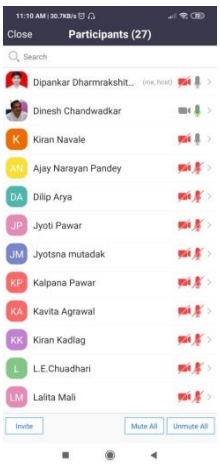


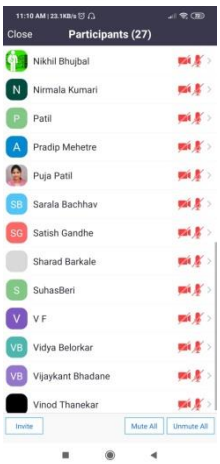












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