



# Universal College of Engineering

(Permanent Unaided | Approved by AICTE, DTE & Affiliated to University of Mumbai )  
(Accredited with B+ Grade by NAAC)

## **ELECTROBUZZ**

An initiative by

**ELECTRONIC DEPARTMENT**

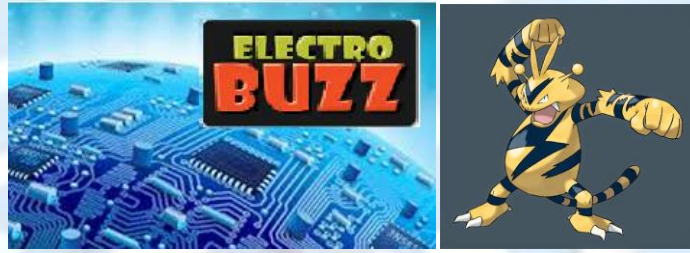
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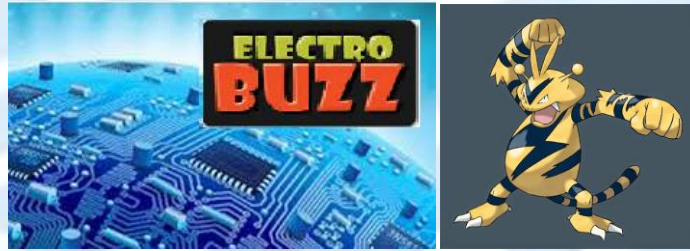
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Department of Electronics Engineering



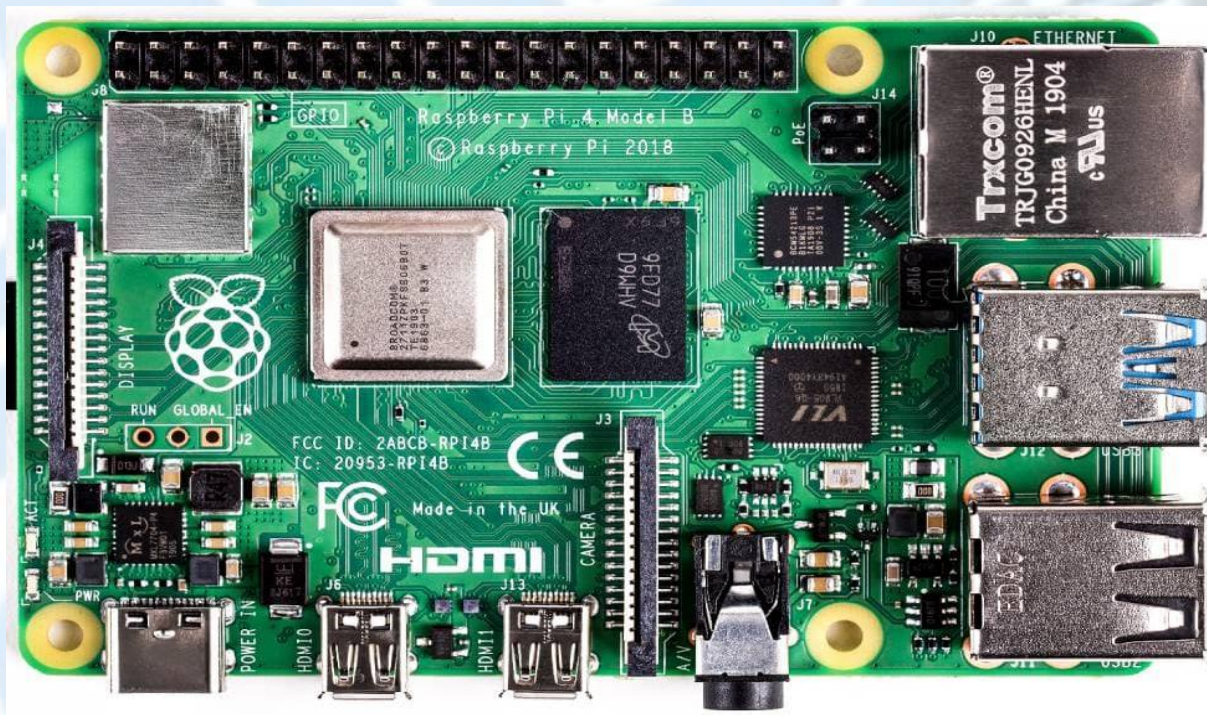


## **FIND INSIDE**

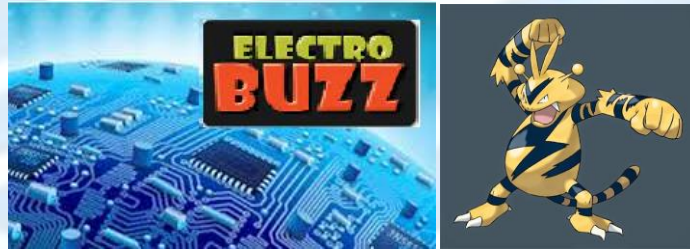
- RASPBERRY PI 4 WITH 3X FASTER CPU, DUAL 4K DISPLAY OUTPUTS, UP TO 4GB LPDDR4 RAM LAUNCHED
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## RASPBERRY PI 4 WITH 3X FASTER CPU, DUAL 4K DISPLAY OUTPUTS, UP TO 4GB LPDDR4 RAM LAUNCHED



Taking many fans and community members by surprise, the Raspberry Pi foundation has announced the brand new Raspberry Pi 4 Model B, a significant upgrade to the Raspberry Pi 3 generation. The Raspberry Pi 4 series was not expected until 2020, but according to the launch announcement, the second of four planned silicon revisions for the new device's processor turned out to be production-ready, saving up to a year of development time. In a blog post announcing the release, Raspberry Pi Ltd founder and CEO, Eben Upton, describes this new model as able to provide a "PC-like level of performance for most users" for the first time, without sacrificing any of the Raspberry Pi's standard capabilities as a development and hobbyist device.



The new device retains the \$35 (approximately Rs. 2,430) price of its predecessors but will be available in multiple variants for the first time. The base \$35 unit has 1GB of RAM, and there will also be a \$45 (approximately Rs. 3,125) option with 2GB of RAM and a \$55 (approximately Rs. 3,820) option with 4GB of RAM.

All three versions are already listed for sale on Robu.in for Rs. 3,215, Rs. 3,999, and Rs. 4,999 respectively. The devices are listed as "coming soon" at other websites that sell Raspberry Pi devices and accessories in India. A Raspberry Pi Desktop Kit will also be available priced at \$120 (approximately Rs. 8,330). This will include the 4GB RAM version of the Raspberry Pi 4 Model B, an official case, a power supply, a keyboard and mouse, a pair of Micro-HDMI to HDMI cables, a physical updated Beginners Guide book, and a 32GB microSD card. All these components will also be available for purchase individually. There is no equivalent Model A yet, as there is with the Raspberry Pi 3. These are designed to be more affordable but the foundation has stated that there is currently no way to sensibly scale down the Raspberry Pi 4 Model B enough to achieve a lower price.

The new Raspberry Pi 4 Model B features a brand new quad-core 1.5GHz 64-bit CPU based on ARM Cortex-A72 cores. It is the first to use a 28nm manufacturing process compared to the 40nm chips used by previous Raspberry Pi models. This CPU is said to offer around 3x the performance of its predecessor. It features VideoCore VI graphics, and 4K 60fps video output (or two 4K 30fps outputs) plus HEVC video decode.

Other specifications of the Raspberry Pi 4 Model B include a Gigabit Ethernet port with PoE (power over ethernet), dual-band Wi-Fi 802.11ac, Bluetooth 5, two USB 2.0 and two USB 3.0 ports, and dual 4K monitor support. The device now uses LPDDR4 memory with much higher bandwidth. An upgrade to USB Type-C for power input allows for enough current to support connected USB devices, which was not possible before. The Raspberry Pi foundation has also made affordable USB Type-C power supplies, cables, and adapters available through its global distributors to help reduce overall development costs. There is also a new version of Raspbian, the Debian-based operating system for Raspberry Pi devices. The new release features a browser based on Chromium 74 and other modernised applications and UI elements.



## UPGRADED BRAHMOS WITH 500-KM RANGE READY: CEO, BRAHMOS AEROSPACE

"India has successfully test-fired a vertical deep dive version of BrahMos, the world's fastest supersonic cruise missile. "



The upgraded version of the home grown BrahMos missile with an enhanced range of up to 500 km is ready, the CEO of BrahMos Aerospace, Sudhir Kumar Mishra, has said. Mishra, in an interview broadcast on Doordarshan News Sunday, said it is possible to increase the range of this missile because India is now a part of the elite Missile Technology Control Regime (MTCR).

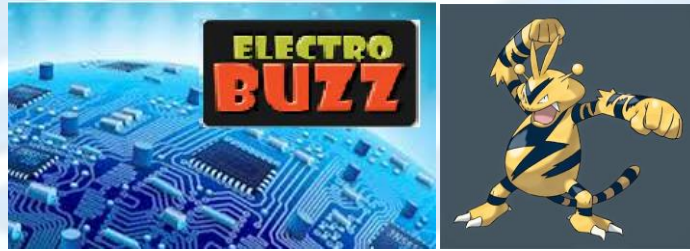
"India has successfully test-fired a vertical deep dive version of BrahMos, the world's fastest supersonic cruise missile

that can now change the dynamics of conventional warfare... The upgraded version of the missile with enhanced range of up to 500 km is also ready," he said.

He said India is now the only country in the world to integrate long-range missiles onto fighter jets after the BrahMos missile was test-fired from a Sukhoi 30 aircraft of the Indian Air Force.

Brahmos missile, which cruises at almost three times the speed of sound at Mach 2.8, is the heaviest weapon to be deployed on the Su-30 fighters.

"We can take on any ship at sea up to 300 to 400 km (far) and after some time, may be longer; we can take on land targets up to hundreds of km and with the test that we have conducted some time back (from Sukhoi 30), ranges up to thousands of km," he said, according to a release by the state-run broadcaster.



Mishra said for the Army, the Navy and the Air Force, Brahmos has become a weapon of choice and the steep 90-degree version has become an ultimate aircraft carrier killer. He said the technologies that BrahMos Aerospace has developed did not exist either in India or Russia earlier. BrahMos Aerospace is a joint venture company owned by the governments of India and Russia and its missiles are produced in India. Former Deputy Chief of the Army, Lt General SubrataSaha, who also spoke on the programme, said the steep dive version of the missile is a game changer for mountain warfare (of the kind that was witnessed during the Kargil war).

## PREMIER FARNELL EXTENDS PORTFOLIO WITH RENESAS EMBEDDED SOLUTIONS



Premier Farnell has expanded its product offering in the embedded systems field with the addition of the Renesas Electronics range to its product portfolio

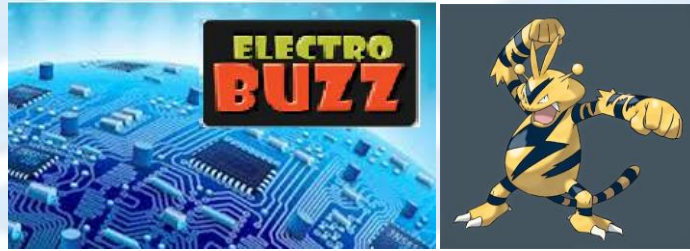
Renesas is a provider of embedded solutions with advanced microcontroller (MCU), analogue, mixed-signal, power, and system-on chip (SoC) solutions for markets such as automotive, industrial, cloud computing and IoT – from smart factory to smart infrastructure. Premier Farnell will stock over 1,500 products from Renesas.

Core Renesas products now stocked by

Premier Farnell include:

**Renesas Synergy MCUs** - Synergy MCUs integrate multiple series of software and pin-compatible ARM based 32-bit MCUs that share a common set of Renesas peripherals to deliver the design scalability, power consumption, code-reusability, and performance needs for the embedded market.

**ISL9241 USB-C Combo Buck-Boost battery charger** - The ISL9241 enables engineers to optimize mobile computing system performance and is ideal for products with USB-C power delivery functionality. It supports both narrow voltage direct charging (NVDC) and hybrid power buck-boost (HPBB) charging, and switches between the modes using firmware control.



**RAA2 10xxx digital power modules** - The simple digital power modules eliminate power-supply design complexity. The RAA210825 for instance, is a pin-strap configurable 25 A step-down PMBus-compliant DC/DC power supply module that integrates a digital PWM controller, synchronous MOSFETs, power inductor, and passive components.

Premier Farnell will also offer a wide range of complementary support devices including precision analogue, power management and mixed-signal interface products from Renesas; and continue to supply industry leading RF, high performance timing, memory interface, real-time interconnect, optical interconnect, wireless power, and sensor solutions from IDT, a wholly owned subsidiary of Renesas Electronics.

## **NEW EDUCATION POLICY TO FOCUS ON RESEARCH**

Rs 400 crore allocated for setting-up world-class education institutes

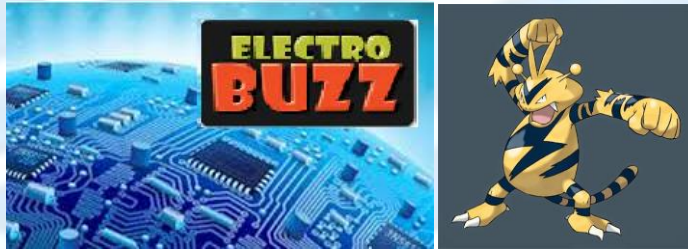
Presenting the first Budget of the NDA government in its second term, Union Finance Minister Nirmala Sitharaman said the government will bring in a new national education policy to transform India's higher education system to one of the best in the world. The policy proposes major changes in both school and higher education, improve governance and gives more focus on research and innovation, for which a National Research Foundation (NRF) would be set up to coordinate and promote research in the country, she said.

"NRF will ensure that the overall research ecosystem in the country is strengthened with focus on identified thrust areas relevant to our national priorities and towards basic science without duplication of effort and expenditure," the minister explained.

The funds available with all ministries will be integrated in NRF and would be adequately supplemented with additional funds, she said. Sitharaman said to build "world-class institutions" in the field of education, Rs 400 crore has been allocated for the 2019-20 fiscal, which is over three times the revised estimates for the previous year.

The finance minister also announced the 'Study in India' programme that will focus on attracting foreign students to the country's higher education institutes.

A draft legislation for setting up Higher Education Commission of India (HECI) would be presented in the year ahead, she said, adding, "This will help to comprehensively reform the regulatory system of higher education to promote greater autonomy and focus on better academic outcomes."



The minister also said the Khelo India Scheme, aimed at reviving sports culture in India at the grass-root level, will be expanded to provide all necessary financial support.

sAlso, a National Sports Education Board for Development of Sportspersons would be set up under the Khelo India Scheme to popularise sports at all levels.

Sitharaman highlighted that three institutes -- two IITs and IISc Bangalore -- are in the top 2,000 institutions in world university rankings, which, she claimed, was not there five years back.

This has been achieved due to concerted efforts by the institutions to boost their standards and also project their credentials better, she said.

## **DEPARTMENTAL ACTIVITIES**

Department of Electronic and EXTC have organized ISTE approved Short Term Training Program (STTP) on Emerging Technologies in Embedded systems and Robotics in association with Indian Society for Technical Education and International Society of Automation.

A very informative session was conducted by Mr. Sandeep Dubey and Mr. Gaurav Shete.

### **PROGRAMME CONTENTS INCLUDES**

**Day 1: Introduction to Firebird V and Atmel Studio.**

**Day 2: ATMEGA 2560 Interrupts, PWM and ADC.**

**Day 3: ATMEGA 2560 Timer, RFID, ZigBee and SPI.**

**DAY 4: Introduction to LPC 2148 and Keil.**

**DAY 5: Arduino and myRIO controller programming with LabVIEW Environment.**





Prof. D.S.Sawant from NMIMS conducted very informative session on Arduino controller programming with LabVIEW Environment. Dr. Kushal Takle from IIT Bombay has guided on latest controllers used in Automation Industries. The selection of controllers and application of controllers in Industrial automation is covered in the session.





## STUDENT'S ACTIVITIES

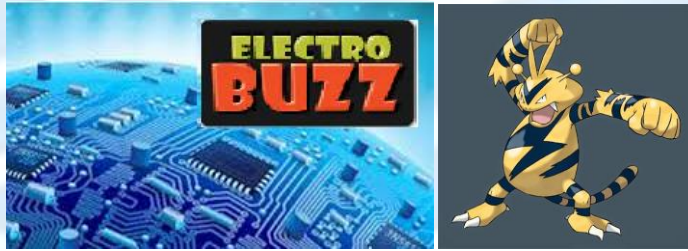
Department of Electronic has provided internships to the students of Electronic in various organizations such as Western Railway yard, Stelmec Limited Spectrum, Network Solution India Pvt. Ltd.



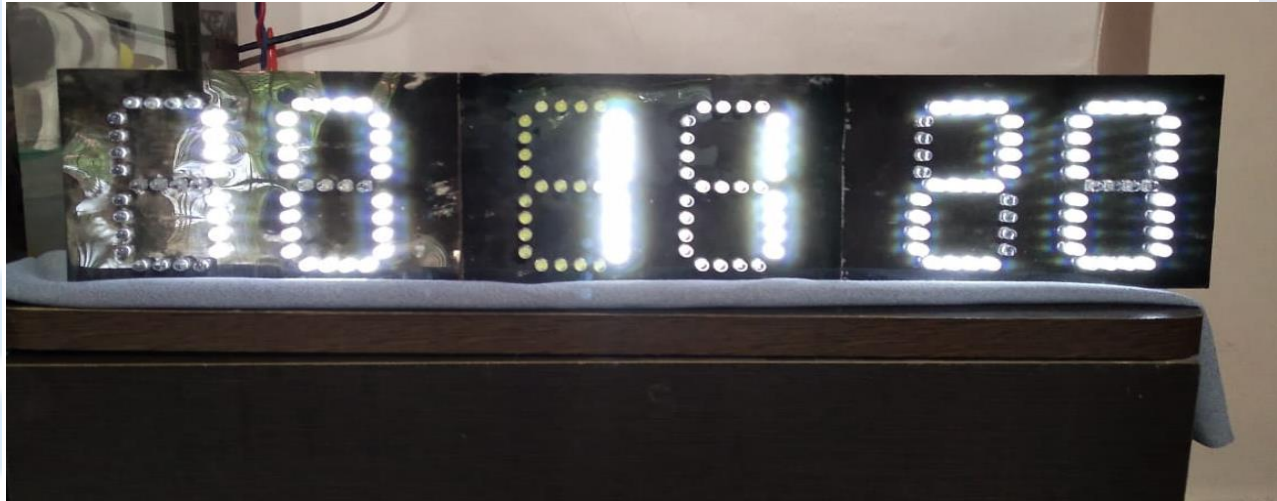
Siddharth Kurda, one of the students went for internship has shared in experience.

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*“It was good experience at the Western Railway Yard, Virar. They have reviewed the knowledge regarding brakes, Train Control and Management System (TCMS), Auxiliary Warning System and lifting section. Internees were allotted in groups for carrying out tasks allotted. Knowledge gained was at its peak with a proper interaction.”*



### LED Seven Segment Clock

Sahil Nikam, student of TE has implemented “LED Seven Segment Clock” at home during vacation. The project is basically a six digit clock controlled with CD4511 driver and is multiplexed with 74HC595 shift registers. It is controlled with AT Mega 328p microcontroller receiving time data from DS1307RTC.

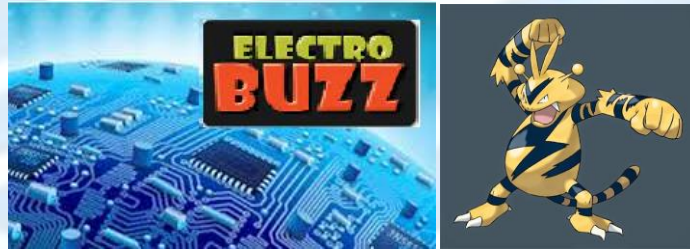
## REASONS TO CHOOSE ELECTRONIC ENGINEERING

Electronic engineers

- Invent, innovate, design, assemble and operate electronic systems used for scientific work, commercial production, entertainment
- Specialize in computer technology, aerospace and biomedical equipment's, industrial equipment's and controls
- Research in designing and development, new applications and devices
- Work in production, direct technicians, check on efficiency in production and use research findings in the manufacturing of electronic

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- There will always be job openings

Even with the global economy in the tank, existing engineers continue to retire and make room for newbies, new companies form, new technologies develop and economies shift regions. When job searching is tough, hope and pray for a break because most of us will need a break to get the first engineering job it worked that way for me.

Regardless, do not give up easily. While prospects may be poor when entering school, things may be much better upon graduation.

### **ADMISSIONS OPENS 2019-20**

Vidya Vikas Education Trust's Universal College of Engineering received All India Council for Technical Education (AICTE) approval in May 2012. The college houses IIT Bombay Remote Centre. The campus boasts of spacious classrooms, state-of-the-art presentation equipment, an expansive library, intimate tutorial rooms, courtyards etc.

***The college provides 100% placements.***

The top left of the banner features three accreditation logos: AICTE, DTE, and the University of Mumbai. The college's logo, a blue circle with a stylized 'U' and 'C' inside, is positioned to the left of the college name.

**DTE Code: 3460**

**Vidya Vikas Education Trust's**  
**Universal College of Engineering**  
(Permanently Unaided | Approved by AICTE, DTE & Affiliated to University of Mumbai)  
**Gujarati Linguistic Minority Institution**

**Ranked No. 1 in INDIA**  
for 4 Consecutive Years 2015, 2016, 2017 & 2018  
among Top Emerging Private Engineering Institutes

by **TIMES ENGINEERING** An OMS Initiative with  
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