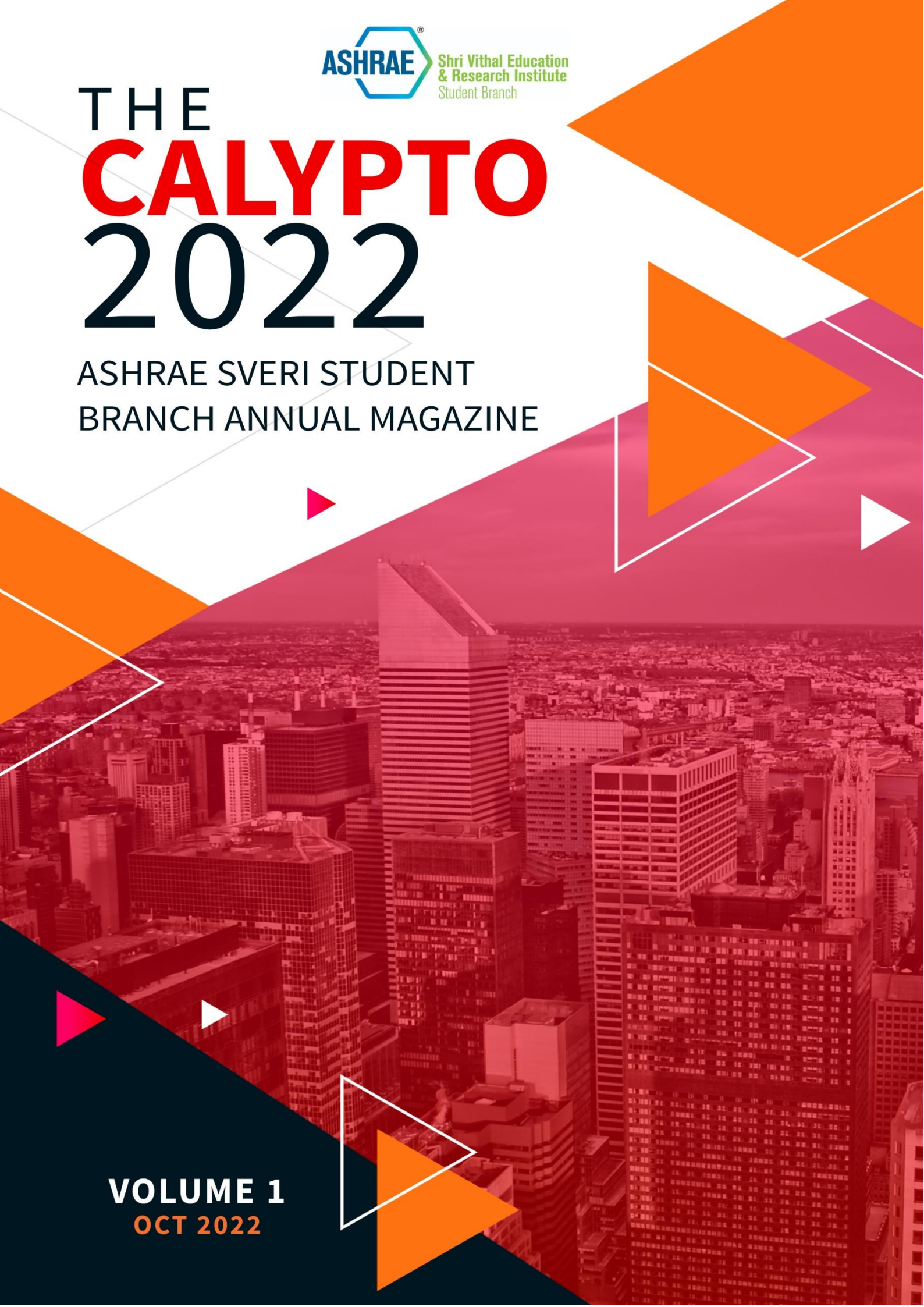
ASHRAE Shri Vithal Education & Research Institute Student Branch

THE CALYPTO 2022

ASHRAE SVERI STUDENT BRANCH ANNUAL MAGAZINE



VOLUME 1
OCT 2022

THE
CALYPTO

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About College

Shri Vithal Education and Research Institute (SVERI), Pandharpur is a Charitable Trust founded by skilled and experienced technocrats. As the first attempt to spread technical education in rural areas, this institution started an Engineering College in the year 1998 with 160 students, 08 teaching staff and 02 non-teaching staff. Today, in the 27-acre campus, about 4200 students are studying in the Colleges of Engineering (Diploma, Under Graduate & Post Graduate) and Pharmacy (Diploma, Undergraduate and Postgraduate) and about 1300 boys and 1200 girls are living in a total of 6 separate hostels in the campus. Today around 274 teachers and 127 non-teaching staff members are working in the institute. Since its inception, students from needy and economically weaker sections have been financially assisted under the 'Earn and Learn' scheme. Today about 300 students of the institute are beneficiaries of this scheme and the present annual budget for it is about Rs. 90 lakhs. So far, thousands of students from the needy and economically weaker sections of the society have been given financial assistance worth crores of rupees.

The institute has recently entered its Silver Jubilee year and it is running successfully. The institute is successful in maintaining the tradition of success in terms of Admissions, Academic results, Placements, Research facilities, Infrastructure and Overall academic culture. Recently, SVERI's College of Engineering has received National Level Accreditation **NAAC A+** with a CGPA of 3.46 out of 4.00. The eligible courses of Degree and Diploma Engineering as well as B.Pharmacy (UG) in the institute have been accredited by the **National Board of Accreditation (NBA).** One of the positive results of these achievements is that this Institute has been selected by the NITI Aayog of the Central Government for the establishment of 'Atal Community Innovation Center' (ACIC) and the institute will receive a fund of around Rs. 5 crores for the establishment of this center.

Engineering for Excellence!

From Editor's Desk...

MR. DIGVIJAY D. RONGE

ASST. PROF., DEPT. OF MECH. ENGG

SVERI'S COE PANDHARPUR

ASHRAE SBA

It is the matter of great pride to pen down message for the first edition of 'CALYPTO', the annual magazine of ASHRAE SVERI Student Branch. This magazine is a platform for the students to express their creative pursuit which develops in them, originality of thought and expression in them.

The contents of the magazine reflect the creativity and imagination of our students. Academic excellence along with co-curricular and extra co-curricular activities completes the process of education.

It also gives me great pleasure that SVERI's College of Engineering is progressing in its endeavour towards overall personality development of the students. I take this opportunity to congratulate the Director, faculty members and students for their strong sense of commitment, service and responsibility that has facilitated in transforming this institution into an outstanding and significant temple of learning.

About Us

Establishment

SVERI's ASHRAE student chapter was established on 26th March 2019. The inauguration ceremony was hosted by department of Mechanical engineering and was guided by ex-chairman of DTE, Dr. N. B. Pasalkar. Prof. Sachin Gavali elaborated about vision and mission of ASHRAE student chapter.

Chapter Body

Total number of ASHRAE members under the branch: 22

Post	Name
Student Branch Adviser (SBA)	Prof. Digvijay Ronge
Branch Guide	Prof. Sachin Gavali
President	Ms. Dipti Kadam
Vice-President	Mr. Sudhir Raut
Treasurer	Ms. Aditi Kadam

Activities under Branch

1. SVERI ASHRAE Student Branch and ASHRAE, Pune Chapter collaboratively conducted a webinar on '**Launch Your Career with ASHRAE**'. Student were informed about benefits of ASHRAE membership and career in HVAC&R.

2. ASHRAE SVERI Student branch members visited **Dattakamal Cold Storage** on 12th March 2022. The staff members arranged a detailed tour about various systems and components of cold storage.

3. ASHRAE SVERI Student Branch had filed an application under this program. ASHRAE has granted us **$3000** for the proposed UG project.

4. Our Student member **Mr. Madan Patil** participated and stood second with cash prize of **Rs. 2000/-** in the paper presentation competition held by ASHRAE Pune Chapter**.**

Article Writing Competition 2022

1. SVERI ASHRAE Student Branch conducted an '**Article Writing Competition 2022'** which was sponsored by AICTE under SPICES scheme.

2. Four themes were proposed to students-
    a) Engineering, HVAC
    b) Environment & Sustainability
    c) Innovations
    d) Biography

3. Selected articles are showcased in the following section.

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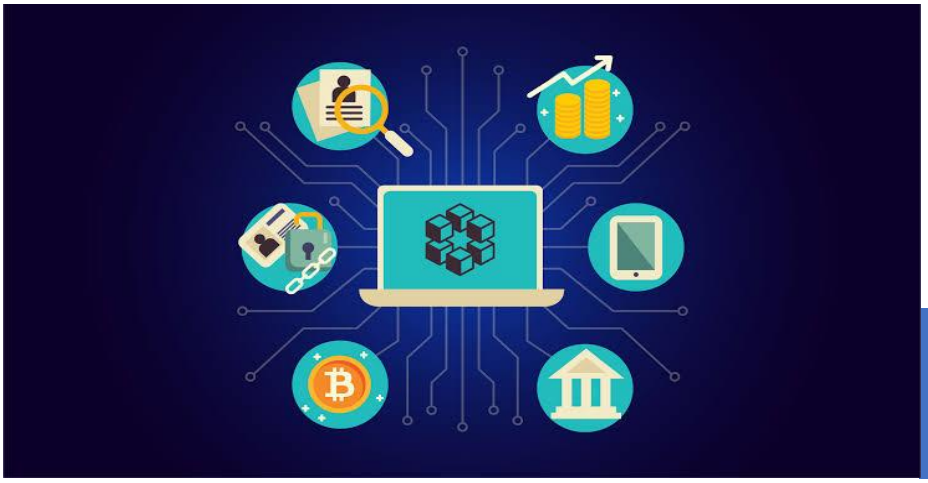
ARTICLE WRITING COMPETITION 2022



NAME	Sagar Navnath Thorat
COLLEGE	SVERI's COE
CLASS	LY-ENTC
THEME	Engineering

Why Does The World Need "Blockchain"?

What do you think? Is your online information secure? I'll tell you something: You are terribly wrong. Unfortunately, it's Just your illusion. Did you realize that Google alone makes $92 million every day from the data you provide? Additionally, there are several businesses whose products you use on a regular basis and they earn from your data. By using your valuable vote to select candidates who will serve the nation. Do you think the candidates you chose were elected? In my opinion, no.

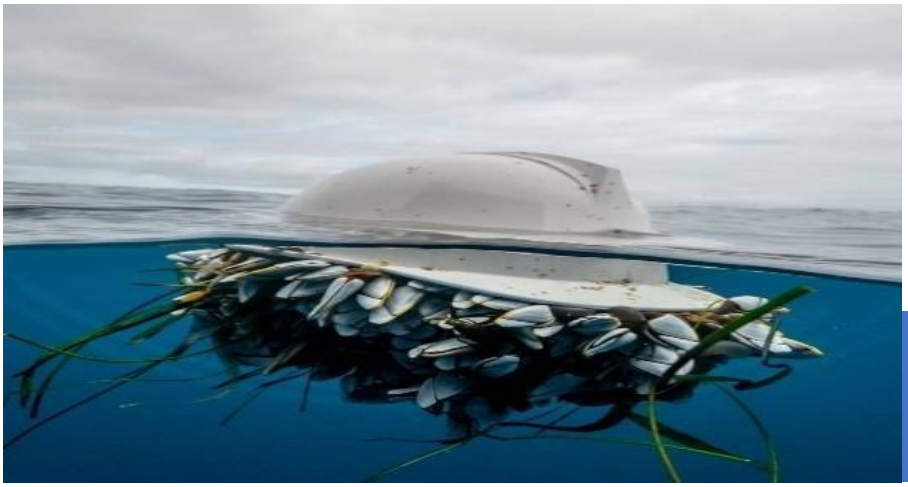
Similar electoral fraud was discovered in Jammu and Kashmir in 1987. Who knows how many more frauds took place but were missed? Let's go to the section, which is everyone's favourite and most helpful. That we call finance. Given that everyone invests their hard-earned money in this sector and that it is essential to the nation's future, it should be exceedingly secure. But this is a delusion as well. This area is not as secure as you might believe.

This is also filled with errors. Senior officials have power over currency. This has happened in our experience. We were present when something occurred on November 8, 2016. We had positive currency-controlling experiences.

Our data is valuable and sensitive, and blockchain technology can radically alter how others see your important information. Blockchain reduces fraud and unauthorized behavior by creating a record that cannot be changed and is encrypted end-to-end. By employing permissions to restrict access and anonymize personal data, privacy issues can also be solved on the blockchain. In order to prevent hackers from accessing data, information is kept across a network of computers rather than on a single server.

Without blockchain, every company needs to maintain its own database. Due to the decentralized database structure used by blockchain, full transparency is provided since every network user with permissions can see the same data at once. All transactions are time and date stamped and permanently stored. Members may access the whole transaction history thanks to this, which almost eliminates the possibility of fraud. Transactions may be conducted more quickly and effectively with blockchain. The blockchain can be used to store documentation alongside transactional information. Clearing and settlement can happen considerably more quickly because there is no need to reconcile various ledgers. With "smart contracts," transactions can even be automated, enhancing your productivity and accelerating the procedure even further. When certain criteria are met, the transaction or process automatically initiates the following step. Smart contracts reduces the need for human interfere and less dependacy on outside parties to confirm that a contract's provisions have been followed.

Using blockchain, we can transform a variety of industries, including finance and healthcare. We can fix its flaws and make it safe and transparent by doing so. One aspect of a blockchain's decentralisation is the fact that nobody can own a blockchain. And not even our closest buddies, the so-called "hackers," can access or change our data. Blockchain is the technology of the near future. So the moment is now to employ technology to secure the future.



NAME	Harshanand Ganpat Honmute
COLLEGE	SVERI's COE
CLASS	LY-CIVIL
THEME	Environment & Sustainability

THE ENVIRONMENTAL CRISES

We witness climate change daily and deal with environmental concerns every day. Every person on the planet is aware that we are experiencing climatic catastrophes, such as torrential rain, heat waves, storms, lightning, etc. The biggest problem is that everyone is aware of the issue and has an answer. We aren't taking this problem any more seriously, though.

The current state of affairs is dire; not only are industries, agriculture, and human growth suffering from the effects of climate change, but so are all other sectors of society. Compared to other industries, the agriculture sector is having more issues because of how the production of food has changed as a result of climate change. For the manufacturing of food, this industry needed greater funding. A heat wave is affecting India.

But why is this happening? Who is to blame for the climate crisis? The response is that all of the climate change is a result of human activity. We cleared forests in the name of progress, and we use plastic extensively. Climate change, plastic bottles, plastic bags, straws, plastic cups, etc. are all mostly caused by plastic. We used this stuff for a few days before discarding it in the garbage. And somehow, for a century, this plastic ended up in the water. This has a negative impact on marine life. Thousands of oceanic species are near extinction. The ocean is quickly rising in level. Glaciers are melting quickly. As a result, India is experiencing excessive rainfall in several areas, which leads to flooding.

How can this issue be resolved? We must collaborate as a team to have a greater impact on it. We should all try to limit our use of plastic. Collecting plastic from the environment or from public areas surrounding each person. We must raise awareness of climate change, educate others about it, commute by public transit, and adopt a sustainable lifestyle if we are to avert more global warming. We caused this issue, so we are responsible for finding a solution.

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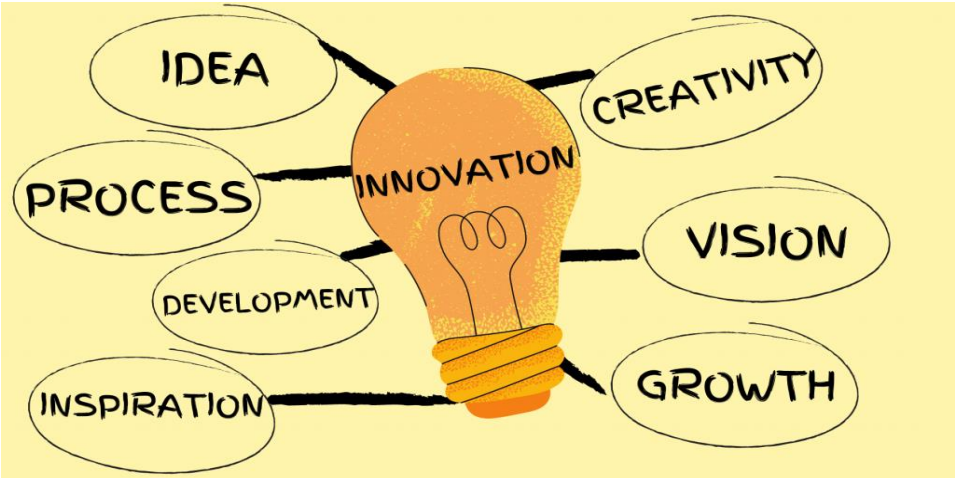


NAME	DHIRAJ AJAY CHAVAN
COLLEGE	SVERI's COE
CLASS	SY-CSE
THEME	Innovations

Diversity is Innovation

WHAT IS INNOVATION

Innovation is the process of generating and screening of ideas to gather data and have a deep analysis of the same. Innovation is important to have smooth flow and to run operations of the business is an effective and an efficient manner and getting the desired results over a period of time to sustain and growing in the market. Innovation is the practical implementation of ideas that results in the introduction of new goods or services or improvement in offering goods or service innovation standard management are propose to define innovation at new or changed entity creating over redistributing value. Innovation is important as it helps the firms to adopt to the rapid changes in the business environment and device a strategy in order to scope up with those changes.

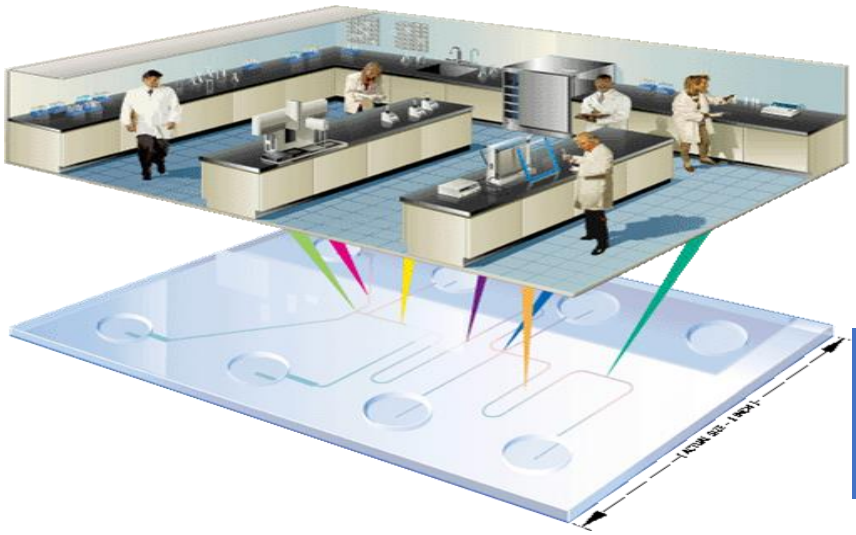
HOW DO YOU IMPLEMENT INNOVATION IN A BUSINESS MODEL?

Given its effects on efficiency, quality of life cycle, and productive growth, innovation is a key drive-in improving society and economy. Consequently, policy makes have worked to develop environments that will foster innovation, from funding research and development to establishing regulations that do not inhibit innovation, funding the development of innovation clusters, and using public pure hashing and standardization to pull innovation through.

For a business or an organization to realize competitive advantages, it should be able to adapt and innovate the to the changing and new generations, Innovation apply for management and organizations on all levels, sizes and in operating in all industries. At this moment, we are positioned in a fast-paced environment where technology is advancing and globalization is increasing.

This means that distances only get shorter, and as a result, competition is increasing, customer expectation are more demanding, and disruptions in the economy is more likely to occurs.

Innovation Create bigger opportunities and are critical for the survival, economic growth and success of company. Innovating helps developing original concepts and is a driver of optimizing operation. companies that innovate are able to set the organization in a different paradigm in order to identify new opportunities and best method to solve current problems. On the other hand, everyone is an innovator because innovative ability is in all of us. Since we were Born, we innovate by learning by doing. The pit fall is that school have formatted by proving us knowledge us and has diminished our ability to innovate, while the ability to innovate is higher valued because innovation cannot be learned taught.



NAME	Saurabh Santosh kale
COLLEGE	SVERI's COE
CLASS	LY-MECH
THEME	Engineering

Engineering lab on chip

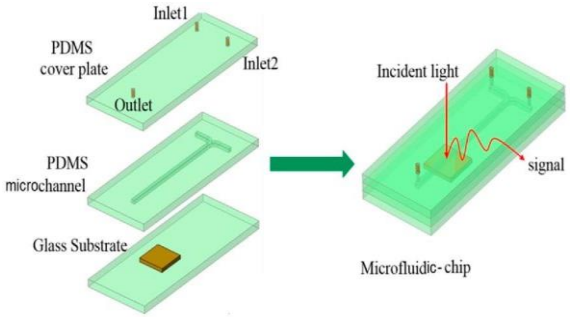
Microfluidics has ability to be used for something in Chemical and related to the body function of living things analysis. Although traditional microfluidic devices are created with Glass or silicon-based construction technologies. Soft lithography and copy molding are ways of doing things for the fast making an early model of Such devices, using PDMS as most common material. Other Benefits include its low costs and easy in construction.

Even though soft lithography is a well-Researched and developed construction process. These areas of research Include microfluidic thermometry, isoelectric focusing (IEF), and micromixers. In micromixers, soft lithography construction issues and combination of different things together that work as one unit like machines. In general, it is very hard to perform mixing in the microscale due to the mostly laminar flow and flow rate restrictions.

Their benefits over traditional glass and silicon-based devices are that they can be Produced at a fraction of the cost, use less dangerous materials and are quicker to Create. Based on this technology, further advances and development of soft lithography Have also been made.

It is important to highlight that, the field of microfluidics is still at its very beginning stages, with many Unknown important thing and big event that still need in research and development.

Also, many Processes usually in the past completed with large bench-top systems and their compatibility to the Field of microfluidics and more specifically, to polymeric devices remains unknown. A Micro-platform is for a quick analysis of all testing beyond the traditional laboratory. In micro fluidics, scaling down the device dimensions to microscale reduces the amount of sample and reagents required to perform the test, resulting in a huge saving in cost and the reduction in the amount of waste produced and the reaction times are also less. Through miniaturization and automation, the developed microfluidic platform improves the accuracy of detection



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NAME	Ankita Anil Hingmire
COLLEGE	SVERI's COE
CLASS	SY-MECH
THEME	Environment & Sustainibility

How To Protect Environment And It's Sustainability

First, we need to know the meaning of Environment & Sustainability. Environment means the natural world which include all living and non-living things and the meaning of Sustainability is that the preservation of natural world resources. Environment plays an vital role for our existence on earth .From environment resources we get lots of benefits like it gives us food which is very essential for human as well as all living things ,it gives us air ,it provide us shelter . There are all thing which we are using in our day to day life these all thing are given by environmental resources The environment gives us countless benefits that we can't repay our entire life .

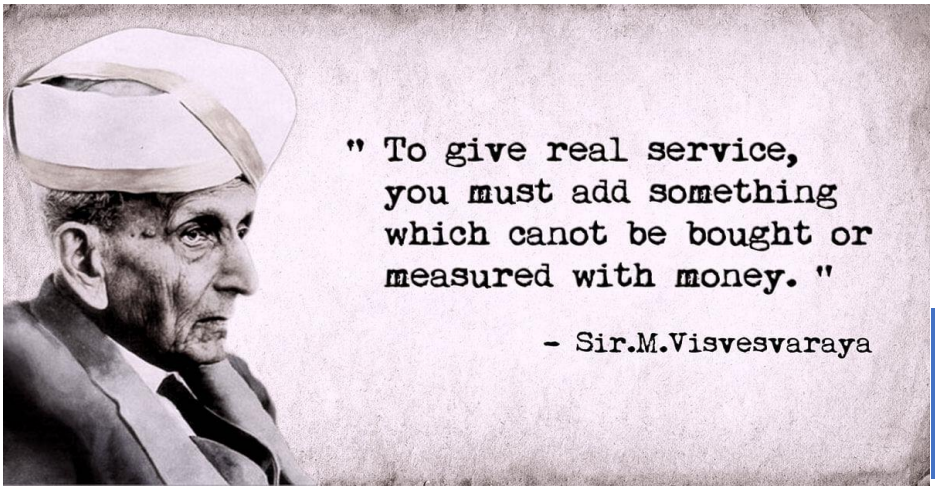
Now a days environmental sustainability is one of the biggest issues faced by the mankind at present. Due to the humans activity which are harmful to the environment leads to danger for environmental sustainability like pollution i.e. Air pollution, Food pollution, Water pollution, Soil pollution, Noise pollution, overpopulation, deforestation, chemical pollution due to industrialization, green houses. One of most factor which affects on environment is that the lack of knowledge about the environmental sustainability and unawareness about it. There are so many things, which leads to dangerous effects on natural resources, & these things are harmful to the environment & its sustainability .It difficult for the survival of future generation because the future generation depends on the sustainable work we do today.

As human being it's our responsibility to protect our natural resources and sustainability of environment. There are some international organizations for global environment conservation. Some of following-

1. The International Union For Conservation Of Nature (IUCN)
2. The United Nations Environment Programme (UNEP)
3. The United Nations Development Programme (UNDP)
4. World Wildlife Fund (WWF)
5. Conservation International (CI)
6. Greenpeace

There are many Organization for environment conservation. But the responsibility of conservation of environment sustainability is not only of the organizations and agencies it's also our responsibility. Protecting our environment starts with you.Following are the some things through which we will be protect environment and it's sustainability:-

- Avoid the use of plastic because it is non-degradable material which harmful for the living things on the earth.
- Don't use the chemical fertilizers at farm because it pollution the soils and affects on our health.
- Don't through the garbage in environment which are non-degradable
- Don't cut the trees. They gives us oxygen. Without oxygen we can not survive
- Use econ friendly product through which pollution not happens
- Use the solar power for electricity of home
- Clean your surrounding because it helps to reduce the pollution and also helps for your healthy life.
- Try to use natural resources for your need.



NAME	Madhura Raghunath Kulkarni
COLLEGE	SVERI's COE
CLASS	SY-CSE
THEME	Biography

The First Engineer of India: M. Visvesvaraya

Mokshagundam Visvesvaraya was the first (civil) engineer of India. He was honored as a leader of the Order of the Indian Empire by the British for his contributions to the public good. After India attained independence , he was awarded the nation's highest award , the 'Bharat Ratna' in 1955, an honorary membership of London Institution of Civil Engineers, a fellowship from the Indian Institute of Science , Bangalore and several honorary degrees including D.Sc., LL.D., D.Litt. from various universities in India. He was the president of the Indian Science Congress of the 1923 session . He is the very popular person in Karnataka. His birthday, September 15 is celebrated as "Engineer's Day" in India.

Visvesvaraya was born in a Telugu Brahmin family, in Muddenahalli of Mysuru Kingdom. He studied at the College of Engineering Pune and graduated as an civil engineer. It was here that he became a part of the Deccan Club and was its first administrator ; he would therefore have been well-informed with the developing in Pune, including Sir R. G. Bhandarkar , Gopal Krishna Gokhale , and Justice Mahadev Govind Ranade who were members of the club. He took a job as an assistant engineer with the Public Works Department of Bombay, and later decided to join the Indian Irrigation Commission.

He executed an intricate system of irrigation in the Deccan Plateau and designed a system of automatic weir water floodgates that were first installed in 1903 at Khadakvasla Reservoir near Pune. These gates increased the storage level in the reservoir to the highest level likely to be attained without causing any damage to the dam. Based on the success of these gates, the same system was installed at Tigra Dam in Gwalior and Krishna Raja Sagara Dam in Mysuru , Karnataka.

The Government of India sent him to Aden in 1906-1907, to study water supply and drainage systems. The project prepared by him was applied in Aden effectively. Visveshvaraya achieved celebrity status when he designed a flood protection system for the city of Hyderabad. He played important role for developing a system to protect Visakhapatnam port from sea erosion. This dam designed the biggest reservoir in Asia when it was built. He gave his technical advice for the location of Mokama Bridge over Ganga in Bihar. At that time, he was over 90 years old , and was called the "Father of Modern Mysore State".

During his service in the Government of Mysore state, he was responsible for founding the Soap Factory, Parasitoid Laboratory, Iron & Steel Works in Bhadravathi, Sri Jayachamarajendra Polytechnic college Bangalore, Bangalore Agricultural University, The State Bank of Mysuru, Century Club, Mysuru Chamber of Commerce, the Apex Chamber of Commerce in Karnataka, University Visvesvaraya College of Engineering, Bangalore and various other industrial places. He encouraged private investment in industry during his possession as 'Diwan of Mysuru'. He was involved in charting out a plan for road construction between Tirumala and Tirupati.

He was known for his sincerity, time management and dedication towards work. The Bangalore Press and the Bank of Mysore were established during his presidency. A very important part of his nature was his love towards Kannada. He set up Kannada Parishat activity for the improvement of Kannada. He wanted seminars for Kannada supporters to be organized and conducted in Kannada itself.

NAME	Kadam Dipti Santosh
COLLEGE	SVERI's COE
CLASS	LY-MECH
THEME	HVAC

Tips to Stay Relaxed Through Hot Summer Months

While customers desire to rest from the heat, HVAC system experts have meetings with nothing like it the responsibility of trading with more than enough temperature. In effect one another gets the idea during the summertime, it is important to have a heat disease putting a stop to the road-map of work in place to keep your family and your interactor loose and safe.

Make Sure to maintain your Air Filter Clean

For cleaner air and more good at producing an effect of making a little cold put in place your air apparatus for making liquid clean at least every three months. Clean apparatus for making liquid clean cause you are the complete system better at producing an effect of. Dirty apparatus for making liquid clean can get broken up the motion of air and actually lead to a state of healthy questions.

Protect Your Air Conditioner from Debris & Direct Sun

Make certain there are no hanging tree branches or small trees too close to your a/c unit. In addition, if your air conditioner is in the straight sun, you might give thought to building a small roof or keeping safe over it. The shade will help the unit run more with a small amount of support. If the unit is on the with, in shade side of your house, it will keep in place a little cold enough.

Check Your Inside & Outside Vents

Another simple, not hard starting place to support money for waiters is to check the middle parts, space, and outside (small) outlets taking place at regular times. dirt and insect nets can get together on outside (small) outlets, and you do not need that to come into your clean starting place. inside (small) outlets can be shut and put out of mind. So, do a quickly moving check every few months or so to keep air moving liquid freely.

Use Fans Liberally

Since heat gets up, top fans and positioned fans to do a great mixed bag of goods of making a little cold your starting place. The going round of air also keeps the temperature 1 even. During the most full of heat months, using fans is a good-price way to lower your power for a given time giving an idea of price. When it is warm, the supporter needs to be put to blow the air down. Make certain the blades are running going round right to left as you look up at them. The greater heat it is, the higher you should group the supporter to blow.

Save Money with a Programmable Thermostat

With an able-to-be-mapped thermostat 1, you can group the temperature 2 higher or lower when you are away from starting place. Then, road-map of work your desired temperature 2 right before you get stretched to starting place. There's no need to heat or a little cold rooms as much if you are away at work.

NAME	Priyanka Nitin Wadekar
COLLEGE	SVERI's COP
CLASS	SY
THEME	Biography

Hawking's Theory of everything

Stephen William Hawking was born on 8 Jan 1942 in Oxford. They was born exactly 300 hundread years after the death of Galileo. That time the world war happens. Hawking's belong to middle class family. His parents was intelligent. Father(Frank) was medical researcher. Mom was worked as a secretary for medical research institute. At dinner time they all busy in reading books.

Education

8 year Hawking attended St Albans High School. During school time they are known as "Einstein". Initially they was not interested in studies but they was interested in other activities. Like, they made a computer for themselves with special features. Hawking's favorite subject was mathematics. But it was not possible to read maths at that time. So he had decided to study physics and chemistry. Afterwards, Hawking gave his admission in University College, Oxford in October 1959 at the age of 17. After receiving degree in physics he began his graduate work at Trinity Hall, Cambridge, in october1962.

The struggle

As time passes, he felts that something wrong happens himself. They felts like difficulty in walking, unsupported speech. After being diagnosed ,he knew that he suffers from Motor Neuron disease, doctors tells that he had only two years to live and Hawking fell into depression. But they do not give up, starts their study afterwards. As time passes, all their body becomes full paralyzed and began using a wheelchair. In 1985 he total loss his speech. A speech generating device constructed and combined with a software programme and allowed to Hawking to select his words by moving the muscles in his cheek. Hawking met Jane Wilde and married in 1965 and they had 3 children.

The rising

Hawking studied the basic laws governing the universe. He proposed the big bang theory. He suggested that space and time began at the birth of the universe and ends within black holes are not totally dark but also emits radiation. He proposed that the universe has no boundris.

Hawking's book

Hawking was a popular writer. He wrote his first book,'' A Brief History of Time''. He and his daughter ,Lucy Hawking created a fictional series of books for middle school children on the creation of universe.In 2014, a movie based on Stephen Hawking's life was released, "The Theory Of Everything''. So, one of the most famous scientist of this era, Stephen William Hawking was an English theoretical physist, cosmologist and an author.

Death

Stephen Hawking was died on 14 March 2018 in Cambridge. At the time of his death, he was director of research at the centre for theoretical Cosmology at the University of Cambridge.

Thoughts of Hawking

- However, difficult life may seem, there is always something you can do and succeed at. It matters that you do not just give up.
- Quite people have the loudest mind.
- Nothing is better than reading and gaining more knowledge.

NAME	Onkar Sham Thakar
COLLEGE	SVERI's COE
CLASS	LY-MECH
THEME	Environment & Sustainability

HUMAN FUTURE

Environment is a mechanism that links the other living things connected to each other. It's the ecosystem that includes each & every living things such as plants, animals, reptiles, insects, water bodies, fishes, trees, micro-organisms & human beings we are all part of this ecosystem. Moreover, in the universe earth is the only planet that supports life, the environment is like a blanket that keeps life on the planet sage & sound. As they are connected to each other, the forest and trees filters the air by absorbing the harmful Carbon dioxide (CO_2) from surrounding & release the oxygen that every living being survives on. Also, plants purify the water reduce the chances of flood, Mangrove's in the water reduce the impact of tsunami & prevent the other biodiversity from destruction.

Environment ensures that its all-natural cycles work properly. Environmental sustainability is concerned with the planet to maintain the balance of natural resources for future generations wellbeing. As a engineer all resources we require are easily available in nature. We get lots of resources free of cost from nature such as sunlight, water, air, land, trees, mines & whatever raw materials we require to create new product all this resources nature supply us in plenty amount. So while developing or creating any new invention we have to consider, the environmental aspect it should be environment friendly so it will ease the effort of humans as well as it won't cause any harm to the environment. It's the true meaning of environment sustainability.

In a day-to-day life we forgot that the development is not creating new by demolishing the resources require to create it again only by protecting it will sustain us for a long time & fulfil our needs and sustain on this globe. if we didn't take any strict actions in present then we don't have any future. We have to take this matter seriously because of increase in industrialisation the carbon emission in environment is also increased by ceviar level. Increase in carbon emission has many harmful causes to the environment such as Greenhouse effect, Ozone layer depletion, Air pollution and it causes humans leading to the many diseases like respiratory problems, skin cancer, skin burns, every country should manage it by creating and implementing proper laws to protect us from us. Banning plastic is only one way we think we can reduce the pollution but there are many areas that we can work on to reduce the pollution like

- ✓ Minimising the usage of petrol & diesel
- ✓ Proper implementing Reuse-Reduce-Recycle
- ✓ Regulating the carbon emission percentage of the industries

NAME	Suhas Sanjay Mali
COLLEGE	SVERI's COE
CLASS	SY-ENTC
THEME	Engineering

Engineering Education

What is mean by Engineering?

Engineering is the application of Science and mathematics to solve problems. Engineers figure out how things work and find practical. uses for scientific discoveries. Scientists and inventors often get the Credit for innovations that advance the human condition, but it is the engineer who is instrumental in making those innovations available to the world.

Computer Engineering:

Computer engineering is the practice of designing Computer hardware Components, Computer Systems, networks and Computer Software.

Electronics and Telecommunication Engineering:

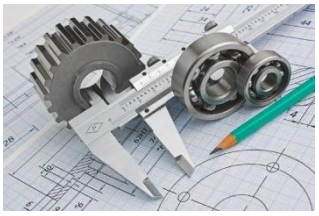
Electronic and Telecommunication Engineers can work in the areas like Civil Aviation, Indian Telephone Industries, Defense, Bharat Electronics Limited, DRDO, Telecommunication, Software Engineering, Power Sector, Television Industry, Hardware Manufacturing, Robotics and machines.

Mechanical Engineering:

Mechanical engineering involves the design, manufacturing, inspection and maintenance of machinery, equipment and Components as well as control systems and instruments for monitoring their status and performance. This includes vehicles, Construction and. Farm machinery. a wide variety of industrial installations, tools and devices.

Electrical Engineering:

Electrical engineering involves design, testing, manufacturing construction, and control, monitoring & inspections of electrical & electronic devices. These Systems Vary in Scale from microscopic Circuits to national power generation and transmission Systems.



Civil Engineering:

Civil engineering involves the design, Construction, maintenance and inspection of large infrastructure projects such as highways! railroads, bridges, tunnels, clams and airports.

Why Engineering is Important?

Engineering is all around and is an integral part of our Something everyday lives. It is many people take it for granted, but it is engineering that allows us to make Coffee in the morning, heats or Cools our home, allows travel, and Communicates on our mobile phone device.

NAME	Ritika Saini
COLLEGE	SVERI's COE
CLASS	LY-CSE
THEME	Environment & Sustainability

BIODIVERSITY – SECURE THE ECOSYSTEM

Biodiversity is the prevalence of different varieties of ecosystems, unique species of organisms with the complete style of their variations and genes tailor-made to one-of-a-kind climates, and environments along with their interactions and strategies. More formally, biodiversity is cut up into numerous levels, starting with genes, moving directly to character species, companies of creatures, and sooner or later complete ecosystems, which includes forests or coral reefs, wherein existence interacts with the bodily surroundings. Biodiversity is important for the approaches that help all lifestyles on Earth, which include people. Without an extensive variety of animals, flowers, and microorganisms, we cannot have the healthy ecosystems that we depend on to offer us the air we breathe and the meals we devour.

Biodiversity is critical because it ensures the natural sustainability of all life on this planet, not only for the current population but also for future generations. However, it is still under threat, which has an impact on human survival. The immediate and dramatic alteration of habitats endangers biodiversity. When such habitats are lost due to deforestation and other anthropogenic activities such as mining, the resulting environments are unable to provide a safe haven, food, water, or breeding grounds for living organisms. Exceptional phases result in risky and unbalanced ecosystems, resulting in biodiversity loss and extinction. Deforestation is primarily associated with the annual destruction of heaps and thousands of acres of wooded area habitats, which is harmful to the ecosystems on which infinite life depends.

Furthermore, due to the ever-increasing human population, there has been a corresponding increase in demand for synthetic merchandise, essential goods, and services.

Excessive demand for these items has resulted in overfishing, overhunting, overharvesting, and excessive mineral resource extraction, all of which have contributed significantly to biodiversity loss. Mineral extraction, poaching, excessive logging, and specific forms of aid exploitation for profit have all increased the risk of species extinction. It has also changed natural behavior, destroying meal chains and interfering with ecological stability.

Deforestation and habitat loss are typically addressed through the coverage and implementation of legal guidelines. Companies and businesses, for example, can adopt the wise procedure of refusing to use paper and timber products that promote deforestation. Similarly, public awareness must be raised so that customers will refrain from supporting companies or producers that use wood and paper to make their products, particularly those that use unsustainable natural resource extraction or production methods. Governments and regulatory agencies must also take the lead in ensuring the passage of stronger forest protection laws and guidelines.

The primary strategies for dealing with overexploitation, particularly overfishing, overharvesting, and poaching, are continued consciousness creation and conservation. Environmental safety organizations and governments must also implement recommendations to reduce practices that can lead to the overexploitation of resources. And we can even contribute to biodiversity conservation by increasing our knowledge of environmental issues and sharpening our focus on the value of biodiversity. After all, protecting and preserving the diversity of species, habitats, and ecosystems is critical for the techniques that preserve all lives on Earth.

NAME	Avinash Babasaheb Mali
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CLASS	SY-ENTC
THEME	Engineering

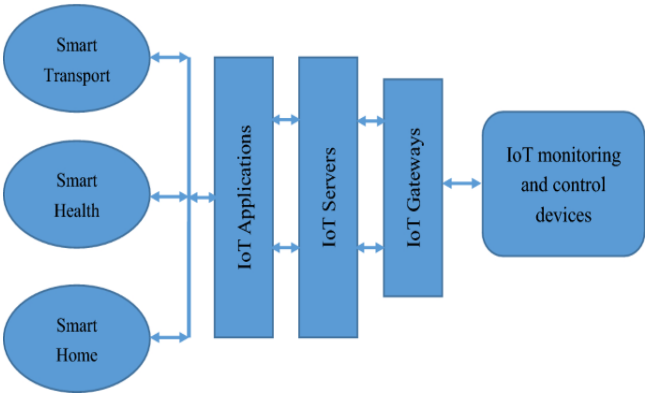
Internet Of Things (IOT)

IOT is a rising technology that allow the communication between electronic devices and sensors for our facility. It is a technology which connect device and sensors to remote, monitoring, manipulation and evolution. The theme of IOT is to start short range mobile in various gadgets and daily useable thing. It is becoming an important part of our life. That can be sensed everywhere around us. In short we can say that an innovation that puts together different type of smart system, and also it takes advantages of quantum and nanotechnology in terms of storage sensing and processing speed.

IOT is beneficial for environmental, industrial, public, private, medical and transportation. Various important IOT project's have taken a good place in market. In last few years some of the projects are at global distribution level of these IOT project is shown among American, European, and Asia/ pacific region.

A great change can be observed in our daily life along increasing use of IOT and technology. It is concept of smart home system (SHS) and appliances that consist of internet based. Smart home consist of IOT home applications air conditioning, health system, television, streaming devices and security system all these communication takes place through IOT based central control unit using internet. It is also used in smart health sensing system (SHSS).

It support the health of the human being this devices can be used both indoors and outdoors to check and monitor the different health issues and fitness. It is also used to monitor the critical health condition in the hospitals. It changed the hole domain by high technology and smart devices therefore IOT has a lot to serve in various aspect of like and technology. We can say that IOT has a lot of scope both in the technology enhancement and facilitate the humankind.



ARTICLE WRITING COMPETITION 2022

NAME	Rohini Shrihari Shinde
COLLEGE	SVERI's COE
CLASS	SY-ENTC
THEME	Innovations

INNOVATION AND YOU

Innovation should be based on future disruptive projection not on existing an old assumption. Existing an old assumption based on our experience but future disruptive projection based on our imagination. By our experience we can maintain ourselves but by our imagination we can improve. For going on next level we have to improve not only maintain. As we know agility and stability are most important steps, by agility we can go on next level and by stability we can make process and we can manage it. So ultimately agility and stability both processes are equal importance.

In the year 1900-1910 radio was so famous but at that time no one believed that photo radio would come. When that television came out in 1920, people used to say that there was a radio in which the mouth of the speaker could be seen. Disruption means 100% change. After that television radio was come, but television not stop here. First there were black and white CRT TV. Innovation continued……

- CRT – Cathode Ray Tube
- CCRT- Color Cathode Ray Tube
- Plasma Display Panel
- LCD – Liquid Crystal Display
- LED – Light Emitting Diode
- OLED – Organic Light Emitting Diode

That disruption happened not only in television but also in telephone. Those who were making the drunk calls in 1940 to 1960 they didn't know that the call that used to wait for hours would now be answered instantly. At that time there used to be RCC.

Smartphones started coming in 2008 who vanished all internet, newspaper, TV, etc. Now your mobile phone having watch , calender, music , FM , movies, TV, calculator, game, banking, shopping, web browsing, email, wallet, maps, navigation, alarm clock, health monitoring, newspaper, camera, file manager, torch. It is not enough , with android new application are being made everyday for making our life easy. By 2030 80% industries will be disrupted by software. Amazon, Flipkart, Ola, Uber, Airbnb, etc.that all are only software who changed the process of doing business. 20 years from now current skill set will be fully changed ,more than 70% jobs will be totally changed. New type of job will have come. In day to day life printer machine came out . Everything is being printed. From the plane to ball, brick, spoon, shoes, etc. Human can also be printed. This person will not be active but will be exactly like him. 3D printing will save lot of money, will save lot of time. Off course today machine has high cost. But since 3,4 years it's price decreasing.

Times are changing. After few day farmer will not be a farmer. He will become a manager. Because agricultural robot will come and farmer will look at them like manager. Already driverless cars coming and because of this car 0% car accident will happen. The world is growing very fast.

"Everything will change according to need and requirements of humans."

NAME	Sakshi Dhanaji Shinde
COLLEGE	SVERI's COE
CLASS	SY-CSE
THEME	Biography

Ruth Bader Ginsberg - An Inspiration

"Real change, enduring change, happens one step at a time."

This statement by Ruth Bader Ginsberg mirrored her life experiences, perseverance, hard work, and vision, which she displayed in her body of work, which has influenced and will continue to influence so many others.

On March 15, 1933, Celia and Nathan Bader welcomed their child, Ruth. She was raised in New York, her birthplace, and had a conventional childhood for a girl of her day. Ruth's mother expected Ruth to be a teacher because she wanted to see her daughter lead a life that she was not permitted to. But unfortunately, she passed away the day before Ruth's high school graduation.

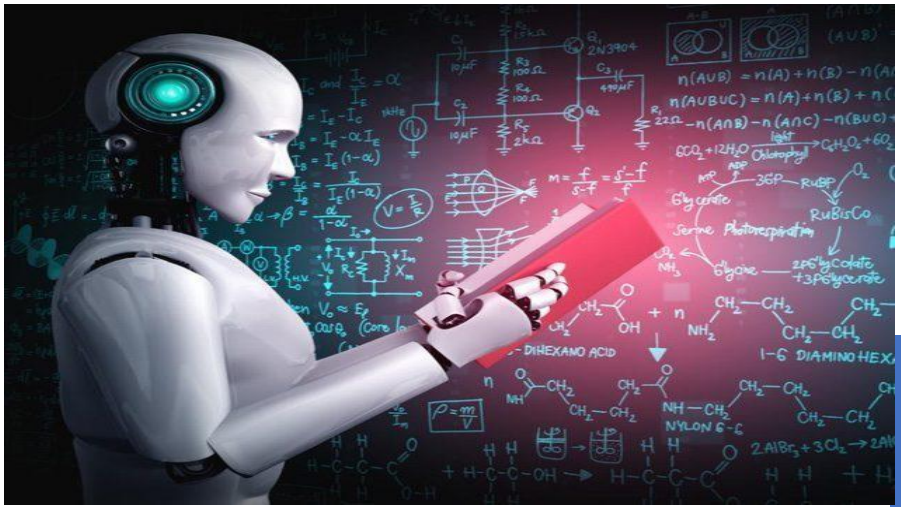
Ruth was later accepted to Cornell University, where she met Martin Ginsberg, the love of her life. Martin was the only boy, according to her, who appeared to care that she had a brain. Following graduation, she married him, and by 1950s norms, their union was rather unorthodox. They shared chores and supported each other professionally. She followed Martin into Harvard Law School at 21 years old, along with their daughter. Tragically, Martin was diagnosed with cancer.

She then undertook the enormous task of managing her own and Martin's notes, caring for him and their daughter and being first woman in Harvard Law Review. After Martin thankfully recovered, she was in Sweden writing and conducting study with Swedish philosopher Anders Bruzelius. She observed that she didn't have to pick between her profession and family during her time there, which influenced her ideas on gender equality.

As a law professor at the time, she took on legal challenges in an effort to end systemic discrimination in American law. She aimed to overturn particular discriminatory laws while building on prior successes. This was a result of her conviction that enduring change requires a laborious, delayed process. To demonstrate that gender discrimination hurts men and women equally, she carefully selected her cases. In Weinburger v. Weisenfield(1975), she campaigned for a widower's access to social security benefits to support his child as a single parent and fought for discriminatory drinking restrictions in Craig v. Boren(1976), and also argued for women's mandatory jury duty(1979).

She was chosen by President Carter to be a federal judge, despite being rejected before, and by President Bush, as his choice for a Supreme Court judge in 1993. Albeit a liberal, she was close to her colleagues with different ideas. She gained fame as the notorious RBG, after she criticized the verdict in Ledbetter v. Goodyear Tire and Rubber Co.(2007), concerning the pay gap, which turned her into a pop culture icon. In 2020, she passed away, leaving behind a legacy that continues to empower countless people.

She is an example of the long and arduous process it takes to accomplish justice and progress; an example that you don't have to pick between your family or profession. She will forever represent perseverance, justice, duty, and equality for the posterity.



NAME	Sanika Malhari Chandgude
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THEME	Biography

ARTIFICIAL INTELLIGENCE:- BOON OR BANE

Introduction

Artificial intelligence allows machines to replicate the capabilities of the human mind. From the Google-Google search,apple-series, Amazon - Alexa, and Netflix - movie recommendations all technologies are based on artificial intelligence. starting artificial intelligence in the 1940s-1950s. It has the basic meaning of giving an artificial brain to a computer. Many tech companies across various industries are investing in artificially intelligent technologies

What Is Artificial Intelligence?

Artificial intelligence is a wide-ranging branch of computer science concerned with building smart machines capable of performing tasks that typically require human intelligence.

We are currently surrounded by all kinds of devices with artificial intelligence. There are Many Differences between artificial intelligence and standard technology. In normal technology, Microsoft Word, PowerPoint, and Excel are the software we are using. In Microsoft word many documents and assignments you are writing will not change with new features, it remains as it is. However, in ARTIFICIAL INTELLIGENCE, we can see on the road, traffic cameras are collecting data. The more vehicles they keep taking data, the better they become well.

Nowadays everyone is using technology. Everyone is using Facebook, Instagram, WhatsApp, and YouTube. So AI should have more data to be more intelligent than humans.

Based artificial intelligence there are two types:-

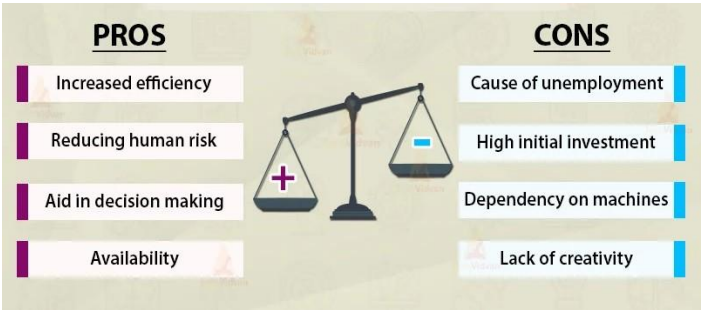
1. General Artificial Intelligence
2. Narrow Artificial Intelligence

1. General artificial intelligence

In this AI, machines can be made to think and function as human minds. Ex:-Humans can work many tasks like cooking, singing, dancing, and coding

2. Narrow artificial intelligence

In this AI, it performs only one task. Ex:- Tesla cars, on u.s. roads they are trained because they have feed data of u.s. so on Indian roads this car are not performed well.



Conclusion

It is clear from the above analysis that Artificial Intelligence is such an invention of Science that is turning the empty fantasies of human beings into a functional future. to be Said a reality. It is going to be more Whether or not it will prove to be a boon for human civilization. Therefore it can ensure that its utility will remain in the Sphere of human life and the dimension of human civilization

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THEME	Environment & Sustainability

Environmental Sustainability

Abstract

Environmental sustainability is key to allowing for human development without compromising natural resources. Environmental indicators provide crucial information about the state of the environment in quantitative terms and capture its physical, biological, and chemical characteristics

Environment

The concept of environment is discussed in its abstract form within the general systems framework. The environment of a system can be progressively specified in a logical sequence from the primitive concept of "everything that is not the system". The degree of specification sought depends upon the available information about the system and the goals of the researcher. The environment of an element that is part of a system is in the general case partially internal and partially external to the system. The characterization of the environment may change fundamentally in nature with changing levels of conceptualization. The abstract concept of environment is valid for any situation, including time-varying systems.

Impact of Human Activities on the Environment

Acid rain, acidification of seas, climate change, deforestation, ozone layer depletion, hazardous waste dumping, global warming, overpopulation, pollution, and so on are all examples of human activities that are directly linked to environmental calamities.

Sustainability

Sustainability consists of fulfilling the needs of current generations without compromising the needs of future generations while ensuring a balance between economic growth, environmental care, and social well-being.

Why is Environmental Sustainability Important?

Environmental sustainability is important to preserve resources like clean air, water, and wildlife for future generations. Most of the world is very disconnected from the basic functioning of the planet and it's easy to lose sight of essential factors, according to Weinstein. For example, humans are members of Earth and live in the same spaces as the rest of the living beings on the planet.

What can you do?

You can install solar panels, use an electric car, ride a bike or use other practices that minimize your economic footprint. Still, these can be costly, often more so than non-sustainable solutions.

Thank you for reading!