



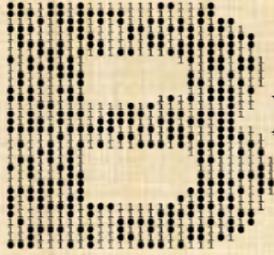
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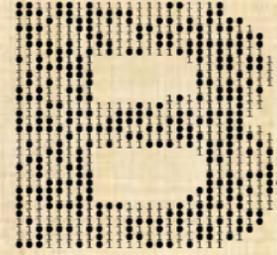
Gujarati Linguistic Minority Institution

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Issue 14 | Edition 3 | September 2019



ITS



YTES

An Initiative By



Department of Information Technology

#Satyavachan

Difficult roads often
lead to *beautiful*
destinations.



C O N T E N T S

- 1 | Technical Articles
- 2 | Non-Technical Articles
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- 4 | Teachers' Day Celebration
- 5 | Tantrotsav
- 6 | Students Achievement and Upcomig Events

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iOS 13

At Apple's huge annual event WorldWide Developers Conference (WWDC), as expected, the company took the wraps off iOS 13. It's the next major revision for one of the most important and influential operating systems of all time, with iOS used daily on over a billion iPhones and iPads. It looks to be a doozy.

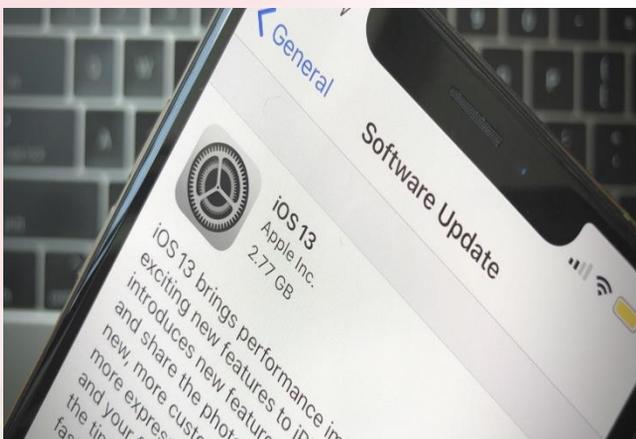
Here are all the major new features that iOS 13 will bring to your iPhone and iPad when it releases this fall, along with details about supported devices and how to join the beta test to try it out early.

Features of iOS 13 are listed as follows:

- 1.Dark Mode.
- 2.Better Performance (2x) as compared to iOS 12.
- 3.Face Lock ID unlocks 30% faster in iOS 13.
- 4.Smarter, smoother Siri.
- 5.CarPlay Overhauled.
- 6.New Features for Air pods.
- 7.Multi-user Home Pod.
- 8.Additional Privacy Features.
- 9.Home Kit Secure Video.
- 10.Photos and Camera Improvements.
- 11.Map Improvements.
- 12.Memoji and Stickers.
- 13.All-new Reminders App.
- 14.Swiping Keyboard.
- 15.Your Name and Images in Messages

List of the supported devices Apple goes on to give the support to the older models like iPhone 6 series & iPhone SE to their latest iPhone 11 series and iPod Touch

As for when and how to get your devices on it, Apple plans to release iOS 13 on Thursday, September 19. Typically, these OS releases happen around 10 a.m. Pacific Time and can take a little while to roll out across the globe; don't be surprised if it takes 30 minutes or so to show up on your device.



You will eventually get a notification prompting you to update, but if you want to force it as soon as possible, head to *Settings > General > Software Update*.

Note that only iOS 13 is releasing on September 19 (together with watch OS 6 for recent Apple Watches). The release of iPad OS 13 is scheduled for September 30, along with iOS 13.1.

Ref: <https://www.macworld.com/article/3399866/ios-13-features-release-date-beta-how-to-install.html>

- Mr.Jigar Chauhan

HOW ARTIFICIAL INTELLIGENCE CAN CREATE MORE EMPLOYMENT OPPORTUNITIES



- The impact of AI and robotics on employment goes far deeper than just job creation. AI, and subsequently, robotics, is niche technologies that demand an extensive understanding of every associated parameter.
- The impact of artificial intelligence and robotics on employment opportunities have always been a topic of much speculation. When it comes to organizing and manipulating data, processing complex mathematical problems, and executing tasks in the blink of an eye, AI and robotics are the most preferred choice. As a result, AI has penetrated almost every industry, from construction, transport, and manufacturing to business intelligence, education, and healthcare. It is, therefore, not surprising that many Silicon Valley figures, including Facebook CEO Mark Zuckerberg, believe that not only can artificial intelligence support and enhance existing jobs, but it can also create new roles.
- A report generated by Gartner suggests that by 2020, AI would generate an estimated 2.3 million jobs. This figure was calculated by taking into account the 1.8 million jobs made simpler by automation. However, like any other technology, when it comes to domain skills, AI and robotics also require dedicated training courses. This has spurred the need for artificial intelligence courses, thus preparing professionals for a new wave of change brought about by innovations in robotics and artificial intelligence.

Need of new jobs roles:

- The AI and robotics sector never fails to impress people with innovations. Tasks that used to be considered extremely complex until previously have now been rendered simple, thus giving professionals a broader space to focus on other tasks. In addition to this, the proliferation of AI techniques has yet another benefit; as the number of AI and robotics devices increase, so will the need for job roles to support and maintain their functioning.
- As a result, there will be a demand for professionals who understand robotics and AI at every stage of the development cycle. This amounts to at least a two-thirds increase in the current job scenario. In a recent study conducted by Capgemini, nearly 80 percent of the 1,000 organisations who implement artificial intelligence have stated that they would be hiring AI and robotics professionals for new job roles.

Ref: <https://www.roboticstomorrow.com/article/2018/09/top-article-for-2018-how-artificial-intelligence-and-robotics-can-create-more-employment-opportunities/12474>

- Mrs.Rovina D'britto

Smart TVs Caught Sharing Data With Tech Giants



Smart TVs, which connect to the internet and other devices for app use, internet browsing and video streaming, have been quickly adopted by consumers. It has been suggested that their relatively low retail prices could be in part due to their utility as data-collection devices, harvesting data about viewing preferences for ad-targeting purposes. According to figures shared on Statista, while just 12 per cent of UK households had a connected TV in 2014, 42 per cent had at least one in 2018.

The US and UK researchers investigated the data-sharing behaviour of commercially available smart TVs from brands such as Samsung and LG, in addition to other connected devices such as cameras. According to the *Financial Times*, it is the largest published study of its kind.

Much of the data shared with other tech and advertising companies was private in nature, including IP address, location, devices, and could even determine when a person leaves their home. This data was shared even when some devices were idle. As the data was largely encrypted, the academics were not able to confirm what additional data were shared.

Study author and Northeastern University computer scientist Professor David Choffnes told the *Financial Times* that Amazon have “a lot of visibility into what their competitors are doing”.

Google commented that: “Like other publishers, smart TV app developers can use Google’s ad services to show ads against their content or measure the performance of ads. Depending on the user’s chosen preferences on the device and consents, the publisher may share data with Google that’s similar to data used for ads in apps or on the web. Depending on the device manufacturer or the app owner, data sent to Google could include user location, device type and what the user is watching within a specific app so they can be targeted with personalised advertising.”

Facebook said: “It’s common for devices and apps to send data to the third-party services that are integrated into them. This could, for example, include an app sending data to Facebook to create a login interface, or provide a Like button.”

A separate study conducted by Princeton University academics found that some apps supported by streaming devices Roku and Amazon FireTV had been sharing personal user data to third parties, including Google. The findings are likely to reignite longstanding concerns about security and privacy issues relating to consumer IoT devices, which frequently collect and share large amounts of data in the intimate home environment.

Ref: <https://eandt.theiet.org/content/articles/2019/09/smart-tvs-caught-sharing-data-with-tech-giants/>

- Mrs.Jesleena Gonsalves

Linux Took Over the Web. **Now, It's Taking Over the World**

On August 25, 1991, a Finnish computer science student named Linus Torvalds announced a new project. "I'm doing a (free) operating system," he wrote on an Internet messaging system, insisting this would just be a hobby.

But it became something bigger. Much bigger. Today, that open source operating system—Linux—is one of the most important pieces of computer software in the world. Chances are, you use it every day. Linux runs every Android phone and tablet on Earth. And even if you're on an iPhone or a Mac or a Windows machine,

Linux is working behind the scenes, across the Internet, serving up most of the webpages you view and powering most of the apps you use. Facebook, Google, Pinterest, Wikipedia—it's all running on Linux.



Plus, Linux is now finding its way onto televisions, thermostats, and even cars. As software creeps into practically every aspect of our lives, so does the OS designed by Linus Torvalds.

The Idea

But Linus shouldn't get all the credit. The roots of this OS stretch back much further than 25 years, all the way back to the creation of Unix at AT&T's Bell Labs in 1969. For decades, Unix was the standard operating system for commercial computing, but there was a catch. It was owned by AT&T, and it only ran on high-end equipment. Geeks wanted something they could tinker with on their personal computers.

In 1984, Richard Stallman started working on GNU, a Unix-clone that stands, paradoxically, for "GNU's not Unix." By 1991, Stallman and company had successfully rewritten most of Unix, but they were missing one crucial component: the kernel, which is the fundamental core of an operating system—the part that talks to the hardware and translates the basic input from your keyboard, mouse, and touchscreen into something the software can understand. So Torvalds decided to create a kernel.

Soon, other developers were using the Linux kernel in combination with GNU and a wide variety of other tools in cobbling together their own operating systems. Many people still insist on calling these operating systems "GNU/Linux distributions." But it's the kernel that powers Android and so many other newer pieces of software.

The Web

The rise of Linux mirrors the rise of the web, which just happens to have started around the same time. It's hard to pin down exactly how popular Linux is on the web, but according to a study by W3Techs,

Unix and Unix-like operating systems power about 67 percent of all web servers. At least half of those run Linux—and probably the vast majority.

Even Microsoft, once the sworn enemy of Linux, has embraced this open source OS. In 2012, the company announced that it would let companies run Linux on its cloud computing service, Microsoft Azure. About one third of Azure instances are now running Linux instead of Windows. And Microsoft itself is using Linux for some of the networking tech behind the scenes of Azure. In fact, Linux is so crucial to web development that Microsoft partnered with Linux vendor Canonical to make it easier for programmers to build Linux applications on their Windows laptops.

There are a few reasons for all this. The most obvious is that while Windows Server licenses cost money, most versions of Linux are free to download and use even for commercial purposes. Beyond that, Linux is open source, which means anyone can freely modify and redistribute its source code, tweaking it to better serve their own purposes.

As the web grew, developers tweaked Linux to meet their needs and released new Linux-based operating systems that bundles all their favourite web technologies together. Important technologies like the Apache web server, MySQL database, and the Perl programming language became staples of every major Linux distribution.

The Great Beyond

For years, Linux remained in the background, quietly powering web servers for the world's largest companies, but never finding much success on personal devices. That changed in 2008, when Google released Android and it first found its way onto phones. Android can't run Linux desktop applications that haven't been translated to Google's platform, but Android's success has been a huge boon for Linux and the open source community by finally proving that open source software could work in consumer applications.

Android now dominates the smartphone market. According to industry research firm Gartner, the operating system accounted for about 84 percent of the market during the first quarter of 2016. But Linux's reach now extends so much further than smartphones. You can already find Linux in smart TVs from companies like Samsung and LG, Nest thermostats, Amazon's Kindle e-readers, and drones from companies like 3DR.

Those huge displays in Tesla cars are powered by Linux, and many car companies—including Toyota, Honda, and Ford—sponsor the Automotive Grade Linux project, which is dedicated to building software for connected cars. And when self-driving cars finally hit the road, you can bet they'll be powered by Linux.

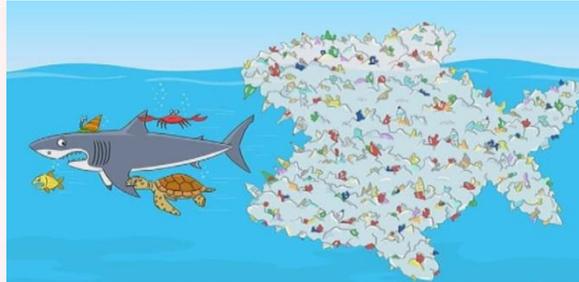
Companies turn to Linux today when they want to build new technology for the same reason that web developers turned to the operating system in the 1990s: they can customize it to meet their needs, and then share (or sell) the results without having to get permission. And it's all because a Finnish student decided to share his work with the world. Not bad for a hobby project.

Ref: <https://www.wired.com/2016/08/linux-took-web-now-taking-world>

- Mr.Sandesh Patil

Government of India to ban six single-use plastics from October 2nd

India is struggling to dispose its growing quantities of plastic waste given how ubiquitous it has become — from our tooth brushes to debit cards. India generates close to 26,000 tonnes of plastic a day, according to a CPCB estimate from 2012. Worse, a little over 10,000 tonnes a day of plastic waste remains uncollected.



The GVMC had already banned the use of single-use plastic through a gazette notification, the civic body's renewed focus on the plastic ban comes in light of the recent advisory by the Union government regarding putting curbs of production of single-use plastics and thermocol items before October 2.

“It will most likely be a phase-wise plan. Single-use plastics are not all of one type or one standard. Some are less polluting than others, while some leave the worst impact,” the official said. Disposable plastics, which have the “lowest recyclability” and “highest harm factor”, meaning they are the least biodegradable and with the lowest possibility of being reconverted, are likely to be banished first, the official said.

The six items to be banned are:

1. Plastic Bags

Alternatives: Paper Bags, Cloth/Jute Bags

2. Small Plastic Bottles

Alternatives: Steel Bottles

3. Plastic Plates

Alternatives: Paper plates or Plates made of leaves.

4. Plastic Straws

Alternatives: Steel Reusable straws or Stiff Paper Straws

5. Certain Types of Sachets

Alternatives: Restaurants and Product Manufacturers can stop the production of Sachets

6. Plastic Cups

Alternatives: Paper Cups.



- Ms.APARNA SUDHIR

Power Minister Shri RK Singh approves proposal to declare ocean energy as Renewable Energy

In a decision that would give boost to the ocean energy in India, Union Minister of State for Power and New & Renewable Energy (IC) and Skill Development & Entrepreneurship, Shri RK Singh approved a proposal to declare ocean energy as Renewable Energy today. **Accordingly**, the Ministry of New and Renewable Energy has clarified to all the stakeholders that energy produced using various forms of ocean energy such as tidal, wave, ocean thermal energy conversion etc. shall be considered as Renewable Energy and shall be eligible for meeting the non-solar Renewable Purchase Obligations (RPO).

Introduction to Ocean Energy: Oceans cover 70 percent of the earth's surface and represent an enormous amount of energy in the form of wave, tidal, marine current and thermal gradient. A variety of different technologies are currently under development throughout the world to harness this energy in all its forms. Deployment is currently limited but the sector has the potential to grow, fuelling economic growth, reduction of carbon footprint and creating jobs not only along the coasts but also inland along its supply chains.

As Government of India steps up its effort to reach the objectives to contemplate its Renewable Energy and climate change objectives post 2022, it is opportune to explore all possible avenues to stimulate innovation, create economic growth and new jobs as well as to reduce our carbon footprint. India has a long coastline with the estuaries and gulfs. MNRE looks over the horizon at development of new technology and considers the various options available to support its deployment. Most types of technologies are currently at pre-R&D / demonstration stage or the initial stage of commercialization. Basic R&D is being looked after by the Ministry of Earth Sciences (example: National Institute of Ocean Technology, Chennai). MNRE intends to support demonstration projects of proven technologies and as approved by expert committee constituted by MNRE.

Potential: Total identified potential of Tidal Energy is about 12455 MW, with potential locations identified at Khambat & Kutch regions, and large backwaters, where barrage technology could be used. The total theoretical potential of wave energy in India along the country's coast is estimated to be about 40,000 MW – these are preliminary estimates. This energy is however less intensive than what is available in more northern and southern latitudes.

OTEC has a theoretical potential of 180,000 MW in India subject to suitable technological evolution.

Technology: Although currently under-utilised, Ocean energy is mostly exploited by just a few technologies: Wave, Tidal, Current Energy and Ocean Thermal Energy.

Tidal Energy: The tidal cycle occurs every 12 hours due to the gravitational force of the moon. The difference in water height from low tide and high tide is potential energy. Similar to traditional hydropower generated from dams, tidal water can be captured in a barrage across an estuary during high tide and forced through a hydro-turbine during low tide. The capital cost for tidal energy power plants is very high due to high civil construction and high power purchase tariff. To capture sufficient power from the tidal energy potential, the height of high tide must be at least five meters (16 feet) greater than low tide. The Gulf of Cambay and the Gulf of Kutch in Gujarat on the west coast have the locations in the country where potential exists.

Wave Energy: Wave energy is generated by the movement of a device either floating on the surface of the ocean or moored to the ocean floor. Many different techniques for converting wave energy to electric power have been studied. Wave conversion devices that float on the surface have joints hinged together that bend with the waves. This kinetic energy pumps fluid through turbines and creates electric power. Stationary wave energy conversion devices use pressure fluctuations produced in long tubes from the waves swelling up and down. This bobbing motion drives a turbine when critical pressure is reached. Other stationary platforms capture water from waves on their platforms. This water is allowed to runoff through narrow pipes that flow through a typical hydraulic turbine.

Current Energy: Marine current is ocean water moving in one direction. This ocean current is known as the Gulf Stream. Tides also create currents that flow in two directions. Kinetic energy can be captured from the Gulf Stream and other tidal currents with submerged turbines that are very similar in appearance to miniature wind turbines. Similar to wind turbines, the movement of the marine current moves the rotor blades to generate electric power.

Ocean Thermal Energy Conversion (OTEC): Ocean thermal energy conversion, or OTEC, uses ocean temperature differences from the surface to depths lower than 1,000 meters, to extract energy. A temperature difference of only 20°C can yield usable energy. Research focuses on two types of OTEC technologies to extract thermal energy and convert it to electric power: closed cycle and open cycle. In the closed cycle method, a working fluid, such as ammonia, is pumped through a heat exchanger and vaporized. This vaporized steam runs a turbine. The cold water found at the depths of the ocean condenses the vapour back to a fluid where it returns to the heat exchanger. In the open cycle system, the warm surface water is pressurized in a vacuum chamber and converted to steam to run the turbine. The steam is then condensed using cold ocean water from lower depths.

Technology Objectives: The objective of the technology programme is to accelerate and enhance support for the resource assessment and deployment of ocean energy in the country and to harness it for power generation and to overcome the barriers. The technology programme is open to public and private sectors to carry out projects in India. Industry lead R&D proposals are invited from stakeholders, for solving problems in Indian conditions. Basic R&D is being looked after by the Ministry of Earth Sciences (example: National Institute of Ocean Technology, Chennai).

All the stakeholders desirous of utilizing Ocean Energy are invited by MNRE for demonstration projects of proven technologies under Research, Design, Development and Demonstration (RDD&D) programme/policy of the Ministry, in force at the time.

Ref: <http://upscfever.com/upscfever/en/current/news/2019/august/22.html>



R. K. Singh

-Mrs. Yogita Mane

Para badminton Star Manasi Joshi clinches Gold for India at World Championships

Badminton star PV Sindhu has been the talk of the town for clinching a gold at the World Championships final on Sunday, beating Nozomi Okuhara. However, that's not the only reason for Indians to celebrate. Para badminton star Manasi Joshi also created history by securing a gold at the World Championships, just a day before Sindhu.

It was a dream come true moment for Manasi, when she emerged victorious against experienced compatriot Parul Parmer in the women's singles SL3 final on Saturday.

"I earned it. Worked every bit for it," tweeted Manasi, who was among the 12 Indian athletes who won medals at the competition. She also congratulated PV Sindhu on her win.

Having faced three-time world champion Parmer several times this year and always finishing on the losing side, Manasi wasn't the favourite going into the final. However, she beat the

odds by keeping her calm and by unleashing some sharp strokes to defeat Parmer 21-12, 21-7 for the first time in her career.

Manasi made a slow start and was even 2-7 down in the opening game, but raced ahead owing to better fitness. In the second game, she was ahead from the start and went on to pick up nine consecutive points en route the gold.

"I have trained extremely hard , training three sessions a day. The focus was on my fitness, so I also lost some weight and gained more muscle. I spent more time in the gym, working six sessions a week. I also put a lot of effort to improve my strokes and played practice matches every day at the Academy. I believe the improvements are already showing," the 30-year-old told the Paralympic Committee of India.

Manasi, who had looked up to German tennis legend Steffi Graf growing up, now wants to "play more singles matches at other events, including the Asian Championships".

An engineer by qualification, Manasi completed her graduation in Electronics Engineering from K. J. Somaiya College of Engineering, University of Mumbai in 2010. In 2011, she met with a road accident and lost her left leg. However, that did not stop her from playing badminton and she went on to win many medals for India.

In September 2015, she won silver in mixed doubles at the Para-Badminton World Championship held in Stoke Mandeville, England. In October 2018, Manasi won a bronze medal at the Asian Para Games held in Jakarta, Indonesia.



Ref: <https://www.thenewsminute.com/article/para-badminton-star-manasi-joshi-clinches-gold-india-world-championships-107970>

- Mrs.Jesleena Gonsalves

Memorandum of Understanding with Techustaads Pro Learning

Etiquette and communication are considered “soft” skills, but they are vitally important to the successful conduct of a business. Appropriate behavior establishes trust among business contacts, and a good flow of communication improves the efficiency of any enterprise. Both of these outcomes can add materially to a business’ bottom line. Hence, ITSA signed a Memorandum of Understanding with Techustaads Pro Learning on 27th September 2019.



Techustaads Pro Learning is conceptualised based on the current industry trends & to reduce the education - industry mismatch. We aim to impart the Right Skills and Right Attitude for an excellent career progression through our fast-paced course curriculum.



Techustaads Pro Learning will provide 20 hours of training to the students interested which will include topics likes - Presentation Skills, Verbal & Written Communication, Email/Phone Etiquettes, Money Handlings, etc.

We thank our HOD, Mrs. Yogita Mane for conducting & giving us such a good opportunity.

WORKSHOP ON INTERNET OF THINGS

IOT Workshop Was Held On 24th September,2019 For Third Year Students.

Students studying IOT (Mini Project) Lab subject were able to understand implementations of Raspberry Pi & basics of experimenting with Arduino development boards. Basics of MQIT architecture & integrating techniques were learned. Home Automation in IOT was also demonstrated.



The workshop was held speakers like Mr. Prathamesh Mazgaoankar and Mr. Pratik Meher who are the co-founders of EvoLabs & Solutions LLP.

Happy Teachers' Day

“True teachers use themselves as bridges over which they invite their students to cross; then, having facilitated their crossing, joyfully collapse, encouraging them to create bridges of their own.”

— Nikos Kazantzakis

The students of IT are blessed with some amazing professors.
Let us see what makes them so special.



Yogita Mane

“Best Mentor, She always guides everyone in the right direction and a TRUE INSPIRATION to all the students”



Jesleena Gonsalves

“Even though she's strict with the submissions, She is the most supportive & encouraging towards all her students.”



Jigar Chauhan

“He has a helping nature towards students and has a great sense of humour.”



Sandesh Patil

“Very Knowledgeable and talented professor. He makes all the concepts clear with the help of many practical examples”



Allan Lopes

“Multitalented and very enthusiastic. Very professional and does a perfect organization of events”



Mudra Doshi

“She makes the difficult topics easy and she's very approachable.”



Rovina Britto

“She cares a lot for the students and makes sure that every student understands each and every concept.”



Aditi Malkar

“Very understanding and helpful professor.”

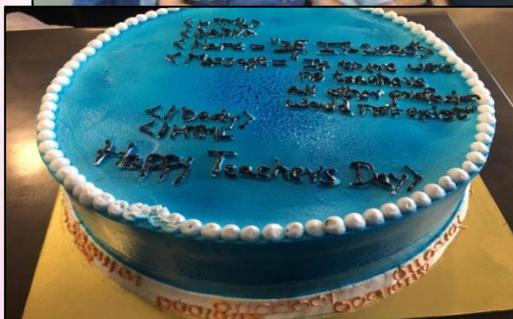


Yogini Bazaz

“One of the sweetest professors with a straightforward attitude & best teaching techniques”

Happy Teachers' Day

The Students of IT Celebrated Teachers' Day and expressed their love for the faculty with huge pomp and show.



BE IT



TE IT



The Students of IT wish our director and all the professors of Universal College Of Engineering a very Happy Teachers' Day

TANTROTSAV EVENTS

BY

Department of Computer Engineering and Information Technology

CODE RED!!

The participants had to code in C or PYTHON. Total 10 problem statements were given and the event duration was 3 hours.



WEB MANIA

WebMania was a team event where participants had to design an E-Commerce website to purchase vegetables from UCOE organic farm.

AI HACK

AI Hack was a group event and the participants were given two problem statements:

1. To detect fraudulent transactions from credit card.
2. To predict house prices.

The participants had to choose any one problem statement and build an application using Machine Learning.

No of Participants in each event:-

- a. CODE RED – 52 participants
- b. WEB MANIA – 17 Groups
- c. AI HACK - 3 Groups



MEET BHANUSHALI (TE-IT) WINNER OF CODE RED



ACHIEVEMENTS

PLACEMENT HOLDER 2019-2020



Akshay Suresh Kotian
Company - Nimap Infotech
Role - Software developer
Package - 3lpa



Bhavin Vadhiya
Company Name - Nimap Infotech
Role - Software Developer
Package – 3lpa



Gaurang Margaj
Company Name: Neosoft Technologies
Role : Trainee software engineer
Package – 3 LPA



Nilang Trivedi
Company Name: Neosoft Technologies
Role : Trainee software engineer
Package – 3 LPA



Ganesh Tawde
Company Name - Nimap Infotech
Role - Software Developer
Package – 1.92 LPA



Vidya Vikas Education Trust's

Universal College of Engineering

Near Bhajansons and Punyadham, Kaman Bhiwandi Road, Vasai.

Approved by AICTE, DTE, MAHARASHTRA STATE GOVT. and AFFILIATED to MUMBAI UNIVERSITY
Accredited with B+ Grade by NAAC

Join us in the
**GARBA & DANDIYA
FEVER!!**

Can't keep calm because
**GARBA SEASON
is here??**

**UCoE
Presents
TAHUKO
2019**

**Inviting Teachers,
Students and Aluminis
of UCoE**

**Venue: Universal College
of Engineering**

Date: 5th October

Time: 10am to 4pm

