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Telescan - 2020 Presents

Aarambh

Department of Electronics and Telecommunication



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We, the students of Electronics & Telecommunication feel the privilege to present the Technical Departmental Magazine of Academic year- TELESCAN 2020 titled AARAMBH for the academic year 2020-2021. The magazine provides a platform for the students to express their technical knowledge and enhance their innovation. We would like to thank Dr.M.P.Sardey (HOD) and Prof. Santosh H Lavate for their constant support and encouraging us throughout the semester to make the magazine great hit.

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VISION OF E&TC DEPARTMENT

To provide quality education in Electronics & Telecommunication Engineering with professional ethics.

MISSION OF E&TC DEPARTMENT

To develop technical competency, ethics for professional growth and sense of social responsibility among students.

Why is the magazine named Aarambh??

Aarambh is the new beginning of anything .The dictionary meaning of **Aarambh** indicates the start.

And in this situation of global pandemic Covid-19 , the only positive thing happened is Start from first. People realised their potential and creativity to lead life.

So here presenting you आरंभ

आ- आत्मनिर्भर

र- रचनात्मक

भ- भारत

#Transforming India

The meaning of आरंभ defined by **TESA** is to become self-dependent and creative to transform India.

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IoT AN EMERGING TECHNOLOGY

The Internet of things (IoT) is a system of interrelated computing devices, mechanical and digital machines provided with unique identifiers (UIDs) and the ability to transfer data over a network without requiring human-to-human or human-to-computer interaction.

The definition of the Internet of things has evolved due to the convergence of multiple technologies, real-time analytics, machine learning, commodity sensors, and embedded systems.[1] Traditional fields of embedded systems, wireless sensor networks, control systems, automation (including home and building automation), and others all contribute to enabling the Internet of things. In the consumer market, IoT technology is most synonymous with products pertaining to the concept of the "smart home", including devices and appliances (such as lighting fixtures, thermostats, home security systems and cameras, and other home appliances) that support one or more common ecosystems, and can be controlled via devices associated with that ecosystem, such as smartphones and smart speakers. The extensive set of applications for IoT devices is often divided into consumer, commercial, industrial, and infrastructure spaces. Consumer application:- Smart home ,elder care. Organisational application:-Medical & healthcare ,transportation ,building and home automation , V2X communication.

Industrial application:-Manufacturing and agricultural. IoT adoption barriers are Lack of interoperability and unclear value propositions ,Privacy and security concerns(As for IoT, information about a user's daily routine is collected so that the “things” around the user can cooperate to provide better services that fulfill personal preference. When the collected information which describes a user in detail travels through multiple hops in a network, due to a diverse integration of services, devices and network, the information stored on a device is vulnerable to privacy violation by compromising nodes existing in an IoT network.) , Traditional governance structure.

Article by: Prof. S .H Lavate

Biggest Big Bang Observed By Humanity

Astronomers have detected the most powerful, most distant and most perplexing collision of black holes yet using gravitational waves on 2 nd September 2020. The distant show included two major players: one black hole roughly 66 times the mass of our Sun, and another black hole roughly 85 times the mass of our Sun. The two came close together, rapidly spinning around one another several times per second before eventually crashing together in a violent burst of energy that sent shockwaves throughout the Universe. When I heard news of two black holes collision on BBC news channel, I thought they must have recorded such crucial event. So I started surfing on net about it. I came across a few fascinating simulations. But why simulations? So I dugged further...To detect this black hole dance, scientists measured the tiny shockwaves the merger produced. When incredibly massive objects like black holes merge, they warp space and time, creating ripples in the fabric of the Universe that shoot outward at the speed of light from the event. Known as gravitational waves, these ripples are gargantuan when they're produced, but by the time they reach our planet are incredibly faint and incredibly hard to detect.

Scientists have become pretty adept at detecting these tiny gravitational waves thanks to observatories in the US and Italy. Known as LIGO and Virgo, the observatories are specifically designed to detect these infinitesimal waves from cataclysmic mergers — by measuring how the ripples affect suspended mirrors here on Earth.



At 5.3 billion parsecs away, the detection announced today is also the farthest merger that LIGO and Virgo have ever found, with the waves taking 7 billion years to reach us. This event, called GW190521, was detected on May 21st, 2019, and it was so faint that it could have easily been missed. LIGO and Virgo only picked up four little waves from the merger in their detectors, perturbations that lasted just one-tenth of a second. Scientists working with the data used four different algorithms to find the wiggles, ultimately allowing them to pinpoint the masses of the merger and just how much energy was released. “During the process of the collision, the equivalent of seven times the mass of our Sun was destroyed and became energy leaving the system, so it’s pretty impressive in terms of energetics if you think about it. The equivalent of seven Suns was destroyed in a very small fraction of a second. I am fascinated by this larger than life event because of following reasons The way this event detected-by measuring such weak ripples that affect suspended mirrors here on Earth. LIGO and Virgo only picked up four little waves from the merger in their detectors that lasted just one-tenth of a second & have taken 7 billion years to reach us. Just analyzing these four little waves ,the scientist have concluded about size of black holes, energy released by the event, distance of these block holes from earth.

We can imagine the scope of science development.

Following reference material is used while writing the article

- 1.The article named ‘Astronomers say they’ve detected the most massive merger of two black holes ever discovered’ on the website’ The Verge’.
2. The article named ‘Scientists spot two black holes merged into never before seen size’ on the website’www.pbs.org’.
3. The article named ‘It’s mindboggling!’: astronomers detect most powerful black-hole collision on the website www.nature.com

Suprriya Lohar

Assist professor

E&TC Dept.

The Impact of Technology on Education and work

Today, being digitally connected allows millions of us to work and learn from home. But what about those without access to critical ICT tools? We discuss how digital learning is evolving, and introduce Ericsson Educate, which addresses digital inequality and the rapidly changing skill requirements for a world increasingly shaped by ICT.

The challenges of teaching in a digital age:

Teaching has always transcended the traditional classroom, but the conditions and increasing scale of digital and remote environments do pose challenges that demand significant adaptation, preparation, support, and engagement. The list is daunting: constrained or non-existent contact with students, rethinking ways of interacting, reaching, and teaching, adequately addressing a spectrum of special needs, motivating students, juggling competing demands on time, and dealing with confined circumstances that can make attentive learning and teaching incredibly difficult.

Teachers basically need even more of what few even get in the first place – investment, infrastructure, development, time, and help. Companies like ours can, and must, provide that help based on the capabilities we work to create in our people, customers, and society. For example:

- How to curate, co-create, and leverage relevant quality content, and context
- How to support the induction of novice digital learners into a connected environment
- How to use various digital learning platforms and tools efficiently and effectively
- How to deliver digitally in real time: engaging, managing, facilitating, reinforcing
- How to empower learners through empathy, design thinking, and growth mindset
- How to measure and drive meaningful skills progression



The importance of digital skills: Over 1 billion people will need to be re-skilled by 2030.

Digital transformation is skills transformation:

Building future critical skillsets and mindsets in an inclusive way has never mattered more to our future societal well-being than it does now. According to the [World Economic Forum](#) (WEF), “the world is facing a re-skilling emergency.” WEF estimates that “by 2022, over 40 percent of core skills required to perform existing jobs are expected to change”, and that by 2030, “more than 1 billion people will need to be re-skilled” into the transformed jobs of the Fourth Industrial Revolution. The economic effects of COVID-19 have accelerated and intensified this gap even more. Entire sectors are racing to interface, re-skill, and re-vector people and businesses, and it is everyone’s responsibility to address this. Digital skills are at the center of this re-skilling revolution and are the undeniable, unavoidable prerequisite for the future workforce. We already see that the advent of 5G, IoT, and large-scale artificial intelligence /machine learning are taking us to a new reality of ubiquitous real-time connectivity – from connected cars to personal wearables to smart grid technology – and this will fundamentally change our world. The highest promise of these technologies is their potential to be used thoughtfully and cooperatively to address some of the most pressing digital inequities of society. However, even the short-term use cases for these technologies correspond to industry evolutions that require constant skill and role reinvention. The advent of 5G is a watershed moment for the virtual learning movement. Virtual learning can be the powerful means for connecting learners to “virtual villages” of great teachers, content, community, and experiences.

Virtual learning can attain a new level of authentic human connection, through advances in real-time AR/VR/360 immersion, holographic projection, human and artificial intelligence, and empathetic education.

But without digital inclusion, authenticity cannot adequately drive advancement.

It is therefore essential to bridge the gap between the skills of current and future workers to address the rapidly changing skill requirements for a world increasingly shaped by ICT (Information and Communication Technology). The ICT sector plays an important role in supporting the proliferation of high-quality training programs that enhance industry-relevant education to make students employment-ready. There is a growing need to supplement university students in their ongoing technical studies with courses that strengthen their ICT skills and increase their readiness for jobs in the telecom and ICT sectors. It is essential to connect them, not just to content, and not just through platforms, but to a vibrant community that can help them gain the experiences and exposure they may otherwise never know, so they can progress to take their rightful place in changing the world they do know. Making this kind of connection and co-creation happen, at scale, where it is most needed, and in partnership with like-minded organizations and institutions, is what Ericsson Educate is all about.

Aristotle said that "education is an ornament in prosperity and a refuge in adversity." Now especially, we must work to BE the refuge – not just for our colleagues and loved ones, but for those who have no refuge at all. Our strength and our vulnerability flow from the same place. We must be the light for each other, not because we are unfailingly strong (we're not), but because we share the unfailing vulnerability of moving through this time together.

Look into the eyes of our shared future, and you instinctively know it – it's not progress if we move ahead in a way that leaves so many behind. When we unite to reach and educate all, using the power of digital technology to make the most human connections, together we are building the empathy engine for a better world.

Submitted by Ms SandhyaOnkar Ahire,

Asst .prof. (ENTC Dept)

Reference:

1)*blogs.worldbank.org*

2) www.indiatoday.in

Blue, the human-friendly robot designed for AI

A team of researchers at University of California, Berkeley, has developed Blue, a low-cost, human-friendly robot. Blue was designed to use recent advances in artificial intelligence (AI) and deep reinforcement learning to master intricate human tasks, all while remaining affordable and safe enough so that every AI researcher—and eventually every home—could have one. Blue is the brainchild of Pieter Abbeel, professor of electrical engineering and computer sciences at UC Berkeley, postdoctoral research fellow Stephen McKinley and graduate student David Gealy. The team hopes Blue will accelerate the development of robotics for the home.



Blue, with its creators, Pieter Abbeel, David Gealy and Stephen McKinley (Credit: UC Berkeley) “AI has done a lot for existing robots, but we wanted to design a robot that is right for AI,” Abbeel said. “Existing robots are too expensive, not safe around humans and similarly not safe around themselves—if they learn through trial and error, they will easily break themselves. We wanted to create a new robot that is right for the AI age rather than for the high-precision, sub-millimetre, factory automation age.” Blue’s durable plastic parts and high-performance motors cost less than US\$ 5000 to manufacture and assemble. Its arms, each about the size of the average bodybuilder’s, are sensitive to outside forces—like a hand pushing it away—and has rounded edges and minimal pinch points to avoid catching stray fingers. Blue’s arms can be very stiff, like a human flexing, or very flexible, like a human relaxing, or anything in between. Currently, the team is building 10 arms in-house to distribute to select early adopters. They are continuing to investigate Blue’s durability and tackle the challenge of manufacturing the robot on a larger scale, which will happen through the UC Berkeley spinoff Berkeley Open Arms. Sign- up for people interested in getting access have already started today on that site.

Article by :Aniket More

(BE)

Samsung releases the world's first 5G phone in South Korea

South became the first country to launch nationwide 5G services, with three superfast networks going live offering data speeds that allow users to download entire movies in less than a second. Hours later US giant Verizon began commercial services in Chicago and Minneapolis, after rival AT&T made a 5G-based system available to selected users in parts of 12 cities in December.

South Korea's three mobile carriers -- SK Telecom, KT and LG Uplus -- held launch events across Seoul for the Galaxy S10 5G, whose base version costs 1.39 million won (\$1,200). Interactive virtual-reality displays and robot demonstrations were on show to tout the capabilities of the latest iteration of mobile internet speed, and new users were excited about the possibilities, especially live streaming of sports games and university lectures.

In telecommunications, **5G** is the fifth generation technology standard for cellular networks, which cellular phone companies began deploying worldwide in 2019, the planned successor to the 4G networks which provide connectivity to most current cellphones. Like its predecessors, 5G networks are cellular networks, in which the service area is divided into small geographical areas called *cells*. All 5G wireless devices in a cell are connected to the Internet and telephone network by radio waves through a local antenna in the cell. The main advantage of the new networks is that they will have greater bandwidth, giving higher download speeds,^[1] eventually up to 10 gigabits per second (Gbit/s). Due to the increased bandwidth, it is expected that the new networks will not just serve cellphones like existing cellular networks, but also be used as general internet service providers for laptops and desktop computers, competing with existing ISPs such as cable internet, and also will make possible new applications in internet of things (IoT) and machine to machine areas. Current 4G cellphones will not be able to use the new networks, which will require new 5G enabled wireless devices.

Telecom giant Samsung Electronics has released Galaxy S10 5G, the world's first available smartphone with built-in fifth-generation (5G) communications, as South Korea seeks to build a lead in the transformative technology.

South Korea became the first country to launch nationwide 5G services, with three superfast networks going live, offering data speeds that allow users to download entire movies in less than a second, according to www.dailymail.co.uk. Hours later, US giant Verizon began commercial services in Chicago and Minneapolis, after rival AT&T made a 5G-based system available to select users in parts of 12 cities in December last year. South Korea's three mobile carriers, namely, SK Telecom, KT and LG Uplus, held launch events across Seoul for Galaxy S10 5G. Interactive virtual reality (VR) displays and robot demonstrations were on show to highlight the capabilities of the latest iteration of mobile Internet speed, and new users were excited about the possibilities, especially live streaming of sports games and university lectures.

Article by: Aahan Devadiga

(B.E.)

Why Projects?

Project consumes resources and projects generate revenue. Hence projects are the backbone of any economy. The range of activities that can be covered under the head “Project” is so wide that it almost encompasses all economic activities. Projects create productive assets. It is only through project resources are converted into productive assets. Since project convert resources that lie idle into productive assets, project act as prime – movers of economic development of any country. In the process of creating productive assets, projects optimize the process of resource allocation. Since project can be successfully completed only with a focused attention on goals by the project team members, project creates an environment for participatory endeavors. From the point of view of an organization, project act as a means for consolidating the experience and expertise of organizational members effectively, create a learning environment, encourage team – spirit and help to achieve organizational objectives.

Business becoming more and more competitive, the focus of organization shift towards ensuring customer satisfaction. This can be achieved by cutting down costs, improving quality, improving product features and ensuring timely delivery. Though mass – production has its advantage in terms of cost reduction, when every player in that field switches over to mass – production, the cost differences between organizations get narrowed down. To win over the situation there needs to be a shift towards custom production of products and services to meet specific customer requirements of different sector of customer. Such a situation will necessarily require a team – based approach to issue where in ‘project management’ becomes the only approach. Factory automation and office automation cuts down the lengthy organizational hierarchy and reduce the need for middle management and supervisory staff considerably. Instead employees were assigned with more and more of specific problems like improving product features, designing new products, finding out cost effective techniques of production etc. all such specific and time bound issues can be effectively handled only by project based organizations. As an organization starts handling more projects (which are necessitated by the changing business scenario as explained above), the organizational set up with a large hierarchy will have to eventually give way to team based organization set up where project teams will be formed to execute specific projects; once the project execution is over, the team will be dissolved and a fresh team will be formed to handle a new project and so on. Project takes shape to meet the customer’s needs for goods and services. Hence the whole concept of project can be fit into the gamut of finding a gap in terms of customer needs for goods and services and filling the gap.

Yash Sahebrao Gawade
BE

Mind-Reading Shopping Cart

This innovation is used to make shopping easier for customers. In order to use this device, the consumer must text the cart's built-in tablet computer to activate it. Using Microsoft's Kinect Motion Sensor technology, the cart is able to follow you through the store and it acts like a GPS to help you navigate through the store so you can find the products you need to buy. As the consumer gathers their groceries, the cart scans them so you can skip the checkout line.

How does it work?

- The device uses a "Kinect sensor synced with a Windows 8 tablet to control its motion". The cart does not need to be directed around the store by the consumer, it is able to follow you around the store using its motion sensor capabilities.
- The Kinect is also enabled for voice recognition so the customer may ask for more information such as where individual objects are located in the store.
- The cart can also use radio-frequency identification to read items off of the shopping list.
- It also has the capability to scan items and report the total cost of all of the groceries, so you can skip the checkout line.



**Article By:Neha Nilajkar
(BE)**

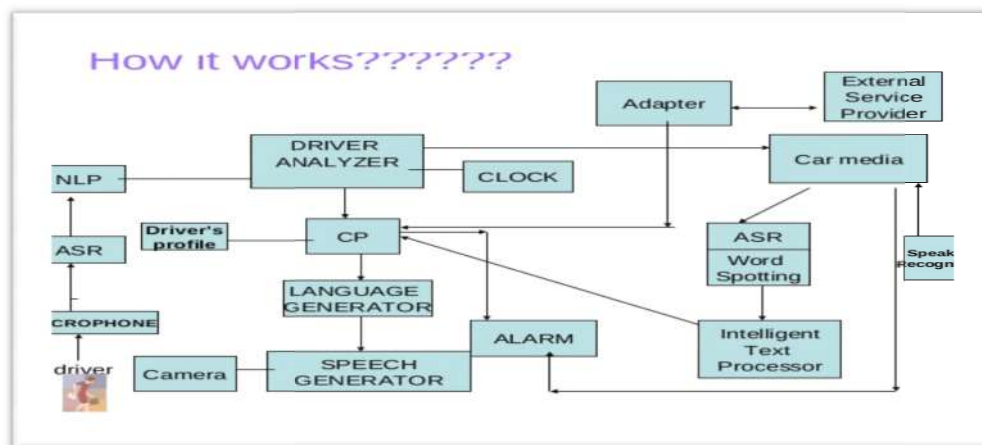
A LIFE SAVING AND DISASTER PREVENTING GUIDE- ARTIFICIAL PASSENGER.

A passenger is a person who travels in a vehicle but bears little or no responsibility for the tasks required for that vehicle to arrive at its destination or otherwise operate the vehicle. The vehicles may be bicycles, buses, passenger trains, airlines, ships, ferryboats, and other methods of transportation. Usually passengers travel from place to place and the responsible person who carries them from place to place is **driver**. The driver sometimes continuously drives these vehicles from place to place and may get tired and feel sleepy. And what if the driver dozes off for a second- we cannot imagine the consequences..... So, here's the solution- "ARTIFICIAL PASSENGER"

Concept:

The **Artificial Passenger** is a telematic device, developed by IBM that interacts verbally with a driver to reduce the likelihood of them falling asleep at the controls of a vehicle. It is based on inventions covered by U.S. patent 6,236,968. The Artificial Passenger is equipped to engage a vehicle operator by carrying on conversations, playing verbal games, controlling the vehicle's stereo system, and so on. It also monitors the driver's speech patterns to detect fatigue, and in response can suggest that the driver take a break or get some sleep. The Artificial Passenger may also be integrated with wireless services to provide weather and road information, driving directions, and other such notifications systems.

Block Diagram:



Voice control interface:

According to Dimitri Kanevsky, a former IBM researcher, currently at Google, The Artificial Passenger was developed using the Conversational Interactivity for Telematics (CIT) speech system which counts on the driver's natural speech instead of the use of hands. The CIT relies on a Natural Language Understanding (NLU) system that is difficult to develop because of the low-powered computer systems available inside cars. IBM suggests that this system be located on a server and accessed through the cars' wireless technologies. IBM also says they are working on a "quasi-NLU" that uses fewer resources from the CPU and can be used inside the car. The CIT system includes another system called the Dialog Manager (DM). The DM takes the load of the NLU system by interacting with the vehicle, the driver, and external systems such as weather systems, email, telephones and more.

The NLU system receives a voice command from the driver and looks through a file system to come up with an action to be performed and executes that action. The DM works with questions asked by the driver such as "How far is The Gallatin Field Airport from here?" The NLU system will still not be able to understand everything a driver says. Reasons for that are the different idioms and dialects of different regions. IBM is working on developing a system that recognizes where the driver is and acknowledge the regional diction used in that area.

Another system used within this technology is the Learning Transformation (LT) system which monitors the actions of the occupants of the car and of the cars around it, learns patterns within the driver's speech and store that data, and learns from such data to try to improve the performance of the technology as a whole.

Speech recognition:

The Speech recognition process relies on three steps. The front-end filters out any unwanted noise such as noise from the car, background music, or background passengers. It gets rid of all low energy and high variability signal being recognized. The labeler breaks apart the speech and searches in a data base to recognize what is being said. It starts broad by seeing what subject the driver is speaking of. Then goes into more details of what the driver is truly asking. The decoder next takes all this information and formulates a response to the driver. IBM states through much experimentation that the speech recognition is very accurate but the process has not fully been refined and still has kinks with in it.

The main part of the Artificial Passenger is the disruptive speech recognition. This technology keeps a conversation with the driver and analyzes what the driver is saying and how s/he is saying it. It can recognize fluctuations in the driver's voice to determine if the driver is sleepy, upset, or in a good mood through different vibration patterns in the driver's speech. It also records the time it takes for a driver to respond in the conversation and from that determine if the driver is nodding off or being distracted by something.

Driver drowsiness prevention:

When the computer recognizes that the driver is dozing off, it sends a signal to interfere. The computer will step in by changing the radio, trying to play games with the driver, or by opening window to wake the driver up. The computer wants to improve their alertness by doing these. If it finds that the driver is nodding off over and over, the computer system is programmed to ask to call a nearby hotel and book a room or suggest the driver take a break.

The Artificial Passenger will try to read jokes, play games, ask questions or read interactive books to stimulate the driver. Drivers that show more drowsiness will be given content that is more stimulating than a driver who is not as drowsy.

Distributive user interface between cars:

IBM recognizes that there are more dangers to a driver than him/herself. Artificial Passenger is proposed to work between cars by relaying information to one another. The information could include driving records to show if they have a history of being a bad driver or on-time analysis of all drivers to show which ones are becoming drowsy and can interfere through this information. It can also show if a driver is being distracted by games or wireless devices and interfere with all surrounding drivers .

Article by:Shubhan Desai

(BE)

Block chain

A blockchain, originally block chain, is a growing list of records, called blocks, that are linked using cryptography. ... By design, a blockchain is resistant to modification of the data. It is "an open, distributed ledger that can record transactions between two parties efficiently and in a verifiable and permanent way".Blockchain owes its name to how it works and the manner in which it stores data, namely that the information is packaged into blocks, which link to form a chain with other blocks of similar information. It is this act of linking blocks into a chain that makes the information stored on a blockchain so trustworthy.A Blockchain is a chain of blocks which contain information. The data which is stored inside a block depends on the type of blockchain. For Example, A Bitcoin Block contains information about the Sender, Receiver, number of bitcoins to be transferred. The first block in the chain is called the Genesis block.Hacking blockchain means “someone is trying to control more than 51% of the total computing power of the whole blockchain network.” The hacker is trying to read and reverse the transactions hidden in the blockchain network. However, the nature of blockchain makes this type of hacking difficult.

Although the mechanics of blockchain are extremely complex, the basic idea is simple: to decentralize the storage of data so that such data cannot be owned, controlled or manipulated by a central actor. However, blockchain’s uses go far beyond virtual money. The technology could change the way that ownership, privacy, uncertainty and collaboration are conceived of in the digital world, disrupting sectors and practices as diverse as financial markets, content distribution, supply chain management, the dispersal of humanitarian aid and even voting in a general election.

Article By:Bhargav Kakade

(B.E.)

Edge vs Chrome

The new Edge and Chrome are very similar, as both are built on the same Chromium platform. ... The new Edge has a few features that set it apart from Chrome, like better privacy settings. It also uses less of my computer's resources, which Chrome is notorious for hogging.

What is better??

Edge used 665MB of RAM with six pages loaded while Chrome used 1.4GB — that's a meaningful difference, especially on systems with limited memory. If you're someone who's bothered by how much of a memory-hog Chrome has become, Microsoft Edge is the clear winner in this regard. The new Edge has a few features that set it apart from Chrome, like better privacy settings. It also uses less of my computer's resources, which Chrome is notorious for hogging. Perhaps most importantly, the browser extensions you'd find in Chrome are also available in the new Edge too, making it way more useful. Microsoft seeks to boost the spare, minimalist Edge as the browser of choice for all Windows 10 users — and Edge deserves credit for its performance, security and cool built-in features such as Cortana integration, Reading View and hovering tabs. The new Microsoft Edge is based on the Chromium open-source project. Chromium forms the basis of Google Chrome, so the new Edge feels very similar to Google Chrome. It includes features found in Chrome, supports Chrome browser extensions, and has the same rendering engine as Google Chrome. A new report from NSS Labs has concluded that Microsoft's Edge browser is more secure than Mozilla's Firefox and Google's Chrome browsers. ... Chrome got 82.4% against phishing and 85.8% against malware while Firefox scored 81.4% and 78.3% respectively.

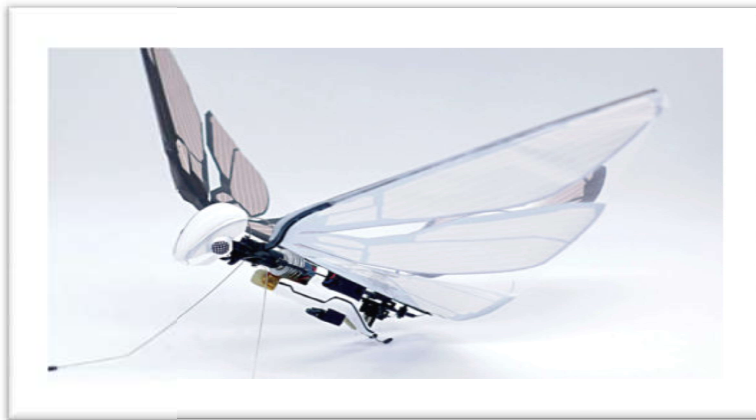


Article By-Vaishnavi lahoti

(B.E.)

MetaFly, a new flying experience

Metafly is an new emerging technology in the field of science and research. Edwin Van Ruymbeke and his team at BionicBird have developed MetaFly, a remote-controlled ornithopter, and are running a Kickstarter campaign to fund the first production run. MetaFly is a unique, biomimetic, controllable creature that enables you to experience lifelike winged flight. It's a result of more than 50 years of aeronautical research and development. With a wireless range of up to 100 meters (320ft), MetaFly can fly easily indoors or outdoors. It's totally crashproof and can take off and land effortlessly. It's time to forget about drones and experience flight like never before. MetaFly is the result of more than 50 years of flight research and development. Starting in the 1960s, when Edwin's grandfather and father created the first mechanical flying bird, the TIM. Since a young age, Edwinve proudly continued that tradition by training to be an expert aeronautical engineer and dedicating my life to learning, inventing and teaching everything about biomimetic aeronautic engineering. In 2014 I successfully crowdfunded Bionic Bird and delivered them to backers just 3 weeks later. It's my pleasure to now continue sharing that passion with the world, with my most advanced project yet- the delightfully biomimetic MetaFly. The aircraft can be controlled with a two-channel remote control, and has a range of 100 metres. Speeds up to 18 kilometres per hour can be reached, and the 55mA per hour hybrid lithium-polymer battery gives eight minutes of flight from a 12-minute charge. An upgrade kit available through the campaign lets users bring a power bank along during flights for even longer flying times, as reported by www.engineering.com MetaFly has a wingspan of 29 centimetres, length of 19 centimetres and weighs less than 10 grams. The 0.8-watt coreless motor drives a gearbox with a 1/36 reduction. The remote measures 10cm x 15cm. Wings are built from carbon-fibre and liquid crystal polymer, and the tail can be moved up or down to give users more control or speed during flight.



Article By: Devashish Kopargaonkar
(B.E.)

Virtual Reality

Virtual Reality (VR) is the use of computer technology to create a simulated environment. Unlike traditional user interfaces, VR places the user inside an experience. Instead of viewing a screen in front of them, users are immersed and able to interact with 3D worlds. Virtual Reality (VR) is the use of computer technology to create a simulated environment. ... Human beings are visual creatures, and display technology is often the single biggest difference between immersive Virtual Reality systems and traditional user interfaces. What is the purpose of virtual reality? Virtual reality technology is used to create immersive experiences that can help educate and even entertain consumers. Outside of its popular gaming use case, virtual reality is applied in a variety of industries, such as medicine, architecture, military, and others.

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There are different types of virtual reality technology and they include:

Non-immersive reality. This type can be seen in the virtual reality flight simulator. ...

2 Fully immersive reality. ...

Augmented reality. ...

Collaborative. ...

Web-based.

**Article By: Nehal Ghose
(B.E.)**

What is Artificial Intelligence?

When we speak of intelligence we refer to the natural intelligence of people which means their inherent mental ability. AI is the intelligence of machines that can think like human minds. Scientists have developed computers which can perform tasks that require intelligence. The successful performance of such tasks which need some thinking and analysis has again generated the old debate whether machines are superior to man or vice versa? Nowadays machines can easily recognize and read printed words. Autopilots which are computerised machines, can fly aircraft. These intelligent machines can also recognize and respond to sound and voice and also learn to rectify the mistakes committed. Even computers can play chess and show brilliant play that they sometimes outwit the human beings. The whole world was stunned when an IBM computer defeated the world champion Gary Kasparov in a game of chess. But does this mean that artificial intelligence is superior to the natural intelligence of man? A computer carries out a series of operations as per the programs developed by computer programmers. This means that the human intelligence works behind the artificial intelligence of machine. Artificial intelligence has its limitations as it depends on the amount of stored information in it to make a decision whereas the natural intelligence is not handicapped by any such limitations. Now research is under way to create sound links with computers and so to enable them to recognise human speech and thus receive the feedback orally rather than inserting the instructions through the keyboard. This development of direct interaction with machines or computer would be another milestone in the field of artificial intelligence. Now artificial intelligence research covers the area of planning, language, understanding, pattern recognition and knowledge representation. But whether it can ever surpass the natural intelligence of man only the future can say.



Article By -Vaishnavi Ghatage

(SE)

Robot that can sort recycling by giving it a squeeze

Every year trash companies sift through an estimated 68 million tons of recycling, which is the weight equivalent of more than 30 million cars. A key step in the process happens on fast-moving conveyor belts, where workers have to sort items into categories like paper, plastic and glass. Such jobs are dull, dirty, and often unsafe, especially in facilities where workers also have to remove normal trash from the mix. With that in mind, a team led by researchers at MIT's Computer Science and Artificial Intelligence Laboratory (CSAIL) has developed a robotic system that can detect if an object is paper, metal, or plastic. This sorting robot uses artificial intelligence (AI) to identify objects on a conveyor belt. It can recognize recyclables such as cartons, plastic bottles, and containers. The robot, called RoCycle, uses capacitive sensors in its two pincers to sense the size and stiffness of the materials it handles. This allows it to distinguish between different metal, plastic and paper objects. In a mock recycling-plant setup, with objects passing on a conveyor, RoCycle correctly classified 27 objects with 85 per cent accuracy. RoCycle uses pincers to pick through garbage and identify what materials each bit contains. It could help reduce how much waste gets sent to landfill. The creators believe that such robots could be used in places like apartment blocks or on university campuses to carry out first-pass sorting of people's recycling, cutting down on contamination. The team's "RoCycle" system includes a soft Teflon hand that uses tactile sensors on its fingertips to detect an object's size and stiffness. Compatible with any robotic arm, RoCycle was found to be 85 percent accurate at detecting materials when stationary, and 63 percent accurate on an actual simulated conveyor belt. (Its most common error was identifying paper-covered metal tins as paper, which the team says would be improved by adding more sensors along the contact surface. Since the robot picks up items one by one, it is too slow for industrial recycling plants, which are expensive to run and need to process waste quickly to cover costs. This robot would scan objects passing by and pick up only those it was not sure about.



Article by-Vaibhav Kolekar

(B.E.)

ELECTRIC VEHICLES-PRESENT AND THE FUTURE

Electric vehicles (ev), be it a 4 wheeler, a motorcycle or a scooter is the future of mobility for the world which is already becoming a reality today. Nowadays, there are many manufacturers globally like Tesla and Toyota which are taking the game of ev to the next level. Who would have thought that the Tesla Roadster would have faster acceleration and higher top speed than a Ferrari? Earlier there was the notion that electric vehicles would be too boring in the looks and design but forget this....Tesla has won many design awards and that's for an ev!!

Basically an electric vehicle can be a purely electric one with an electric powertrain getting those horsepower and torque from the battery run motor, or it could be a hybrid having an internal combustion engine as well as mild electronic powertrain.

The biggest advantages of driving or riding an ev is that we would be saving our precious ENVIRONMENT. Pure evs have zero carbon footprint, i.e it doesn't produce any harmful gases which the internal combustion have a problem. The next thing is the lower cost of running and maintainance. Taking the example of indigenously manufactured Tata Nexon ev, the running cost is just Rs 1/ Km whereas the same petrol/diesel car has a running cost of Rs 5-6/Km. The quick torque production and acceleration from zero RPM itself is like a heaven for driving enthusiasts. The DC charging takes only about one and a half hour to charge a entry level ev giving a range of about 200kms per charge.

The ev culture is taking off slowly but steadily in the Indian market. The government of India had announced a Rs 10000 crore budget for ev adoption under the phase 2 of FAME (Faster Adoption and Manufacture of Electric vehicles) scheme for three years. The Government has even proposed that till 2030, India should switch itself completely to electric mobility. But this is just a proposal and not a strict deadline. There are many subsidies given by the government to promote the ev culture in India. Automobile companies like Mahindra , Hyundai and Tata motors are doing a great job in terms of electric vehicles by designing such platforms which can be used for internal combustion vehicles and electric powertrains for ev.

Right now the technology is too young which makes it costly compared to conventional vehicles. For example, the cheapest 4 door pure ev in India is the Tata Nexon Ev, which costs about 17 lakhs compared to the top model petrol variant costing 10 lakhs. Other manufacturers like Hyundai and MG motors have their evs costing above 20 lakhs. But after some years, when the technology becomes stable and cheap, the overall cost of the vehicle will come down.

The next big concern is of the charging infrastructure and the range of the vehicle. Right now our country doesn't have the proper charging infrastructure like countries like USA ,Europe & Japan. We need to have a proper Grid system for the charging of vehicles. Evs manufactured in India have lower range per charge compared to the global counterparts which is a big disappointment for those who want to go for long drives in an ev.

Finally the Ev culture has taking off in India and there will be a time when the technology will become stable and cheap and a common man can afford an ev. The only thing is we need the constant support of the government as well as the consumer to take the ev technology in India to the next level. Till then....Happy driving !!!!!!!!!



Article By: Prateek Hanchate
(T.E.)

ORGANIC SOLAR CELL : NEW LIGHT ON SUSTAINABILITY

In an impressive feat of engineering, scientists in Denmark have devised a rapid, scalable and industrially viable way to manufacture large sheets of flexible organic tandem solar cells. Their successful application of roll-to-roll processing is a significant achievement for this emerging renewable technology. An Organic Photo voltaic (OPV) solar cell is a polymer-based thin film solar cell. OPV solar cells have been the focus of much research as they are lightweight, flexible, inexpensive, highly tuneable and potentially disposable. They are also unparalleled in the number of times that they can pay back the energy used in their manufacture. In the quest to improve the efficiency of OPVs, which, in addition to operational lifetime, is currently their key limitation, various new materials, processing methods and device architectures have been thoroughly investigated. This can increase the efficiency of the cell by not only increasing the number of junctions, but, along with careful selection of complementary materials, can make it possible to harvest photons from a broader region of the spectrum. However, this more complicated architecture renders their manufacture significantly more challenging. Frederik Krebs and his research team at the Technical University of Denmark are specialists in renewable energy technologies, particularly OPVs. For the first time they have demonstrated the successful roll-to-roll manufacture of tandem OPV modules, each comprised of a stack of 14 discrete layers, which are rapidly printed, coated or deposited one on top of another by a machine reminiscent of a printing press. Most importantly, the process is relatively cheap and completely scalable, with a high technical yield. 'If I have made a kilometre of solar cells, then I am not interested if one module has an efficiency of 10% and the rest are 2% – I think what is important is what you can make for the public,' says Krebs. 'I am the guy that makes a lot of it and tries to look for the average and what is practical, and then there are the other guys that look at what is obtainable. Everybody has their role to play and hopefully we will meet some day, probably somewhere in the middle.' 'The performance from these fabricated devices has a long way to go to achieve commercial viability,' states Seth Darling, an expert in solar energy conversion at Argonne National Laboratory, US, 'but this work clearly shows that the process itself is feasible and has the potential for genuine market impact.' The future direction of this research now lies in materials development, and in the optimisation of each layer for the manufacturing process.

Article By : Pratiksha Shinde

(BE)

Quantum Physics : Revealing the Unreal

Quantum physics is a part of physics that describes the properties of smallest things in our universe such as atoms, molecules and subatomic particles. They don't behave like ordinary (macroscopic) entities which is fascinating because we and everything around us is made up of fundamental particles. Scientists are exploring what really happens at atomic level, how it happens and in accordance with that how universe really works. There are many theories and principles introduced by renowned scientists like Bohr, Einstein, Heisenberg, Schrodinger throughout centuries. These theories lead us to the invention and development of semiconductors, transistors, lasers and nuclear reactors. But, it also introduced new mysteries and unimaginable facts. Let's take a fictional example of superheroes like Batman and Ant-Man. As we have seen in movies, Superman can perform all heroic actions at macroscopic level. But on the other hand, Ant-Man being in microscopic level or in quantum realm is able to move within space and time, change the notion of mass and lift things more easily. Yes in real world we haven't reached technology at par, but who knows the future. In universe every matter possess dual nature i.e. it can be described as wave or particle. This has been verified for not only fundamental particles like electrons and protons but also for compound particles like atoms or molecules. Macroscopic bodies do possess wave nature but due to larger mass and shorter wavelength, it can't be detected. Heisenberg's Uncertainty Principle exists because of dual nature property. Heisenberg's uncertainty principle states that "you can never know simultaneously the exact position and the exact speed of particle". Means, if we know the exact position of particle then we can't predict its speed accurately. And if we know its speed then we can't predict its position accurately. Wavelength is very essential in quantum mechanics as it is related to its momentum, which is product of mass of velocity. Microscopic particles have very small mass so we can measure its wavelength experimentally as it possesses properties of wave. But then we can't predict its position accurately due to its wave nature. Similarly if we predict its position accurately with experiment, then we can't predict its momentum. So it introduces limitations on properties on object can have within universe. In quantum realm, particle possesses wave nature but in our world, when we measure these quantities, its wavefunction collapses and it turns into particle. The barrier between these is a measurement. This measurement barrier collapses the wavefunction and we don't actually have any physics to describe how the wave nature collapses. It is experimentally found out that similar sort of things happens when electron is orbiting around atom. As it possesses dual nature, it is sort of present everywhere in space like waves but when we observe it through experiments, due to measurement barrier we came to the conclusion that it is present at specific position at that instant of time. Hence it introduces limitations.

Now let's look at imaginary experiment done by Schrodinger which gave birth to superposition quantum theorem. He imagined, suppose if we take a cat and place it in a sealed box with a bomb which has 50% chance of killing a cat in one hour. After one hour he asked "what will be state of cat?" Normally logical answer would be dead or alive. But he pointed out that before observing the state of cat. The cat is equally alive and dead at the same time. When we open the box and see its definite state, we came to the conclusion that it is alive or dead but until then it is in superposition state. It is neither alive nor dead but rather in mixture of both possibilities with 50% chance for each. It seems very absurd & logical as it is 'theoretical experiment' but it is experimental found that superposition quantum theory explains dual nature of dipole moment present in electron and proton. We are reducing the size of the transistor for cost efficiency, durability of adaptability. But it is found out that below certain level, the size of transistor can't be reduced due to phenomenon "quantum tunneling". Quantum tunneling affects the performance of transistor and reduces efficiency. To overcome this problem, Scientists and researchers are working and developing quantum computers which use dipole moment present on electron and proton as a bit called 'Q-bit' or quantum bit ; Hence we get superior computing power than transistor present till date. Because of their exponential computing power, researchers are using quantum mechanics. Big companies like Microsoft, IBM, Apple use quantum computers to study artificial intelligence.

Quantum physics is really interesting and vast subject. The deeper you look into it, the more surprising facts you will get to know. Because "what we know is a drop what we don't know is an ocean".

Article By-Harshvardhan Deshmukh

(TE)

Google, Facebook Dump Plans for U.S.-Hong Kong Undersea Cable

Google and Facebook Inc. dropped plans for an undersea cable between the U.S. and Hong Kong after the Trump administration said Beijing might use the link to collect information on Americans. But the companies quickly submitted a revised proposal that includes links to Taiwan and the Philippines, as envisioned in the application that was withdrawn on Thursday. The new filing didn't include Hong Kong-based Pacific Light Data Communication Co., a partner in the original plan and a concern for U.S. security agencies that cited its links to mainland China's Dr. Peng Telecom & Media Group Co. The steps come as tensions continue to escalate between the U.S. and China over a series of conflicts. These include Beijing's tightening grip on Hong Kong and its treatment of the Uighurs, a Muslim ethnic group; American accusations that Chinese high-tech products could be used for spying; and recriminations over the spread of the coronavirus from China's Hubei province. President Donald Trump has taken a tougher stance on China as he pursues re-election. The companies proposed the Pacific Light Cable Network project in 2017, listing all three trans-Pacific destinations. American security agencies, the Justice Department, on June 17 asked the FCC to deny the link to Hong Kong, saying it would give China a way to acquire Americans' personal data. The agencies called Pacific Light Data a subsidiary of Dr. Peng, which they said has relations with Chinese intelligence and security services. TikTok, Hong Kong and More U.S.-China Flashpoints: QuickTake The agencies recommended that the Federal Communications Commission approve parts of the project connecting the U.S. to Taiwan and the Philippines. Google in April won authority to operate the portion linking Taiwan for six months. "We continue to work through established channels to obtain cable landing licenses for our undersea cables," a spokesperson for Alphabet Inc.'s Google said in an email. The Google representative said the original application "has been withdrawn, and a revised application for the U.S.-Taiwan and U.S.-Philippines portions of the system has been submitted." FCC Commissioner Geoffrey Starks in a tweet pointed out that the application had been pulled back after American officials had raised national security concerns. "I shared those concerns & will continue to speak out," Starks said. "@FCC must ensure that our telecom traffic is safe & secure." A Facebook representative responded to a query by directing a reporter to the project's FCC filings.

Article By: Pratiksha Patle

(B.E.)

THE TIME MANAGEMENT IS SYMBOL OF GENIUS

To realize the value of ONE YEAR, ask a student who failed a grade.

To realize the value of ONE MONTH, ask a mother who gave birth to a premature baby.

To realize the value of ONE WEEK, ask the editor of a weekly newspaper,

To realize the value of ONE HOUR, ask the lovers who are waiting to meet.

To realize the value of ONE MINUTE, ask a person who missed the train.

To realize the value of ONE SECOND, ask a person who just avoided an accident.

A minute now is better than a minute later! Treasure every moment!

Yesterday is history. Tomorrow is mystery!

Today is a gift. That's why it's called the present.

KNOWING IS NOT ENOUGH; WE MUST APPLY WILLING IS NOT ENOUGH ;
WE MUST DO.

Watch your thoughts, for they become words,

Watch your words, for they become actions,

Watch your actions, for they become habits,

Watch your habits, for they become character,

Watch your character, for it becomes your destiny.

Don't wait. The time will never be just right.

TAKE TIME TO DELIBERATE;

BUT WHEN THE TIME FOR ACTIONS ARRIVES,

STOP THINKING AND GO IN! WINNING IS NOT EVERYTHING,

BUT THE WILL TO WIN IS EVERYTHING.

If winning isn't everything, why do they keep score?

Strength does not come from winning.

Your struggles develop your strengths, When you go through hardships and decide Not to surrender, that is strength.

Life is a constant struggle, a fight within itself, With new challenges every day,

If we have a strong will power and courage To face everything,

We can win easily.

WIN AS IF YOU WERE USED TO IT,

LOSE AS IF YOU ENJOYED IT FOR A CHANGE.

Nikhil Mane

(BE)

Does our body have a built-in - clock?

Ohh this is the very interesting question isn't it so let's learn something about it. When will decide to get up early in the morning at a fix time we wake up without the help of an alarm or even a watch. Our body in fact does have a regular daily rhythm and this make us aware of time. We usually sleeps for 8 hours every night depending upon the temperature of the surrounding our body temperature also under goes change and so does the speed of our heartbeat. Now the question arises weather the rhythm depend on a sort of built-in-clock Or on the daily changes of light and darkness. For several months researchers live alone in the cave where they did not even see daylight and had no idea about the time. They camped in tents, with gas heaters, lights, books and even a record player to make life in the cave bearable. Frequently they used a special phone to call the base camp above ground, reporting when they woke up, ate and went to bed. In another experiment people live in specially built underground apartments. They , to reported regularly to scientists outside. Most of the researchers in this experiment slept and wake up regularly on time only few lived on irregular schedule. So we come to know that our body responds involuntarily to a fixed regular time of all actions.

Now the question arises who plays the role of clock here? So here comes the ans : Our biological clocks drive our circadian rhythms. These internal clocks are groupings of interacting molecules in cells throughout the body. A “master clock” in the brain coordinates all the body clocks so that they are in synch. At the National Institute of General Medical Sciences (NIGMS), Mike Sesma tracks circadian rhythm research being conducted in labs across the country, and he shares four timely details about our internal clocks:

1. They're incredibly intricate.
2. Every organism has them – from algae to zebras.
3. Nearly everything about how our body works is tied to biological clocks.

What is the master clock?

The “master clock” that controls circadian rhythms consists of a group of nerve cells in the brain called the suprachiasmatic nucleus, or SCN. The SCN contains about 20,000 nerve cells and is located in the hypothalamus, an area of the brain just above where the optic nerves from the eyes cross.

Article By -Vaishnavi Ghatage

(SE)

Importance Of Co-curricular Activities In College life

Co-curricular activities facilitate the development of various domains of mind and personality such as intellectual development, emotional development, social development, moral development, and aesthetic development. Creativity, Enthusiasm, and Energetic, Positive thinking are some of the facets of personality development and the outcomes of **Extracurricular activities**.



Fig:-Impact Of ExtraCurricular Activities On Students.

Meaning of Co-curricular Activities

Co-curricular activities (CCAs) earlier known as Extracurricular Activities (ECA) are the components of the non-academic curriculum that helps to develop various facets of the personality development of the students. For all-round development of the student, there is a need for emotional, physical, spiritual and moral development that is complemented and supplemented by Co-curricular Activities.

Definition of Co-curricular Activities

Co-curricular Activities are defined as the activities that enable to supplement and complement the curricular or main syllabi activities. These are a very important part and parcel of educational institutions to develop the students' personality as well as to strengthen classroom learning. Co-curricular Activities have a wide horizon to cater to the cultural, social, aesthetic development of the student.

Examples and Types of Co-curricular Activities

- Sports
- Musical activities
- Art
- Drama
- Organization exhibitions.
- NSS
- Interdepartmental Events
- College Cultural Fests
- Techfests.

Importance and Benefits of Co-curricular Activities

1. Co-curricular activities stimulate playing, acting, singing, recitation, speaking and narrating in students.
2. Activities like participation in-game debates, music, drama, etc., help in achieving the overall functioning of education.
3. It enables the students to express themselves freely through debates.
4. Games and Sports help to be fit and energetic to the Student.
5. It helps to develop the spirit of healthy competition.
6. These activities guide students on how to organize and present an activity, how to develop skills, how to co-operate and co-ordinate in different situations-all these helps in **leadership qualities**.

7. It provides the avenues of socialization, self-identification, and self-assessment when the student comes in contact with organizers, fellow participants, teachers, people outside the school during cultural activity.
8. Inculcate the values to respects other's views and feelings.
9. It makes you perfect in decision making.
10. It develops a sense of belongingness.
11. CCA provides motivation for learning.
12. CCA develop values like physical, psychological, Ethical, academic, civic, social, aesthetic, cultural recreational and disciplinary values

Education is not just graduation. It's all round holistic development of individual ensuring student's physical, intellectual, emotional, spiritual, social and moral development. This goal of holistic development or nonacademic development can be achieved only when Co Curricular activities are effectively implemented in the educational institutions on the mentioned principles to achieve the above mentioned objectives. It should be evident in the life skills of students also, then only the mission of education will be accomplished in real terms.

Article By: Shravan N Deshpande
(BE)

Future Defence Technology

The word technology has put greater impact towards mankind. The word technical is now an integral part of life. So let's talk about future defence technology. There are many organizations working towards this project.

1) Indian Army

2) Indian Navy

3) Indian Airforce.

4) ISRO

5) DRDO and many more.

Indian Armed forces are poised for major Modernization in next fifteen years. This process would involve upgrades of hardware and system purchase of new state of art requirement to enable them and meet the security challenges in coming decades.

Government of India is providing fund for these new projects for defence system like Drone kill system, UHF software define radio, maintain five control radar, robotics surveillance system, mobile integrated network terminal (MINT) and many more. Under the guidance of DRDO and ISRO the future of defence will reach the sky with glory. With the network of 52 laboratories the developing defence technologies covering various fields like Life Science, Missiles, Rockets and Naval System.

The ongoing projects are:-

- 1) Design and development of laser sopt detector.
- 2) Development of hybrid super capacitors with grapheme.
- 3) Fabrication of non oxide dispersed tungsten alloys by mechanical alloying for armament application.

Providing a brief general look to the future of defence technology speculate: India will soon reach and develop its technical side and will conquer the world soon.

Article By: Shreeya Sinha

(S.E.)

Online Education Platform

The headline much more introduce about the overall article. From the ancient time to till the date and may be further the books had ,have and Always will have the greatest resources for knowledge, but after the jio revolution is it ok if the students should depend upon only books and teachers?

Before the jio revolution having the internet connectivity considered in only internet hubs. right now everyone have internet connection in their respective smartphones. Then why we don't use the technology for enhancement of skill, knowledge etc..

We heard such a things like there is alot better education in some another countries. yes!! It's true but u can also learn that kind of quality education from the professional professors from your desktops, laptops and smartphones. And if we are complaining about the education then there is no difference between the elder generation and today's generation ,there is just one difference that they didn't have the kind of technology which we are using today.

Instead of just scrolling on social sites I am listing some online courses sites.

1. Coursera
2. Udemy
3. Alison
4. Edx

There are alot different sites .but these sites are called as prime sites for online learning. I am not comparing the traditional education with the online education but just pointing out the important aspect.

Article By: Aniket Samudree
(BE)

Experience Sharing:

Why I started and am running a Book Club at our college?

I'm someone who loves reading books. I've been reading books since I was 10. I started reading Amar ChitraKatha by Anant Pai. They're available in my school library. It was very small library next to the Headmistress' office. I was also asked by the Headmistress if I'd like to read Reader's Digest that she has in her office. In 7th grade, a friend of mine let me borrow his copy of 'Tale of Two Cities' by Charles Dickens. So, you can say that this was the first novel that I read, also the first classic novel. I'm a huge fan of the classic genre. I just love reading them. So far, I have read books by Charles Dickens, Jane Austen, George Eliot, Daphne Du Maurier, William Shakespeare, Leo Tolstoy, Lewis Carroll. Jane Austen is my favourite amongst them. I have read 'Pride and Prejudice', 'Persuasion' and 'Sense and Sensibility'. I discovered various other genres in the later years. In the summer vacations after 10th grade. I was reading several books. I came across the Young Adult genre, coming-of-age books during this period. After I joined Debate and Literary Arts Society at VJTI, I was discovering new genres and books. We would discuss books for the DLA's Book Club. The books I read were Malgudi Days, Animal Farm, How to Kill a Mockingbird, and various others. I was a part of it for only a year.

When I came to AISSMS IOIT and I learnt that there's no book club or literary arts society in the college, I knew what I had to do. I had a well thought out plan in front of me. I knew I had to start The Literary Club of AISSMS IOIT in March (on 7th March to be specific). And I did. I started one and am still running it. We have members from 2nd year and 3rd year from all the departments. We have members who read English, Hindi and Marathi literature. We have members who read poems. We have students who write as well. We have plans to start a writer's club in next year i.e. in 2021. We'll be giving them a platform to share their works and also to learn new writing techniques and sharpen their writing skills. I have been reading books from other genres. Here are some of the book titles I read during the lockdown this year:

1. Since You've Been Gone
2. One of Us is Lying
3. One of Us is Next
4. My Most Excellent Year
5. Let's Get Lost
6. Never Always Sometimes

7. Playlist for the Dead

8. Tell me How a Crush Should Feel

9. Naomi and Ely's No Kiss List

10. Goodbye Stranger

11. How Lunchbox Jones Saved Me From Robots, Traitors, and Missy the Cruel.

12. Up All Night

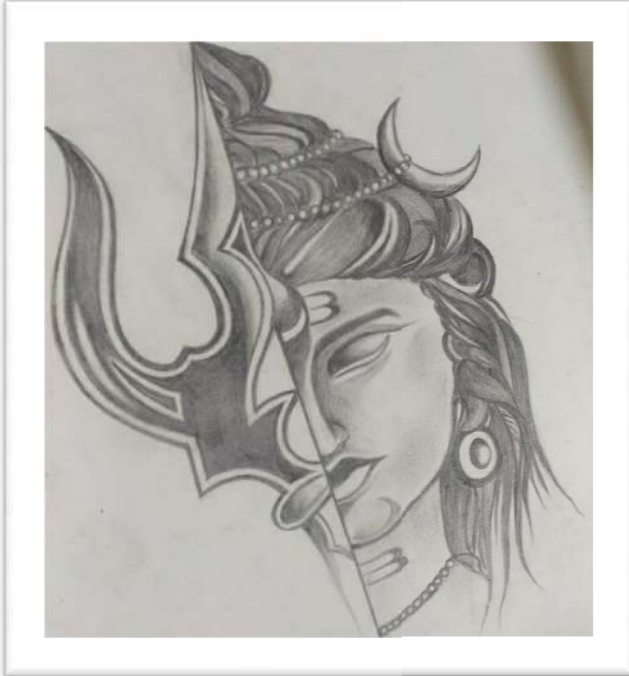
If you're new to reading books, or you are looking for book recommendations, you can always contact me.

I also love reading poems. I was reading Emily Dickinson's poems last month. I have penned down a few myself too.

Article By: Pal Manojkumar

(B.E.)

SKETCHES



Sahil Sontakke

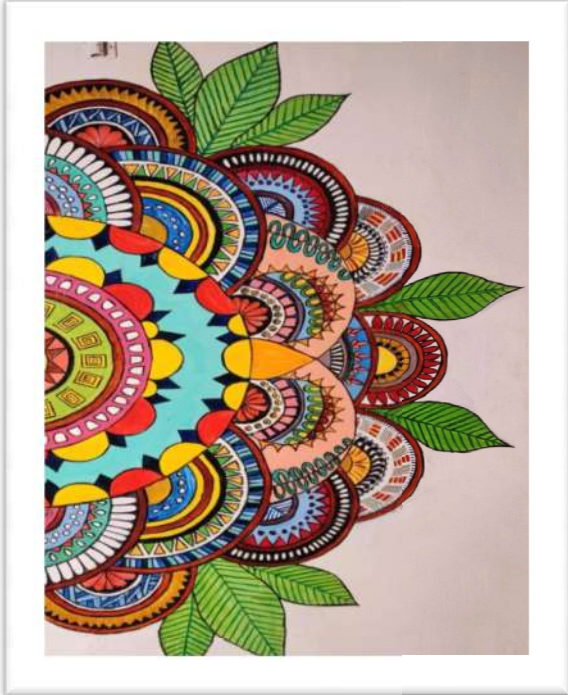
(S.E.)



Vedashree Nilare

(B.E.)

PAINTING



Pragati Ingole
(B.E.)



Apurva Mahalle
(S.E.)

I am Busy

I'm busy;
but not in the way
most people accept.
I'm busy calming my fear
and finding my courage.
I'm busy listening to my kids.
I'm busy getting in touch
with what is real.
I'm busy growing things and
connecting with the natural world.
I'm busy questioning my answers.
I'm busy being present in my life

**Poem By -Aditi Deo
(TE)**

Afraid to fly

Afraid to fly,

Afraid to be sold,

It is only because I am a girl which can be mould.

Once I dream if I could be boy,

I would have also got an opportunity to enjoy .

Girls will definitely make their parents feel proud,

but then also before taking birth they are enclose into shroud.

Afraid to love,

Afraid to be hold,

In the sentiment I have flown.

Nobody can stop me in the race,

Because I have received god's grace.

In the phase of life,

They have to play the role of daughter, mother, sister and wife

This is the story of every girl's life.

It is my request to give a chance,

So that their talent will enhance.

Afraid to tell,

Afraid to hold,

All these stories are untold.

Poem By : Nehal Gholve

(B.E.)

PHOTOGRAPHY



G.Vijay

(S.E.)



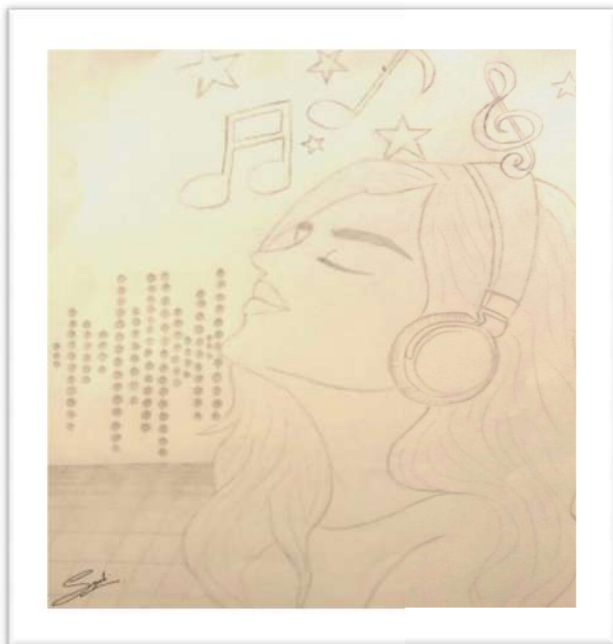
Aaradhya Madhamshettiwar

(S.E.)

ART



Nikita Krishnasagar
(S.E.)



Sayali Bhosale
(B.E.)

सांत्वन

परीक्षासंपलीपुन्हाएकदाखूपदिवसांनीचिपळूणलाजाणारम्हणूनमीखूषहोते .
चिपळूणम्हटलेकीएकवेगळीचऊर्जायेतेमाझ्याअंगात. पुन्हाएकदामाझ्यामैत्रिणी,
मनमोकळीभटकंतीआणिनिवांतपणा ...त्यामुळेकधीएकदाघरीपोहचतेयअसेझालेहोतेपण
,घरीपोहचताचबाबांनकडूनएकवाईटबातमीऐकायलामिळाली. आमच्याशेजारीराहणाऱ्याजोशीकाकूंच्या 29
वर्षाच्यामुलाचेम्हणजेचनिरजदादांचेडॅंग्यूनेनिधनझाले
.मीऐकूनस्तब्धचझाले,कायबोलावेकाहीचकळेनापणखरंचइतकावाईटप्रसंगकुणावरयेऊनयेहेचखरं

संध्याकाळीआईसोबतकाकूंनाआणिताईलाभेटायलागेले,आताकाका -
काकूंनासांभाळणारीताईचहोतीत्यामुळेयेणारेजाणारेसर्वतिलाचआधारदेतहोते.
रडूनको,जेझालेतेवाईटझाले,नशीबकोणलाचुकतयं?आतासावरायलाहवे.
यासगळ्यांनातूचआधारआहेसअसेशब्दांचेबुडबुडेसुरुहोतेआणिसर्वानुमतेयालाचसांत्वनअसेम्हणतात.

पणमाझीसांत्वनाचीव्याख्यावेगळीचआहे. सांत्वनासाठीशब्दांचीगरजचनसते. एकानजरेनेहीसांत्वनकरतायेते.
यानजरेतशब्दांच्याबुडबुड्यांचीभावनाअसतेपणत्यापेक्षाजास्तअसतेतीताकद...ताकदनजरेलानजरमिळवण्या
ची...मीतुझ्यापाठीशीआहेअशीआधारदेणारीताकद...ताकदहेजगनश्वरआहेअसेसांगण्याची...तरीऊभेरहायचे,
आपलीकर्तव्यपारपाडायचीआहेतहेसांगणारीताकद...वेळघेआणिपुन्हाऊभीरहा...अजूनखूपआयुष्यबघायचय
तुलाहेसमजवण्याचीताकद...

तीताकद,तीनजरदेणाराआणिस्वीकारणाराअसेलतरहोतेखरेसांत्वन...दुःखालाशब्दनसतातअसतेतीफक्तभाव
नाआणिसोबतउसासा. तेओळखूनवागणेम्हणजेखरेसांत्वनहोय...!

गायत्रीजाधव.

लेखनप्रकार- Blog.

Aarambh: Time to Make a New Beginning!

Yes, it is not just another Veritas this year. It marks a new beginning in these COVID-19 times. It is the bold who dare to go where others haven't.

Showcase your talents by exhibiting your innovative displays of the latest technologies. Share your original and brilliant startup ideas that may inspire others.

When the going gets tough, the tough get going. So what if the global pandemic has laid us low? Were down but not out

This is a small write up that I thought should come in in the magazine.

Arpan Salve

(TE)

STICKS AND STONES

Through the darkest days and brighter nights

They call out your name

Echoing through ominous cloisters

A single word that gives your world a reason

A reason to survive

A reason to seize the day.

The world is your oyster, they say

Except the oyster is static, unmoving

Floating in a sea of inevitable doom

Easy to hope, simpler to pray

For a destiny tomorrow

And a fateful today.

A reason to be, they say

An excuse to exist, to retort

For how else can one comprehend

This difference in opinion

Is mere helplessness.

Hearsay, is all we have

To be able to fathom

Our pointless actuality

Ripped apart, desire is all that we shed....

This terminal lack of vision

Paints our canvas with illusory fantasy

And all it does

Is beckon its prey

To its inevitable reality

Gauri udawant

(T.E.)

My Quarantine Story

It was December 2019 when first case of COVID 19 was recorded. No one is aware from this virus in context of how much it is deadly. Soon in feb 2020 World Health Organisation declared it as a pandemic. On that movement I was in pune and in the same place the case of COVID 19 began to raise. So my college declared off and I packed my bags and came to my hometown. Then after on March 23 2020 PM Modi imposed Nation wide lockdown. I was from one of those lucky guy who reached their home before lockdown was imposed But the same was not happened with every one small and daily wage workers began their journey by their foot . When this event was captured by media and reached to I feel very bad for them this was not their mistake But they are facing this problem. But humanity is still alive many local people along the Highway and Roads helped these migrant workers. Actor sonu sood is one of them. These all events are just beginning after the end of Phase 1 of the lockdown GOI again imposed

Phase 2 of lockdown. 1. During introduction of 2nd phase lockdown:-

I consolidated all my resources and try to learn about the problem why these migrant workers are facing problem like this ,why government is not doing something for them and much of required research I found that most of the people are not aware from the programs of government for them. ICMR issued guidelines because we all now aware from the fact that the prevention is the only cure. But some elements of the society are not following those guidelines so at some place administration had have taken action against them. I began to use my time in following news I learned many things from people like sonu sood. Some how a seed of helping people is planted into my mind.

2. Call of PM for Aatmanirbhar Bharat:-

PM modi on the eve of Independence day, in his speech, he given a call for Aatmanirbar Bharat to the nation which means self reliance in english. After the many question came into my mind like why our india is not a self reliance nation yet. Then I began to look into the data of government and I come to a conclusion is that india's export share is less as compare to share of import and this is a cause for worry. PM's call for Aatmanirbhar is very important for the betterment of our nation. He introduced package for this program. In his speech he also mentioned that Aatmanirbhar mean not the boycott of foreign goods but in market of india indian goods should be in dominant status.

3. My opinion on Aatmanirbhar Bharat

China is one of the hostile country sharing border with india. China show aggressiveness on border and made illigal claim over Indian territory. In indian market chinise goods are dominating to the needof the hour is to help government in making india as a self reliancenation.I want the government should forcus on rural areas because we know that most of the india's population is living in rural areas. The government along with state government made environment for development not for exploitation. Allow resources to farmers as per requirement in today developed world. Educate farmers as well as students.

Priyabrat Priyadarshi

(T.E.)