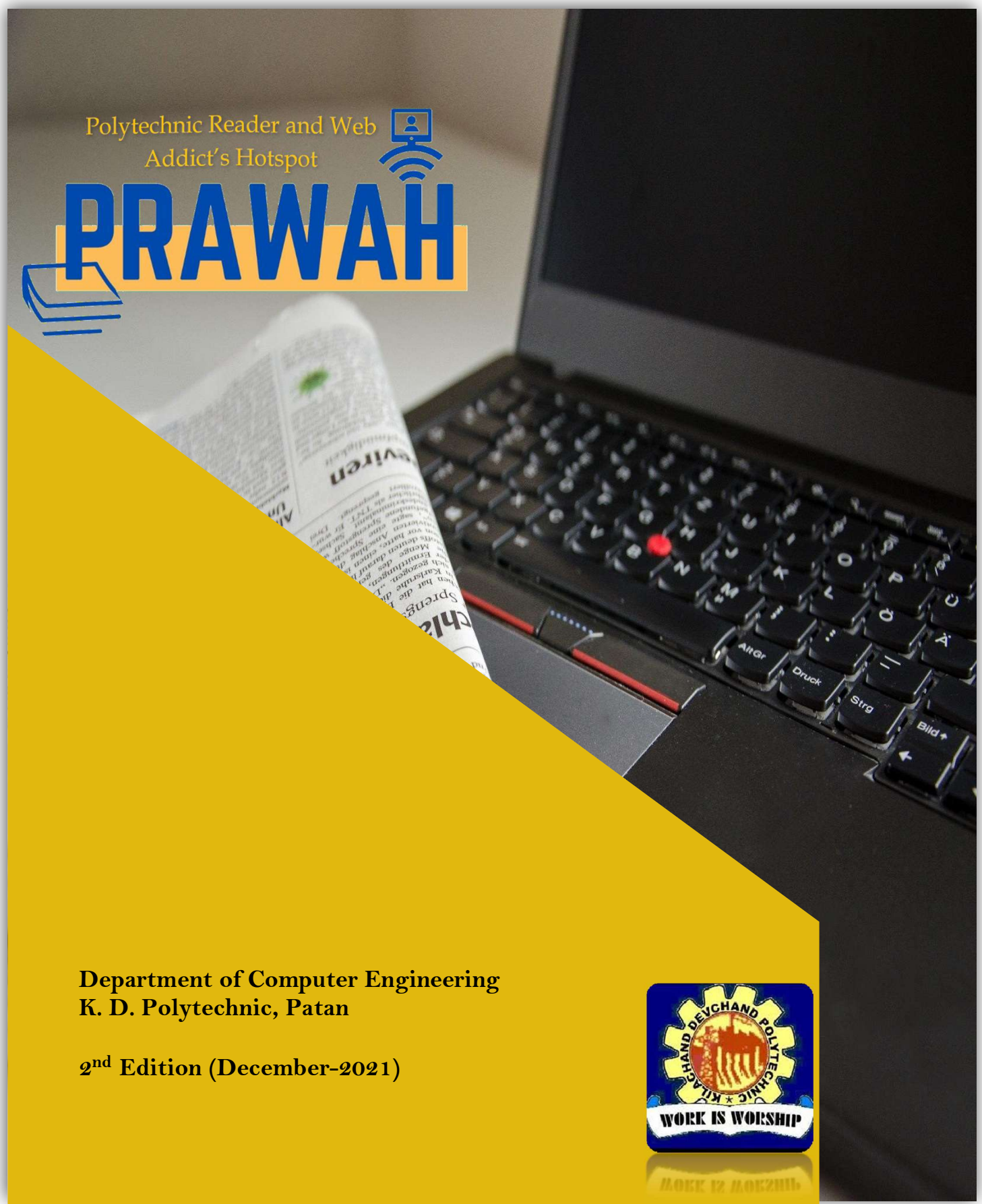
Polytechnic Reader and Web Addict's Hotspot

PRAWAH



Department of Computer Engineering
K. D. Polytechnic, Patan

2nd Edition (December-2021)

DEPARTMENT OF COMPUTER ENGINEERING

ABOUT DEPARTMENT:

K. D. Polytechnic, also known as **Kilachand Devchand Polytechnic**, was established in **1961** in **Patan**, **Gujarat**. Department of Computer Engineering is established in the year of **2001**. Department has Total Intake: **180**.Under the leadership of ***Shri J. M. Joshi*** Department of Computer Engineering is moving forward. The use of online teaching-collaborating tools like MS Team by Microsoft, for sharing the resources, assessment and related activities help as a mixture of traditional as well as active learning pedagogy to support contemporary ICT based technical education.

HEAD MESSAGE:

કમ્પ્યુટર ઈજનેરીનું ક્ષેત્ર એટલે ક્યારેક ઝડપી તો ક્યારેક ધીમુ પણ સતત પરિવર્તનશીલ અને પ્રગતિશીલ જ્ઞાનનો પ્રવાહ. મિત્રો, મારા માટે આ ખુબ જ આનંદની વાત છે કે આપણા કમ્પ્યુટર વિભાગે “PRAWAH - Polytechnic Reader And Web Addict’s Hotspot” દ્વારા એક નવા અધ્યાયની શરૂઆત કરી છે. વિભાગના વ્યખ્યાતા સતત વિધ્યાર્થીઓની રુચિ ટેક્નિકલ, સાંસ્કૃતિક તથા રમત પ્રવૃતિમાં જળવાય તે માટે પ્રયત્નશીલ રહ્યા છે. PRAWAH એ વાતને પ્રમાણીત કરતા સાક્ષ્ય નો ભાગ છે. PRAWAH વિભાગની વિવિધ પ્રવૃતિઓને તો પ્રતિબિંબિત કરે જ છે પણ સાથે-સાથે વિધ્યાર્થીઓને સર્જ્નાત્મક પ્રેરણા પણ પુરી પાડે છે. સંપાદકોની સમગ્ર ટીમને આ કાર્ય માટે અભિનંદન અને ભવિષ્ય માટે શુભકામનાઓ પાઠવું છું. PRAWAH હમેશા તેના વાચકોના હદયમાં સ્થાન પામે તે જ અભ્યર્થના...

Shri J. M. Joshi
Head of the Department,
Computer Engineering

FROM EDITORIAL DESK

It is a moment of great pleasure for our department in bringing forth this edition of PRAWAH.

The response to previous edition and contributions in this edition has been phenomenal. With every single edition we aim to touch a new paradigm of the technology world.

As we have seen in the last few years, the upsurges in digital financial transactions manifold. The ease of digital banking and convenience of UPI and various e-wallets have made life a lot easier. Slowly and gradually the conventional methods are getting phased out and new and improved technology is being made available to us with every passing year.

All of it seems like a perfect system, but this trend has also given impetus to a growing menace of cyber-crime which includes e-frauds, phishing, cloning and so on.

So, responsible tech professionals should not only contribute in developing tech for future but also develop a safety net for its end users. They should also make sure the end users are made aware about the pros and cons of using a particular technology and how to avoid its misuse and prevent financial frauds.

Let us all try to make this world a better place by promoting safer technology...

B. I. Saini
Chair Person
Editorial Committee

DEPARTMENT OF COMPUTER ENGINEERING

VISION

To produce competent diploma engineers through quality education with moral values to meet need of the society.

MISSION

i) To provide quality education in both theory and practical to solve the problems.
ii) To encourage students for cocurricular activities.
iii) Provide exposure to latest technology.
iv) Transform students into socially responsible and ethical professional.

PROGRAM EDUCATIONAL OBJECTIVES

The diploma holders will be:

i) Competent with knowledge of Computer Engineering to pursue higher education.
ii) Sound knowledge in basic science, mathematics and engineering fundamentals.
iii) Proficient to solve problems that are technically, economically, socially and environmentally acceptable.
iv) Efficient team leader, effective communicator and entrepreneur with ethics and moral values.

PROGRAM OUTCOMES

i) **Basic and Discipline specific knowledge:** Apply knowledge of basic mathematics, science and engineering fundamentals and engineering specialization to solve the engineering problems.
ii) **Problem analysis:** Identify and analyze well-defined engineering problems using codified standard methods.
iii) **Design/ development of solutions:** Design solutions for well-defined technical problems and assist with the design of systems components or processes to meet specified needs.
iv) **Engineering Tools, Experimentation and Testing:** Apply modern engineering tools and appropriate technique to conduct standard tests and measurements.
v) **Engineering practices for society, sustainability and environment:** Apply appropriate technology in context of society, sustainability, environment and ethical practices.
vi) **Project Management:** Use engineering management principles individually, as a team member or a leader to manage projects and effectively communicate about well-defined engineering activities.
vii) **Life-long learning:** Ability to analyze individual needs and engage in updating in the context of technological changes.

PROGRAM SPECIFIC OUTCOME

After the completion of the program, in future students will be able to have

i) An ability to analyse, design, develop and test software using different programming language
ii) An ability to setup, analyse, design and troubleshoot network and computer hardware issues.

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PYTHON - THE TRENDING LANGUAGE

You don't want to waste your time. If you're going to put aside the time and energy needed to learn new programming languages, you want to make sure, without a doubt, that the ones you choose are the most in-demand programming languages on the market. After all, if you're trying to start (or advance) a career in software development, you'll need to be at the front of the metaphorical class. You'll need to know which programming languages are popular, which are useful and which are up-and-coming on the market and then set yourself up to learn them.

Python is one of the most popular and commonly used programming languages today and it is easy for beginners to learn because of its readability. It is a free, open-source programming language with extensive support modules and community development, easy integration with web services, user-friendly data structures and GUI-based desktop applications. It is a popular programming language for machine learning and deep learning applications.

Python is a general-purpose programming language that empowers developers to use several different programming styles (i.e., functional, object-oriented, reflective, etc.) when creating programs. Several popular digital tools and platforms were developed with Python, including YouTube, Google Search and iRobot machines.

It is also, according to HackerRank, the second-most in-demand programming language for hiring managers in the Americas after Python.

As one of the most easy-to-learn and -use languages, Python is ideal for beginners and experienced coders alike. The language comes with an extensive library that supports common commands and tasks. Its interactive qualities allow programmers to test code as they go, reducing the amount of time wasted on creating and testing long sections of code. That said, even advanced users would benefit from adding Python to their mental catalog of programming languages; with over 50% of hiring managers seeking candidates who know the language, Python is easily one of the most marketable and in-demand programming languages of 2021.

The ever-growing importance of data in business has resulted in a quick rise in popularity and demand for Python. Python is used in server-side development, web and mobile app development to build machine learning software, there's nothing Python can't do. Also, this programming language has a vast collection of libraries, tools, and frameworks that make it a must in the field of Data Science and Machine Learning. Python is used to develop 2D imaging and 3D animation packages like Blender, Inkscape, and Autodesk. It has also been used to create popular video games, including Civilization IV, Vegas Trike, and Toontown. Python is used for scientific and computational applications like FreeCAD and Abacus and also by popular websites like YouTube, Quora, Pinterest, and Instagram. Python developers earn average annual salaries of about $72,500.

Along with being exceptional at handling Data, it’s also incredibly versatile. Therefore, based on potential and demand, Python is one language to learn in 2021 and it’s intuitive and elementary to learn, even for beginners. Python is mainly used for data science, artificial intelligence, machine learning, back end development, web/ mobile app development and Internet of Things. Python is perhaps the most user-friendly programming language. It’s often said that Python’s syntax is clear, intuitive, and almost English-like, which, like Java, makes it a popular choice for beginners.

Also like Java, Python has a variety of applications that make it a versatile, powerful option when choosing the best programming language for your use case. If you’re interested in back-end web development, for example, then the open-source Django framework, written in Python, is popular, easy to learn, and feature-rich. Django

has been used in the development of some popular sites like Mozilla, Instagram, and Spotify. Python also has packages such as NumPy and SciPy that are commonly used in the fields of scientific computing, mathematics, and engineering. Other Python libraries such as TensorFlow, PyTorch, scikit-learn, and OpenCV are used to build programs in data science, machine learning, image processing and computer vision. Python's science and data applications make it a great choice for the academically inclined.

Python undoubtedly tops the list. It is widely accepted as the best programming language to learn first. Python is a fast, easy-to-use, and easy-to-deploy programming language that is being widely used to develop scalable web applications. YouTube, Instagram, Pinterest, SurveyMonkey are all built-in Python. Python provides excellent library support and has a large developer community. The programming language provides a great starting point for beginners. Talking about those who are looking for a better job, you should definitely learn Python ASAP! A lot of startups are using Python as their primary backend stack and so, this opens up a huge opportunity for full-stack Python developers. Here is a sample Python "Hello World!" program:

Print ("Hello world")

Benefits:

Python is widely regarded as a programming language that's easy to learn, due to its simple syntax, a large library of standards and toolkits, and integration with other popular programming languages such as C and C++. In fact, it's the first language that students learn in the Align program, Gorton says. "*You can cover a lot of computer science concepts quickly, and it's relatively easy to build on."* It is a popular programming language, especially among startups, and therefore Python skills are in high demand. It is used for Back end development, Data science and App development.

Drawbacks:

Python is not suitable for mobile application development.

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MASS MEDIA

What is Mass-Media?

Mass media is the technology that is intended to reach a mass audience. It is the primary means of communication used to reach the vast majority of the general public. Mass media is any source that sends information to public (masses). The most common platforms for mass media are newspapers, magazines, radio, television, and the Internet**.**

Most people use mass media as a source of information. For example, students use it for academic purposes, business tycoons for business information and all adults for news and political updates. Businesses make use of mass media to promote their products and services in the form of advertisements. It is the biggest source of entertainment. Not all people love stage and standing comedy shows where 99% of the world population prefers TVs, Cinemas and computers for entertainment and they are capable of accessing the media so they are the sources.

Your favorite movies on streaming services like Netflix, Hulu, and Amazon Prime Video, news on TV and radio, articles in newspapers and magazines make mass media an integral part of our everyday life. Since it has a vast influence on people all over the world, brands use various platforms to appeal to their leads and customers and pitch their goods.

Companies run an endless marathon to reach success with the help of mass media. Brands use either traditional or digital media to connect with their target audience and build brand awareness. Entrepreneurs consider various platforms to convey a company's image and create a good reputation. With mass media, brands can effectively promote their goods and services, reach broader audiences, boost brand engagement, and increase sales volume.

There are diverse applications of mass media in the world today. However, it exists since ages. Back in older times, people used drums to invite the residents of a community where they would gather and then announce the news to them. This is how their mass media would be like. Then gradually when they could write, they would paste the news on the places where majority could read and update others. It became more advanced with the passage of time and today we have internet and social media which is the most advanced form of mass media.

Mass media develops awareness among people regarding social and political issues. It's also a means to educate, entertain and connect. It has strengthened our modes of accessibility.

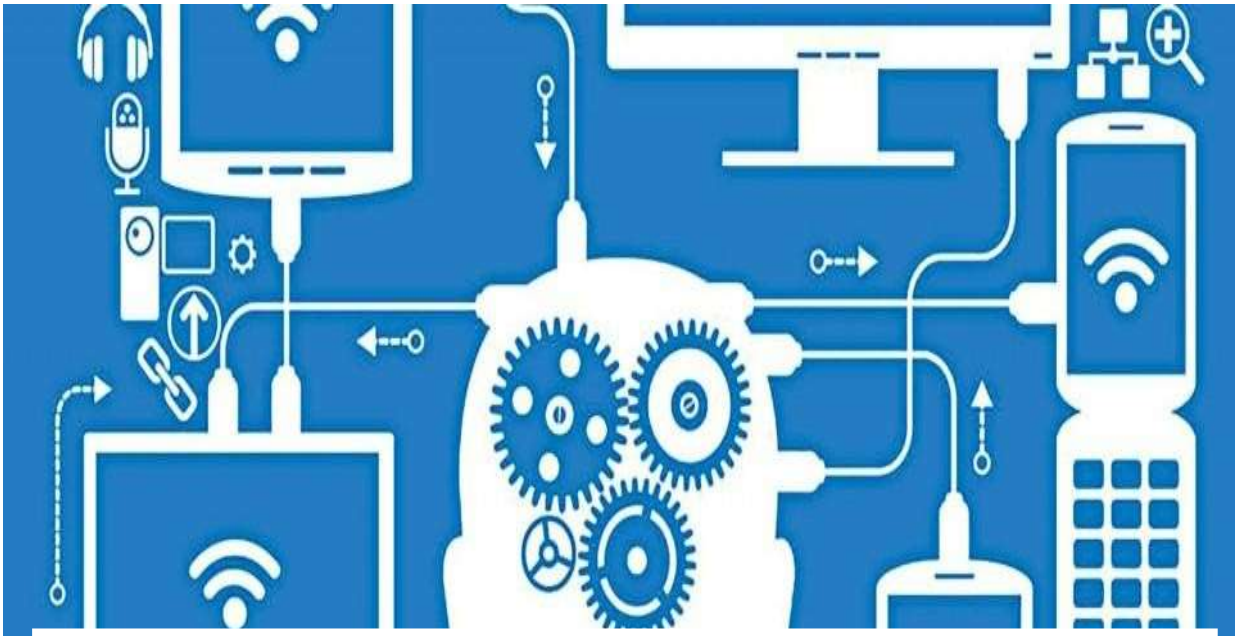
Examples of Massmedia

Newspaper and magazine articles, published photographs, recordings of television and radio broadcasts, sheet music and music recorded for mass distribution, advertisements, books, and magazines.

Types of Mass Media

1. *Print media*- It involves magazines, newspapers and even billboards that we see everywhere around us.
2. *Electronic media*- It includes television and radio.
3. *New age media*- Mobile phones, computers, Apple TV, Play Stations etc.

Nistha M. Dave
196310307012



NEW TRENDS IN COMPUTER SCIENCE

Wireless charging

Place a laptop on a table, and it'll automatically start charging. No wires needed and no need to carry a power brick. That's how Intel views wireless charging for laptops, which could become a reality next year. Intel wants to make wireless chargersas easy to find as a Wi-Fi signal, and wants to bring the technology to cafes, restaurants, airports and other public places. So laptopscan be recharged without power adapters. The first laptops with wireless charging could come out next year, and Intel has shown a few prototyped laptops being recharged on a table.

Intel is backing the Rezence magnetic resonance wireless charging technology, promoted by the Alliance for Wireless Power, or A4WP. The power flow will initially be limited, enough to wirelessly recharge ultra-portables and hybrids. Plans call for increased power output to recharge mainstream laptops. But getting the technology to public places and entertainment spots could take some years. Some cafes and restaurants already provide wireless charging bases for tablets and smartphones, and are interested in adding laptops.

Beam the image, Scotty

It may also become possible to connect laptops wirelessly to display devices, which could eliminate expensive HDMI or display port cables. A wireless display will start working as soon as a laptop is within range. Intel envisions a laptop ultimately being able to connect to multiple wireless monitors, who could be useful in classrooms or meetings. One laptop will be able to stream to monitors on multiple desks. Intel is pushing the initial idea through a "smart dock" that connects a laptop to a wireless monitor.

Wireless displays will gain momentum with the growing adoption of WiGig, a faster version of Wi-Fi that can handle wireless 4K video streams without any lag. In addition to Intel, Qualcomm will bring WiGig to smart phones and tablets next year,so users will be able to stream Netflix directly from a smart phone or tablet to a wireless TV. Display makers will also build WiGig technologies into monitors and TVs in the coming years.

Creative Desktops

From its origin as a dull white box, the desktop has become a hub of creativity and imagination, with technologies like depth sensing cameras and 3D printing spinning off a variety of innovations. One example is HP's Sprout, which looks like a normal all-in-one PC, but packs the latest imaging and collaboration technology. At the base of Spout is a giant touch pad called a Touch Mat, which is a dual-purpose digital canvas on which images can be scanned and also manipulated? A 3D depth- sensing camera lodged in Sprout scans the objects placed on the Touch Mat - for example, if a coffee mug is placed on the canvas, the 3D camera will scan it to depth and size. A projector on top of Sprout can then reflect the scanned image of a coffee mug on the Touch Mat, which artists can then manipulate by touching thedigital canvas. HP says the scanning and manipulation could be useful for creating objects that could be 3D-printed. But at $1,899, Sprout is considered an expensive experimental desktop.

Otherwise, Dell has developed a "smart desk," with an all-in-one PC beaming a virtual keyboard onto a desk on which users can type. It's an interesting concept, but a proper keyboard may be a better idea.

Fingerprint reader on laptop -Biometric sensors

Soon, your body could log you into an e-mail account. By the end of this year, Intel will be providing software so that users can log in to websites via biometric authentication. Biometric authentication is relatively reliable and secure, and users won'thave to remember dozens of passwords for different sites. Apple already uses biometric authentication to authorize credit card payments through its Apple Pay service, and Intel wants to bring a similar concept to PCs. Expect the fingerprint reader to become more useful starting next year.

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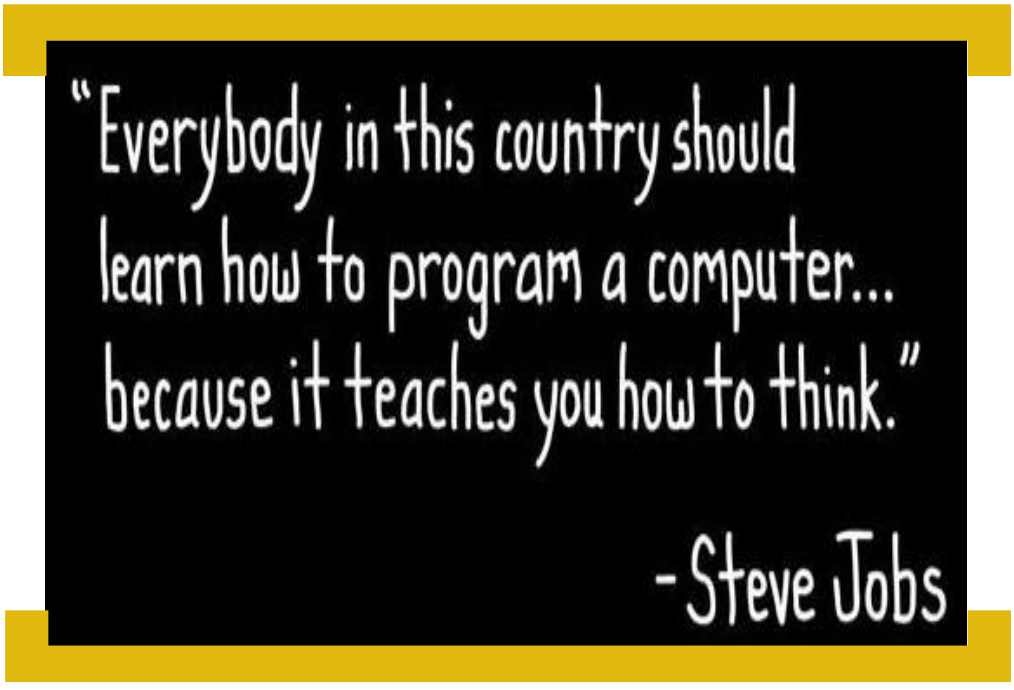


FIFTH GENERATION (5G) WIRELESS TECHNOLOGY

Fifth generation wireless technology (5G) is the latest iteration of cellular technology that has following three main features:

- Greater speed
- Lower latency
- Ability to connect a lot more devices simultaneously

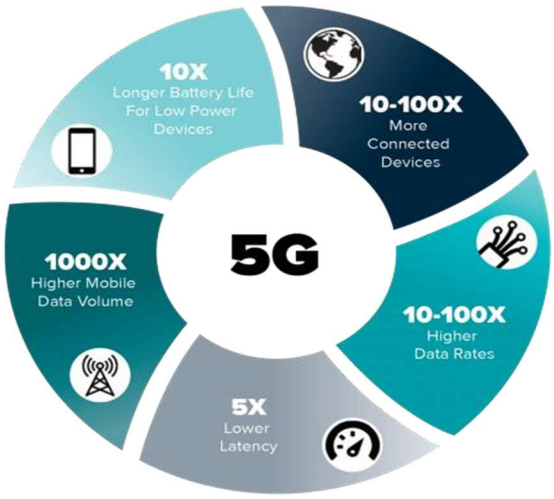
Fifth generation wireless technology is give us dynamic speed and much more efficiency. It would create massiveimprovements in wireless technology's word. The need of 5G technology increases day by day with number of problems like plethora users, high speed, receiver complexity etc. This technology is still in progress under evolving phase. So many wireless researchers and academicians are going to work for this technology for enhancement.

5G Advantages

- 100-times-faster download speeds-for instance, a 3-gigabyte movie will now download in only 35 seconds;
- 10-times decrease in latency-this will enable new capabilities,

such as remote surgery and self-driving cars;

- Increased network capacity-this will allow millions of devices to be connected to the same network within a small geographical area.



These benefits will pave the way for additional new capabilities and support connectivity for applications like smart homes and cities, industrial automation, autonomous vehicles, telemedicine, and virtual/augmented reality.

"5G is the single biggest critical infrastructure build that the globe has seen in the last 25 years and, coupled with the growth of cloud computing, automation, and future of artificial intelligence, demands focused attention today to secure tomorrow," said CISA Director Christopher Krebs in the agency's 5G Strategy report.Initial 5G deployments will operate on a non- standalone (NSA) network-in other words, operate on existing 4G and 4G-LTE infrastructure and 4G/5G hybrid infrastructures. The complete evolution to standalone 5G networks is likely two years away. But in the interim, the goal remains to meet increasing data and communication requirements through NSA networks, all while securely and safely reaping 5G's benefits and possibilities.

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દિકરી

દિકરી એટલે શુ?

દિ - દિલ સાથે જોડાયેલો અતુટ વિશ્વાસ

ક - કસ્તુરી ની જેમ સદાય મહેકતી અને મહેકાતી

રી - રિદ્ધિ સિદ્ધિ આપનારી અને પરીવાર ને ઉજ્જવળ કરતી એક પરી

સૃષ્ટિ એટલે નર ,નારી અને કુદરત. વિશ્વ ના બીજા દેશો ની સરખામણીમા અને એમા પણ ખાસ કરી ને ભારત દેશ મા પુરુષો ની સરખામણીએ સ્ત્રીઓ ની ઘટતી જતી સંખ્યા ચિંતાનુ કારણ છે.

"ઘર આખા ની રોનક છે દિકરી,

જીવન મા ખિલેલ કમળ છે દિકરી "

આમ તો દિકરો-દિકરી એક સરખા જ છે. પરંતુ હજી કેટલાક અભણ લોકો આ સમજતા જ નથી .ઘરકામ, ખેતી તેમ જ પશુપાલન અર્થે દિકરી નો અભ્યાસ અટકાવી દેવામા આવે છે. અને એને તો રસોઇ બનાવી ખવડાવવા ની જ છે તેવી માન્યતા ઘર કરી ગઇ છે.

દિકરી પણ એક વ્યક્તિ છે તેની પણ લાગણી - ઇચ્છાઓ છે. તેની પણ શક્તિઓ છે. આપણે આજ ના વર્તમાન સમય ને ધ્યાન થી જોઇશુ તો આપણ ને જણાશે કે સ્ત્રીઓ પુરુષ ની બરાબરી પર આવી ગઇ છે. ઘર ની સાથે - સાથે બહાર ની જવાબદારીઓ ઉપાડવા ની ગજબ તાકાત ધરાવે છે. ભવિષ્ય ને જો વધુ સુંદર અને યથાર્થ બનાવવુ હશે તો દિકરી ને વરદાન તરીકે સમજવી પડશે. આપણે પણ વરદાન લઇએ કે દિકરો - દિકરી એક સમાન ગણી સમાજ મા મોભી નુ સ્થાન આપીએ.

" ક્યારેક તડકા જેમ મધમધ સોહાતી
ક્યારેક શીતળ ચાંદની છે દિકરી
શિક્ષા , ગુણ , સંસ્કાર રોપી દો
પછી દિકરા સમકક્ષ છે દિકરી "

આપણા દેશ અને સમાજ એ ઘણી પ્રગતિ કરી છે અને આગળ પણ કરતો રહેશે. પરંતુ હજુપણ સ્ત્રીઓ ને જેટલુ સન્માન મળવુ જોઇએ તેટલુ નથી મળતુ કેમ કે તેઓ ને હજીપણ મહત્વ આપવામા નથી આવતુ. સમાજ હાલ મા પણ ભૂતકાળ મા જીવી રહ્યો છે. દિકરી ને વધુ ભણાવવી નહી. આ માનસિક વિચારો આપણા સમાજ મા ખૂબ ઉંડે સુધી પ્રવર્તેલા છે.

સૌથી મોટુ કન્યાદાન એ શિક્ષણ નુ દાન એ સૂત્ર અપનાવવુ જોઇએ. આપણી ભારતીય સંસ્કૃતિ મા સમર્પણ છે, ત્યાગ છે, અને ત્યાગનુ પાત્ર હોય તો દિકરી. દિકરી તો ત્રણ કુળ ને તારે છે. મા - બાપ નુ ઘર, મોસાળ નુ, અને સાસરીયા નુ ઘર.ભારતમા પ્રાચીન સમય મા નારી સન્માન ની ભાવના જોવા મળતી હતી. આપણા વેદો ઉપનિષદો તેમજ રામાયણ - મહાભારત જેવા પૌરાણિક ગ્રંથો એ પણ નારી શક્તિ નો અપાર મહિમા ગાયો છે. અવિનાશો આકાશ સુધી ની વાત છે, જગત મા નારી મહાન છે, અબળા નથી પણ સબળા છે, દિકરી મોંઘા મૂલ્ય ની છે, દિકરી છે તો કાલ છે. માટે જ સાચે જ કહ્યુ છે,

" નારી માત્ર રખાય માન
સમાજ ની એ જ છે સાચી શાન "

દિકરી તો દિવડી છે એની જ્યોત જલવા દો. એની જ્યોત આખા કુટુંબ ને પ્રકાશ આપશે. કોઇપણ પરિવાર મા ખખડાવવા/ધમકાવવા નો અધિકાર માત્ર દિકરી પાસે હોય છે. દરેક દિકરી તેના પિતા ને સૌથી વધુ પ્રેમ કરે છે કેમ કે, તેને ખબર છે કે આખી દુનિયા મા આ એક જ પુરુષ છે જે તેને ક્યારેય દુ:ખી નહિ કરે. કહેવાય છે કે પિતા નો અઢળક પ્રેમ અને માતા નુ નિર્મળ વ્હાલ છે, આ ભેગુ થાય અને આકાશમા જે હેલી ચઢે અને તેની વાદળી બંધાય અને જે આનંદ વરસે તેનુ નામ દિકરી ..... દિકરી પરાયુ/પારકુ ધન નહિ પોતાનુ ધન છે.

" સહારો આપો જો વિશ્વાસ નો,
તો પવિત્ર ગંગાજળ છે દિકરી "
"દીકરી બચાવી કરો ઉદ્ધાર"

દીકરી એટલે પ્રેમનો સાગર.. એ સૌને વ્હાલી લાગતી હોય છે. ઈશ્વરે દીકરીઓમાં જન્મથી જ મમતા તો છલોછલ ભરીને આપી હોય છે. તેના ઉછેરમાં તમે ધ્યાન આપો કે ન આપો પણ તેની અંદર જે વાત્સલ્ય છે તે તમને હંમેશા જોવા મળશે.જો ઘરમાં મોટી પુત્રી હોય તો તે મમ્મી-પપ્પાની અડધી જવાબદારી આપમેળે જ ઉઠાવી લે છે. નાના ભાઈ બહેનો માટે તો એ એક માતા જેવી બની જાય છે. જે ઘરમાં બહેન હોય ત્યાના ભાઈઓમાં સંસ્કાર સીંચવાનુ કામ દીકરી જ કરે છે.

ઘરની દીકરી જેટલા ત્યાગ આપે છે એટલુ કોઈ નથી આપતુપછી એ . આટલુ .પિતા માટે હોય-બહેન માટે હોય કે પોતાના માતા-ત્યાગ પોતાના ભાઈ હોવા છતા એક દિવસ પરિવાર તુ હવે મોટી થઈ ગઈ છે તારા લગ્ન થઈ જવા આવા શબ્દો બોલીને ઘરના આ ખૂબ મહત્વના સદસ્યને એક અજાણ્યા .જોઈએ વ્યક્તિના હાથમાં સોંપી દે છે અને દીકરી પણ ચાલી નીકળે છેએક ઘરને . પ્રેમ અને સંસ્કારોથી સીંચીને બીજા ઘરમાં પ્રેમ અને સેવાનુ અજવાળુ ...સ્નેહ ...પાથરવા

દીકરી નાની હોય ત્યારે જુદી જુદી રમતો રમે. મોટી થતા તે માં ને ઘર ના કામોમા પણ મદદ કરે છે. બાળપણથી જ તેનામાં મમતા, પ્રેમ સહજ રીતે જોવા મળે છે. તે પોતાના નાના ભાઈ ને ખૂબ વહાલ કરે છે તેની કાળજી રાખે છે.દીકરી મોટી થતા શાળાએ જાય. ત્યાં તે ભણે, અન્ય પ્રવૃત્તિઓ માં પણ ભાગ લે. સંગીત,નૃત્ય વિશે તેને ખુબ રસ હોય છે. મા-બાપ તેની ઈચ્છા પૂરી કરે છે. અને મોટી થઈ દીકરીઓ મા-બાપ ની કાળજી લે છે.

એક સમય હતો જ્યારે દીકરી જન્મ થતા જ તેને દૂધ પીતી કરવામાં આવતી. તેને ઘરની બહાર જવાની પરવાનગી પણ નહોંતી. તેને ભણાવવા માં આવતી નહોતી. તેને નાની ઉંમરે જ પરણાવી દેવાતી હતી. આજના સમયમાં લોકો સમજદાર થયા છે. આજે દીકરીઓ પણ ભણીગણીને તૈયાર થયીને ઉંચી નોકરીઓ કરે છે. સંસ્કારી દીકરી સૌને પ્રેમ થી સાથે રાખી આગળ વધે. એટલે કહેવાય છે કે " દીકરી ઘરની દિવડી જ્યાં હોય ત્યાં હાસ્ય, ઉલ્લાસ અને ઉત્સાહનો ઉજાશ પાથરી દે છે. "

દીકરી તમારી એવી પુંજી છે જેને તમે ભલે પારકી થાપણ માનતા હોય પણ તે ક્યારેય પોતાના મા-બાપનો પ્રેમ અને તેમના પ્રત્યેનુ પોતાનુ કર્તવ્ય ભૂલતી નથી. તેની અંદર એટલી આત્મીયતા અને એટલુ સાહસ છે કે તે પરણ્યા પછી પણ જો ગરજ પડે તો સાસરી સાથે માતા પિતાને પણ સાચવી શકે છે. દીકરી જન્મે છે ને ઘરના આંગણે જાણે કોમળ કિરણોની કોમળતા અવતરે છે. આપણી જીવવાની ઝંખનાને પ્રજ્જ્વલિત રાખતી જ્યોત એટલે દીકરી.
દીકરી કે.જી માં ભણતી હોય કે કોલેજમાં ભણતી હોય, કુવારી હોય કે પરણેલી હોય પણ મા-બાપ માટે દીકરી સદાય દીકરી જ રહે છે. બાળપણમાં દીકરી ભલે તોફાન મસ્તી કરતી હોય પણ જ્યારે યુવાન બને છે ત્યારે ગંભીરતા ધારણ કરી લેતી હોય છે. લગ્ન પછી જ્યારે દીકરી સાસરે જાય છે ત્યારે સાસરીયાઓ એમ પુછે છે કે વહુ કરિયાવરમાં શું-શું લાવી છે?

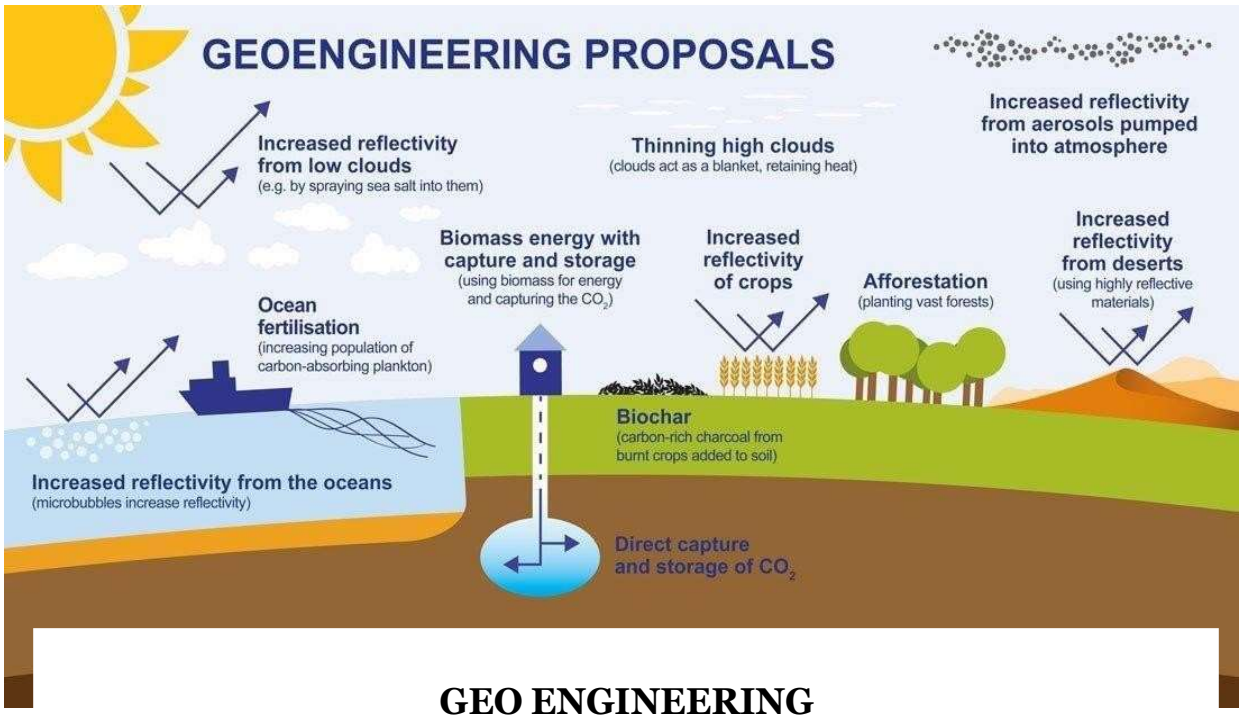
પરંતું એ નથી સમજતા કે વહુ વહાલના દરીયા જેવા મા બાપ, ઘર, પરિવાર, ગામ....આ બધુ જ છોડીને તમારા હ્રદયને જીતી લેવા માટે આવી છે. જ્યારે આ વાતનો સમાજ સ્વીકાર કરે છે ત્યારે દીકરીના જીવનમાં સુગંધ આવી જાય છે.

નવી વહુનું સાસરીયામાં આવવું એ નવા બાળકનો જન્મ થયા બરાબર છે. સાસરીયાઓ વહુ આવતા જ પોતાના ઘરની બધી જવાબદારીઓનો ભાર એ પણ નિયમ સાથે નવી વહુ પર લાદી દે છે પણ તેને પણ સમય તો લાગે ને એક નવા અને અજાણ્યા ઘરમાં અને સૌથી વધુ અજાણ્યા લોકોમાં અનુકુળ થવામાં, છતાય દિકરી કોશિશ કરે છે, સાસરીયામાં સૌનુ દિલ જીતવાનુ કોશિશ કરે છે.

દીકરી પિતા માટે એક ધબકાર હોય છે. જીવનમાં કદી ન રડનાર પુરુષ પણ એક બાપ તરીકે જ્યારે પોતાની દીકરીને વિદાય આપે છે ત્યારે ચોધાર આસુંએ રડે છે. તેથી ઈશ્વર કરે કે ક્યારેય દીકરી પિતાથી એટલી દૂર ન જતી રહે કે પિતાના અંતિમ સમયમાં તેઓ તેને નજર ભરીને જોઈ પણ ન શકે કે એક ચમચી પાણી પણ ન પીવડાવી શકે.

"આકાશ ની શોભા સિતારાથી હોય છે, નદીની શોભા કિનારાથી હોય છે. ફૂલોની શોભા સુગંધથી હોય છે અને ઘરની શોભા "દીકરી" થી હોય છે. "

Palak S. Dhobi
196310307017



GEO ENGINEERING

Geo-engineering or Climate Engineering is the intentional large-scale manipulation and modification of the Earth's climate and environment to prevent further Climate Change, slow downand reverse Global Warming, and mitigate their effects on our civilization and biosphere. Climate Engineering approaches include Natural Climate Solutions, Solar Radiation Management, Carbon Dioxide Removal and a diverse array of climate mitigation and adaptation methodologies. Climate Engineering solutions include:

- Ecosystem Restoration
- Blue Carbon
- Space-based Geoengineering
- Stratospheric Aerosol Injection
- Albedo Modification
- Marine Cloud Brightening
- Ocean Albedo Modification
- Direct Air Capture
- Carbon Capture and Storage

The main goal of climate engineering or geoengineering is to

bring global temperatures and carbon dioxide levels back to pre-industrial/pre-fossil fuel levels. Climate engineering methods that reduce the sunlight or shortwave radiation that hits the Earth (i.e. solar radiation management) include space-based sunshades and reflectors, stratospheric aerosol injection, marine cloud brightening and increases in the albedo or reflectivity of areas of the Earth. Climate engineering methods that reduce atmospheric carbon dioxide (i.e. carbon dioxide removal/carbon sequestration/carbon capture and storage) include ecosystem restoration, land use improvement, ocean fertilization, enhanced ocean upwelling and down welling and multiple diverse climate engineering technologies that remove or prevent atmospheric carbon dioxide on an industrial scale.

Jyoti Yadav
196310307154

HISTORY OF COMPUTER

What is Computer?

- Computer is a programmable machine.
- Computer is a machine that manipulates data according to a list of instructions.
- Computer is any device which aids humans in performing various kinds of computations or calculations.
- An electronic machine that can store, find and arrange information, calculate amounts and control other machines.

Principle characteristics of Computer

- It responds to a specific set of instructions in a well-defined manner.
- It can execute a pre-recorded list of instructions.
- It can quickly store and retrieve large amounts of data.
- A computer works with much higher speed and accuracy compared to humans while performing mathematical calculations.
- Computers can process millions (1,000,000) of instructions per second. The time taken by computers for their operations is microseconds and nanoseconds.

Earliest Computer

- Originally calculations were computed by humans, whose job title was computers.
- These human computers were typically engaged in the calculation of a mathematical expression.
- The calculations of this period were specialized and expensive, requiring years of training in mathematics.

The first use of the word "computer" was recorded in 1613, referring to a person who carried out calculations, orcomputations, and the word continued to be used in that senseuntil the middle of the 20th century.

1. Tally Sticks

- A tally stick (or simply tally)was an ancient memory aid device used to record and document numbers, quantities, or even messages.
- Tally sticks first appear as animal bones carved with notches during the Upper Palaeolithic; a notable example is the Ishango Bone. Historical reference is made by Pliny the Elder (AD 23–79) about the best wood to use for tallies, and by Marco Polo (1254–1324) who mentions the use of the tally in China.
- Tallies have been used for numerous purposes such as messaging and scheduling, and especially in financial and legal transactions, to the point of being currency.

2. Abacus

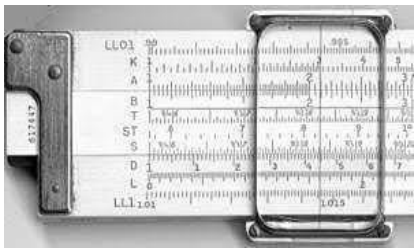
- An abacus is a mechanical device used to aid an individual in performing mathematical calculations.
- The abacus was invented in Babylonia in 2400 B.C.
- The abacus in the form we are most familiar with was first used in China in around 500 B.C.
- It used to perform basic arithmetic operations.

3. Napier's Bones

- The method was based on lattice multiplication, and also called 'Napier's rods', a word invented by Napier. Napier published his version in 1617. printedin Edinburgh, dedicated to his patron Alexander Seton.
- Invented by John Napier in 1614.
- Allowed the operator to multiply, divide and calculate square and cube roots by moving the rods around and placing them in specially constructed boards.

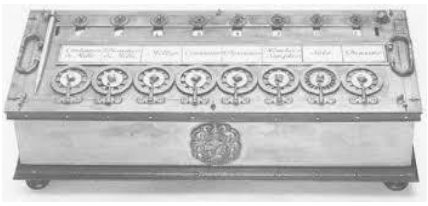
4. Slide Rule

- The slide rule, also known colloquially in the United States as a slipstick, is a mechanical analog computer. As graphical analog calculators, slide rules are closely relatedto nomograms, but the former are used for generalcalculations, whereas the latter are used for application- specific computations.



- Invented by William Oughtred in 1622.
- Is based on Napier's ideas about logarithms.
- Used primarily for Multiplication, Division, Roots, Logarithms, Trigonometry.
- Not normally used for addition or subtraction.

5. Pascaline

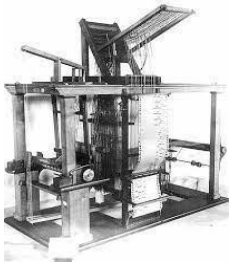


- Also known as the arithmetic machine or Pascaline is a mechanical calculator inventedby Blaise Pascal in the mid-17th century (1642).
- Pascal was led to develop a calculator by the laborious arithmetical calculations required by his father's work as the supervisor of taxes in Rouen.
- It was its limitation to addition and subtraction.
- It is too expensive.

6. Stepped Reckoner

- The step reckoner was a digital mechanical calculator invented by the German mathematician Gottfried Wilhelm Leibniz around 1673 and completed in 1694.
- The name comes from the translation of the German term for its operating mechanism, Staffelwalze, meaning "stepped drum". It was the first calculator that could perform all four arithmetic operations.

7. Jacquard Loom

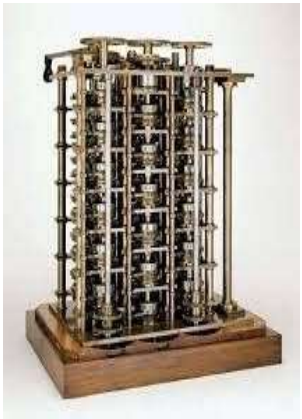


- The Jacquard machine is a device fitted to a loom that simplifies the process of manufacturing textiles with such complex patterns as brocade, damask and matelassé. The resulting ensemble of the loom and Jacquard machine is then called a Jacquard loom.
- The Jacquard loom is a mechanical loom, invented by Joseph-Marie Jacquard in 1881.
- It is an automatic loom controlled by punched cards.

8. Arithmometer

- The Arithmometer or Arithmomètre was the first digital mechanical calculator strong enough and reliable enough to be used daily in an office environment.
- The first reliable, useful and commercially successful calculating machine.
- The machine could perform the four basic mathematic functions. The first mass-produced calculating machine.
- Patented in France by Thomas de Colmar in 1820 and manufactured from 1851 to 1915.

9. Difference engine

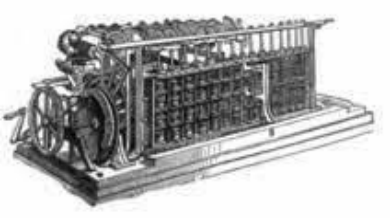


- A difference engine, a calculating machine designed in the 1820s, was first created by Charles Babbage. Difference engines are automatic mechanical calculators designed to tabulate polynomial functions.
- It is an automatic, mechanical calculator

designed to tabulate polynomial functions.

- Invented in 1822 and 1834. It is the first mechanical computer.

10. Scheutzian Calculation Engine



- The best known of these is the Scheutzian calculation engine, invented by Per Georg Scheutz in 1837 and finalized in 1843.
- This machine, which he constructed with his son Edvard Scheutz, was based on Charles Babbage's difference engine.
- The first printing calculator.

11. Tabulating Machine

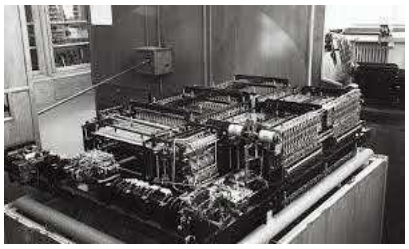
- The tabulating machine was an electromechanical machine designed to assist in summarizing information storedon punched cards.
- Invented by Herman Hollerith in 1890, the machine was developed to help process data for the 1890 U.S. Census.

12. Harvard Mark 1

- The IBM Automatic Sequence Controlled Calculator (ASCC), called Mark I by Harvard University's staff, was a general-purpose electromechanical computer that was used in the war effort during the last part of World War II.
- Invented by Howard H. Aiken in 1943.
- The first electro-mechanical computer.

13. Z1

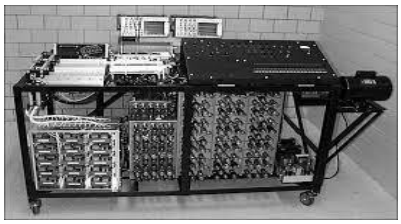
- The Z1 was a motor-driven mechanical computer designed by Konrad Zuse from 1936 to 1937, which he built in his parents' home from 1936 to 1938.



- It was a binary electrically driven mechanical calculator with limited programmability, reading instructions from punched celluloid film.
- To program the Z1 required that the user insert punch tape into a punch tape reader and all output was also generated through punch tape.

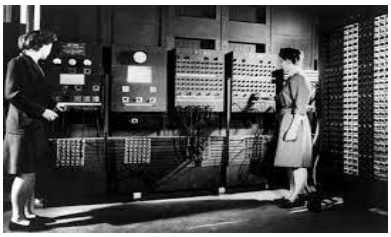
- The first programmable computer.

14. ABC



- The Atanasoff–Berry computer (ABC) was the first automatic electronic digital computer.
- Invented by Professor John Atanasoff and graduate student Clifford Berry at Iowa State University between 1939 and 1942.

15. ENIAC

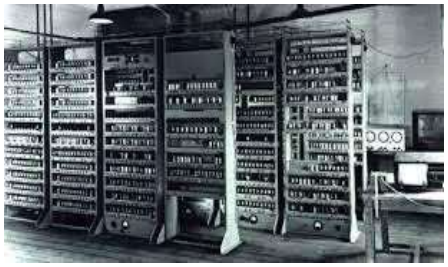


- Electronic Numerical Integrator and Computer was the first programmable, electronic, general-purpose digital computer. It was Turing-complete and able to solve "a large class of numerical problems" through reprogramming.
- It was the first electronic general purpose computer.
- Completed in 1946.
- Developed by John Presper Eckert and John W. Mauchly.

16. UNIVAC 1

- The UNIVAC I (Universal Automatic Computer I) was the first general-purpose electronic digital computer design for business application produced in the United States.
- It was designed principally by J. Presper Eckert and John Mauchly, the inventors of the ENIAC.
- On June 14, 1951, the U.S. Census Bureau dedicates UNIVAC, the world's first commercially produced electronic digital computer.

17. EDVAC



- EDVAC (Electronic Discrete Variable Automatic Computer) was one of the earliest electronic computers.
- Unlike its predecessor the ENIAC,

it was binary rather than decimal, and was designed to be a stored-program computer.
- Designed by Von Neumann in 1952.
- It has a memory to hold both a stored program as well as data.

First Computer Programmer

- In 1833 Ada Lovelace met the mathematician Charles Babbage, who had designed a calculating machine called the Difference Engine.
- Lovelace was inspired by the prototype of the Difference Engine and became Babbage's lifelong friend. Babbage had a new project in mind, a much more-advanced machine, the Analytical Engine.
- In 1840, Augusta Ada Byron suggests to Babbage that he use the binary system.
- She writes programs for the Analytical Engine.

Computer Generations

- First generation: 1946 – 1958 (Vacuum tube based)
- Second generation: 1959 – 1964 (Transistor based)
- Third generation: 1965 – 1970 (Integrated Circuit based)
- Fourth generation: 1971 – today (VLSI microprocessor based)
- Fifth generation: Today to future (ULSI microprocessor based)

Brijesh Rathod
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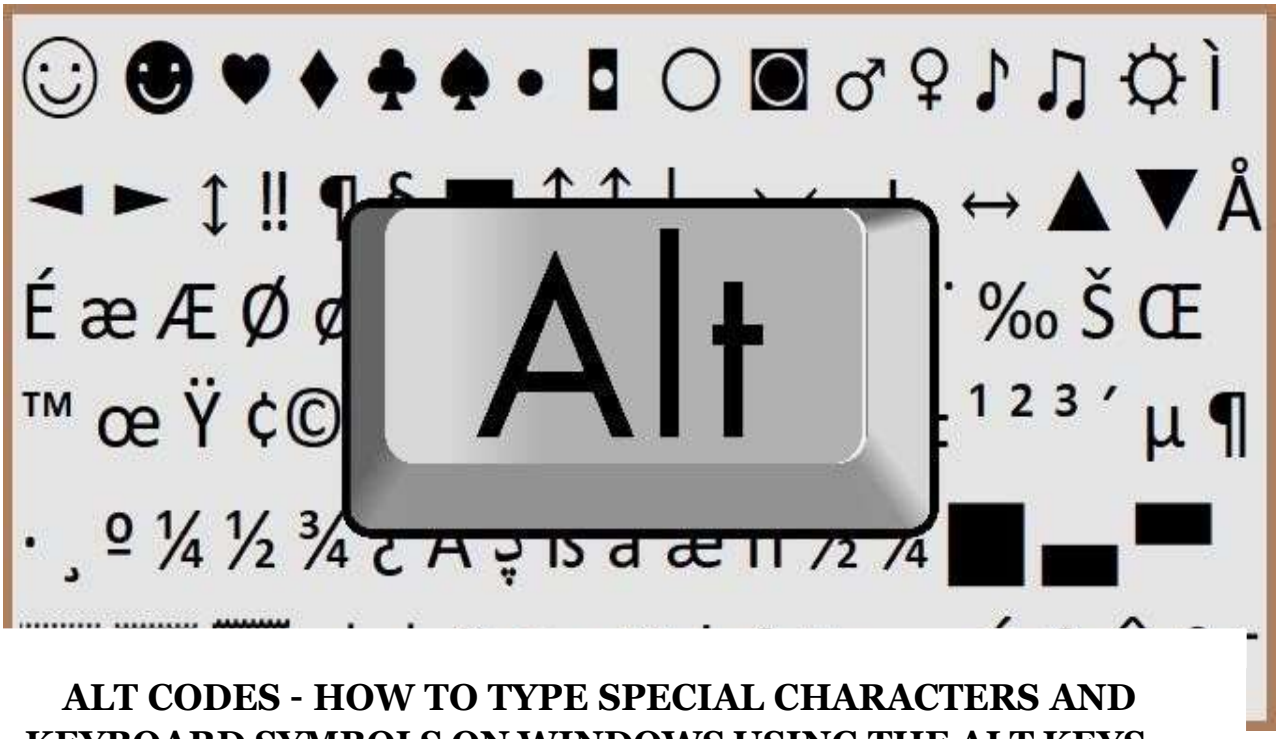

ALT CODES - HOW TO TYPE SPECIAL CHARACTERS AND KEYBOARD SYMBOLS ON WINDOWS USING THE ALT KEYS

In Windows, you can type any character you want by holding down the ALT key, typing a sequence of numbers, and then releasing the ALT key. You can type a lot of characters that may not have a correspondingkey on your keyboard. These Alt codes are also helpful if you have a keyboard with a stuck or missing key.

ALTER(alt) + Code	SYMBOL		ALTER(alt) + Code	SYMBOL		ALTER(alt) + Code	SYMBOL
alt 1	☺		alt 35	#		alt 34	"
alt 2	☻		alt 36	$		alt 240	≡
alt 3	♥		alt 37	%		alt 241	±
alt 4	♦		alt 38	&		alt 242	≥
alt 5	♣		alt 39	'		alt 243	≤
alt 7	•		alt 40	(		alt 244	⌠
alt 8	◘		alt 41	)		alt 245	⌡
alt 9	○		alt 42	*		alt 247	≈
alt 10	◙		alt 43	+		alt 248	°
alt 11	♂		alt 44	,		alt 250	·
alt 12	♀		alt 45	-		alt 251	√
alt 13	♪		alt 46	.		alt 252	ⁿ
alt 14	♫		alt 47	/		alt 0128	€

alt 15	☼		alt 123	{		alt 0130	‘				
alt 16	►		alt 124	|		alt 0132	„				
alt 17	◄		alt 125	}		alt 0139	‹				
alt 18	↕		alt 126	~		alt 0138	Š				
alt 19	‼		alt 224	α		alt 0142	Ž				
alt 20	¶		alt 225	ß		alt 0145	‘				
alt 21	§		alt 226	Γ		alt 0146	’				
alt 22	▬		alt 227	π		alt 0147	“				
alt 23	↕		alt 228	Σ		alt 0148	”				
alt 24	↑		alt 229	σ		alt 0151	—				
alt 25	↓		alt 230	µ		alt 0153	™				
alt 26	→		alt 231	τ		alt 64	@				
alt 27	←		alt 232	Φ		alt 0155	›				
alt 28	∟		alt 233	Θ		alt 0159	Ÿ				
alt 29	↔		alt 234	Ω		alt 0164	¤				
alt 30	▲		alt 235	δ		alt 0166	¦				
alt 31	▼		alt 236	∞		alt 0169	©				
alt 33	!		alt 237	φ		alt 0175	¯				
alt 238	ε		alt 239	∩		alt 0178	²				
alt 0248	ø		alt 0247	÷		alt 94	^				
alt 0179	³		alt 0222	Þ		alt 0201	É				
alt 0180	´		alt 0223	ß		alt 0202	Ê				
alt 0184	¸		alt 0224	à		alt 0203	Ë				
alt 0185	¹		alt 0225	á		alt 0208	Ð				
alt 0188	¼		alt 0226	â		alt 0210	Ò				
alt 0189	½		alt 0227	ã		alt 0211	Ó				
alt 0190	¾		alt 0228	ä		alt 0212	Ô				
alt 0192	À		alt 0229	å		alt 0213	Õ				
alt 0193	Á		alt 0230	æ		alt 0214	Ö				
alt 0194	Â		alt 91	[		alt 0215	×				
alt 0195	Ã		alt 0232	è		alt 0216	Ø				
alt 0196	Ä		alt 0233	é		alt 0217	Ù				
alt 0197	Å		alt 0234	ê		alt 0218	Ú				
alt 0198	Æ		alt 0235	ë		alt 0219	Û				
alt 0200	È		alt 93	]		alt 0220	Ü				

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BIG DATA ANALYTICS

What is Data?

The quantities, characters or symbols on which operations are performed by a computer, which may be stored and transmitted in the form of electrical signals and recorded on magnetic, optical or mechanical recording media. Now, let's learn about Big Data.

What is Big Data?

Big Data is a collection of data that is huge in volume, yet growing exponentially with time. It is a data with so large size and complexity that none of traditional data management tools canstore it or process it efficiently. Big data is also a data but withhuge size. Each day, your customers generate an abundance ofdata. Every time they open your email, use your mobile application, tag you on social media, walk into your store, make an online purchase, talk to a customer service representative, or ask a virtual assistant about you, those technologies collect and process that data for your organization. And that's just your customers. Each day, employees, supply chains, marketing efforts, finance teams generate an abundance of data, too. Big data is an extremely large volume of data and datasets that come in diverse forms and from multiple sources. Many organizations have recognized the

advantages of collecting as much data as possible. But it's not enough just to collect and store big data, you also have to put it to use.

The history of big data

Although the concept of big data itself is relatively new, the origins of large data sets go back to the 1960s and '70s when the world of data was just getting started with the first data centers and the development of the relational database. Around 2005, people began to realize just how much data users generated through Facebook, YouTube and other online services. Hadoop (an open-source framework created specifically to store and analyzes big data sets) was developed that same year. NoSQL also began to gain popularity during this time.

The development of open-source frameworks, such as Hadoop (and more recently, Spark) was essential for the growth of big data because they make big data easier to work with and cheaper to store. In the years since then, the volume of big data has skyrocketed. Users are still generating huge amounts of data—but it's not just humans who are doing it.With the advent of the Internet of Things (IoT), more objects and devices are connected to the internet, gathering data on customer usage patterns and product performance. The emergence of machine learning has produced still more data.

While big data has come far, its usefulness is only just beginning. Cloud computing has expanded big data possibilities even further. The cloud offers truly elastic scalability, where developers can simply spin up ad hoc clusters to test a subset of data. And graph databases are becoming increasingly important as well, with their ability to display massive amounts of data in a way that makes analytics fast and comprehensive.

What is big data analytics?

Big data analytics describes the process of uncovering trends, patterns, and correlations in large amounts of raw data to help make data-informed decisions. These processes use familiarstatistical analysis techniques like clustering and regression and apply them to more extensive datasets with the help of newertools. Big data has been a buzz word since the early 2000s, when software and hardware capabilities made it possible for

organizations to handle large amounts of unstructured data. Since then, new technologies from Amazon to smartphones have contributed even more to the substantial amounts of data available to organizations. With the explosion of data, early innovation projects like Hadoop, Spark and NoSQL databases were created for the storage and processing of big data. This field continues toevolve as data engineers look for ways to integrate the vast amounts of complex information created by sensors, networks, transactions, smart devices, web usage, and more.

How big data analytics works?

Big data analytics refers to collecting, processing, cleaning, and analyzing large datasets to help organizations operationalize their big data.

Using of Big Data Analytics

The more data you have, the more chance you have of getting useful insights from it. However, the size of big data usually makes it impossible to use manual or even conventional computing methods. Instead, big data analytics is based on:

- Data mining to sift through data to find patterns and relationships
- Statistical algorithms to build models and predict outcomes
- Machine learning to handle changing and new data, to adapt and enrich models
- Text analytics and natural language processing to analyze free form text and speech

Examples of Big Data

- The New York Stock Exchange is an example of Big Data that generates about one terabyte of new trade data per day.
- The statistic shows that 500+terabytes of new data get ingested into the databases of social media site Facebook, every day. This data is mainly generated in terms of photo and video uploads, message exchanges, putting comments etc.

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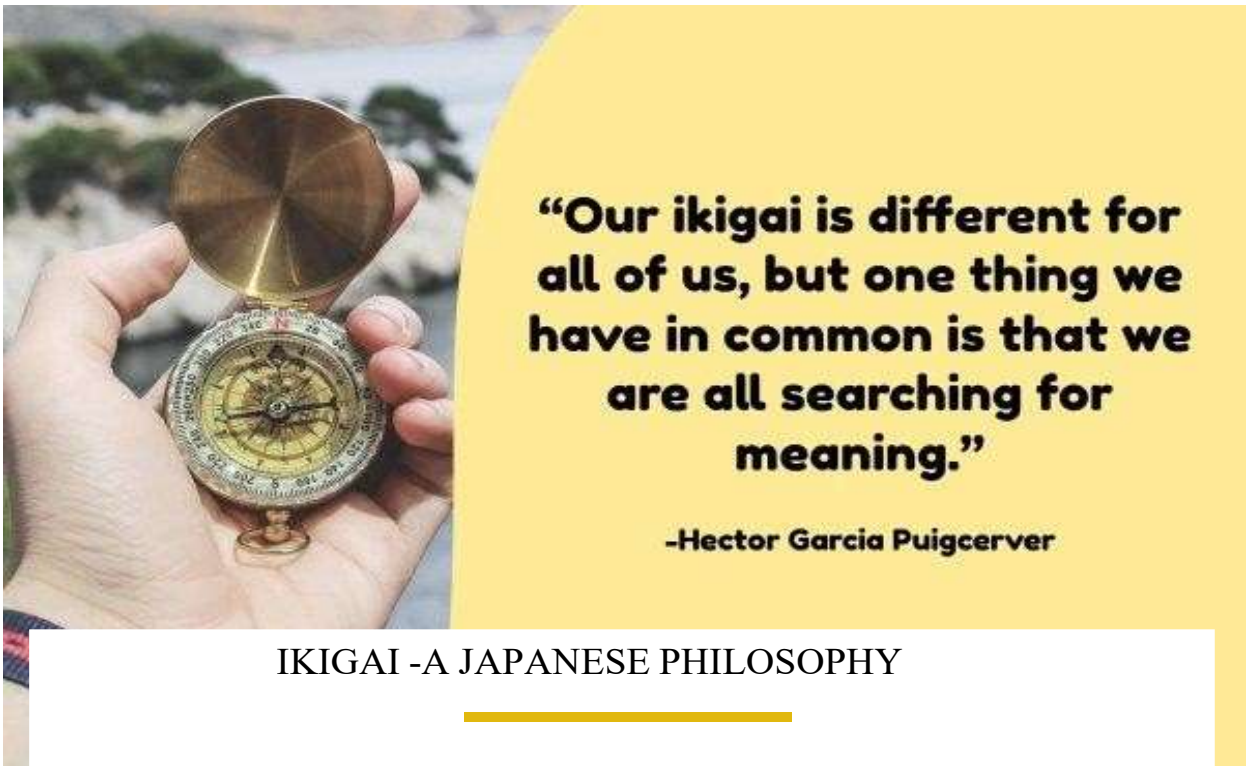

IKIGAI -A JAPANESE PHILOSOPHY

"Dreams are not those one sees in his sleep, but those that do not allow one to sleep" said by **Dr. Abdul Kalam**. Indeed, when one knows his purpose and meaning of life, it is a celebration. You live, breathe, eat, drink, think and sleep for that very purpose.

IKIGAI is a Japanese concept meaning "a reason for being". Everyone, according to the Japanese, has an IKIGAI. Finding it requires a deep and often lengthy search of self. Such a search is regarded as being very important since it is believed that the discovery of one's IKIGAI brings satisfaction and meaning to life. Examples include work, hobbies, and raising children.

The term IKIGAI compounds two Japanese words: iki meaning "life; alive" and kai (sequentially voiced as gai), "(an) effect; (a) result; (a) fruit; (a) worth; (a) use; (a) benefit; (no, little) avail" "a reason for living [being alive]; a meaning for [to] life; what [something which] makes life worth living; a raison d'etre".

In the culture of Okinawa, IKIGAI is thought of as "a reason to get up in the morning"; that is, a reason to enjoy life. In a TED Talk, Dan Buettner suggested IKIGAI as one of the reasons people in the

area had such long lives.

The word IKIGAI is usually used to indicate the source of value in one's life or the things that make one's life worthwhile. Secondly, the word is used to refer to mental and spiritual circumstancesunder which individuals feel that their lives are valuable. It's not necessarily linked to one's economic status or the present state of society. Even if a person feels that the present is dark, but they have a goal in mind, they may feel IKIGAI. Behaviors that make us feel IKIGAI are not actions that we are forced to take—these are natural and spontaneous actions.

Now is the time to take action. There is no better time than the present. We wake up each morning and make a conscious decision as to how our day, week, month, year, or life will proceed. Now try to align these conscience decisions with meaningful actions that will fulfill your purpose and perhaps lead you closer to that revelation that is your IKIGAI!

"**Ikigai gives your life a purpose while giving you the grit to carry on!**"

Khushi Nayak
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HOW TO CRACK CAMPUS PLACEMENT INTERVIEWS

Most of the placements processes that take place on-campus follow the following steps:

- Aptitude Test
- Technical Interview
- HR Interview

Given below are some of tips that can help you crack these interviews and get placed through campus placements:

1. Most of the aptitude tests consist of basic school level mathematics, logical and verbal questions. You can practice these questions through various online websites such as indiabix.com or from books such as the R. S. Agarwal book. You might not need much practice if you were good at mathematics in school.
2. Prepare well in advance for the technical interview. The panel might ask you any questions from any of the subjects that you have studied since first year. Also make sure you know the syllabus of the subjects that you have in your current semester. Preparing for interviews/placements is no excuse to neglect

your college studies. During the interview, be calm. The company is here because they want to hire you as much as you want to be hired. When asked a question it's alright to pause and take a moment to collect your ideas.

3. In the HR interview, the panel will ask you basic questions about your strengths and weaknesses, your background, why they should hire you etc. You should prepare such questions in advance. It's not a good sign if the panel asks about your strengths and you sit and wonder what those are while in front of them. The candidate should have evaluated themselves before anyone else can.

I hope this helps you in getting the basic idea of how to go about preparing for campus placements. I wish you all the best. Do well.

Astha K. Patel
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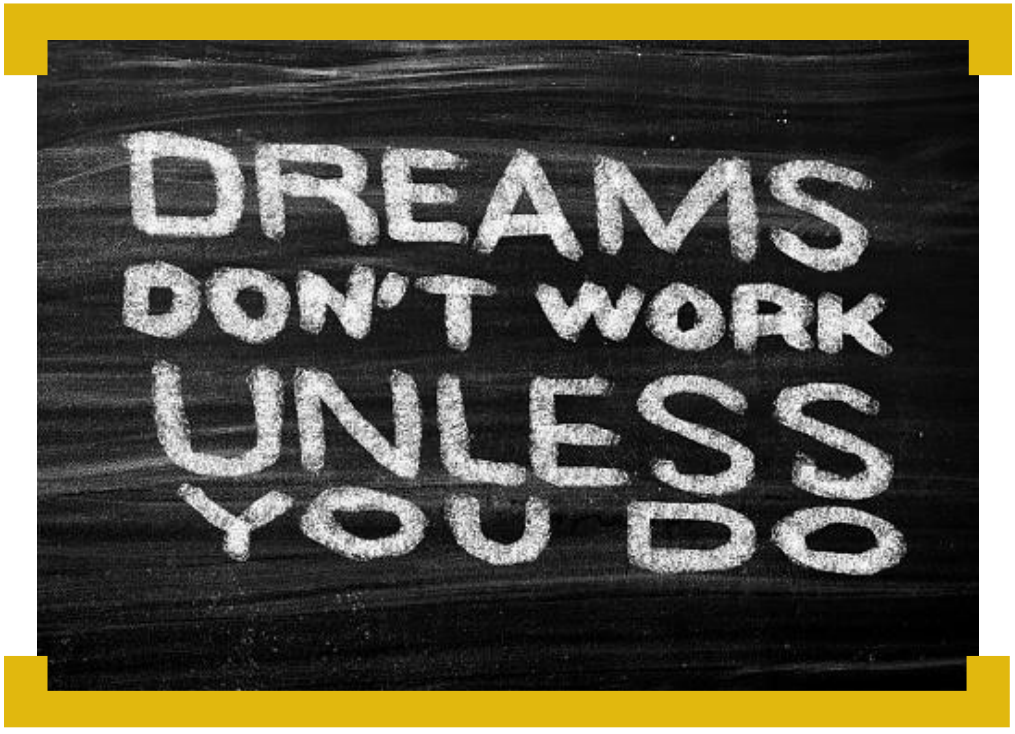

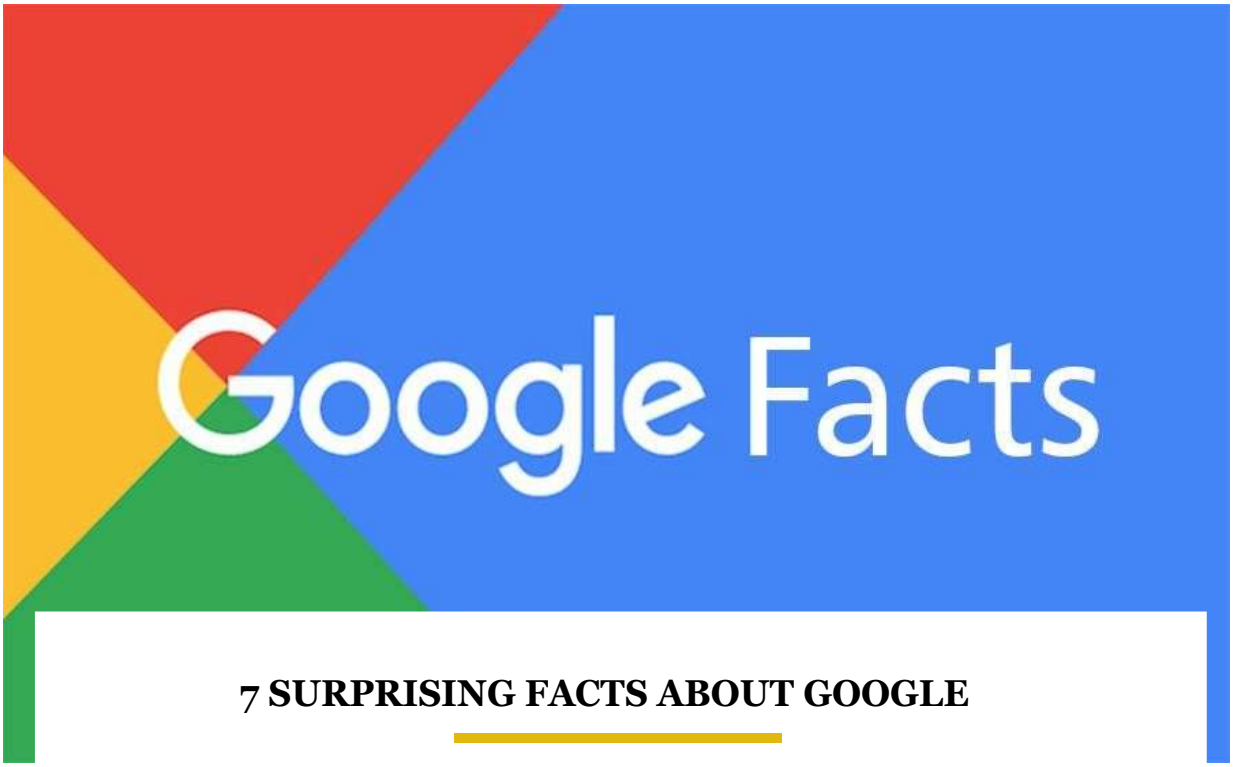

7 SURPRISING FACTS ABOUT GOOGLE

Here's a fact that everyone owning a piece of technology is aware of: Google is number one search engine. Not only is It a portal to access everything you'd like to know, but it also act amazing backup when your parents come to check up on you. However, here are some, rather interesting facts about Google that you may not know:

FACT-01:

When you perform a Google search, the machine checks the Google index to determine the relevant search results to be displayed to you. The search engine considers 200 factors before displaying you the best results for your query. Google uses aspecial algorithm called the ***Google Bot*** to general to search results.

FACT-02:

Google owns a cluster of domains such as; google.com, gogle.com and googlr.com which directs to google.com, which is completely reasonable. However, Google also owns 466453.com. If you take a look a ty our telephone keypad, you will notice that the numbers matchups to the letters are: 4-GHI, 6–MNO, 6–MNO, 4–GHI, 5–

JKL, 3–DEF, thus making 466453 as Google. So, if on typing any of these knowingly or unknowingly, it doesn't take you to some strange page. Instead, you'll end upon Google commonly.

FACT-03:

When Google was founded in September 1998, it served ten thousand search queries per day. Currently, there are more than 2 million Google searches per second. The search engine finds a trillion unique URL's on the web. Crawls many billion sites a day and processes numerous searches every month.

FACT-04:

Google takes on the best projects that could change the world for millions of people. In 2012, Google introduced the Cherokee language in Gmail, which is the first Native American Tribal language added to its list. As part of this effort, Google also added Cherokee to its recently launched virtual keyboards for Gmail.

FACT-05:

On August 30, 1998 the concept of the Google Doodle was formed when company co-founders Larry page and Sergey Brin placed a simple stick-figure drawing behind the second “o” in the word “Google”. To notify the Google users that the founders were “out of office” at the Burning Man festival in the Nevada desert they made the first Google logo art.

FACT-06:

Google's search index is so huge (100 million gigabytes) in size that it would require about 100,000 one-terabyte personal drives tostore the same amount of data.

FACT-07:

The only company with a clear goal to reduce the amount of time people spend on its site might be Google. Google engineers are encouraged to spend about 20 percent of their work time on projects that interest them using a policy oGen called asInnovation Time Off.

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CRPYTO CURRENCY

Cryptocurrency, crypto-currency, or crypto is a binary data designed to work as a medium of exchange wherein individual coin ownership records are stored in a ledger existing in a form ofa computerized database using strong cryptography to secure transaction records, to control the creation of additional coins, and to verify the transfer of coin ownership. Some crypto schemes use validators to maintain the cryptocurrency. In a proof-of-stake model, owners put up their tokens as collateral. In return, they get authority over the token in proportion to the amount they stake. Generally, these token stakers get additional ownership in the token over time via network fees, newly minted tokens or other such reward mechanisms. Cryptocurrency does not exist in physical form (like paper money) and is typically not issued by a central authority. Cryptocurrencies typically use decentralized control as opposed to a central bank digital currency (CBDC). When a cryptocurrency is minted or created prior to issuance or issued by a single issuer, it is generally considered centralized. When implemented with decentralized control, each cryptocurrency works through distributed ledger technology,typically a block chain that serves as a public financial transaction database.

Architecture

Decentralized cryptocurrency is produced by the entire cryptocurrency system collectively, at a rate which is defined when the system is created and which is publicly known. In centralized banking and economic systems such as the Federal Reserve System, corporate boards or governments control the supply of currency by printing units of fiat money or demanding additions to digital banking ledgers. In the case of decentralized cryptocurrency, companies or governments cannot produce new units, and have not so far provided backing for other firms, banks or corporate entities which hold asset value measured in it. The underlying technical system upon which decentralizedcryptocurrencies are based was created by the group or individual known as Satoshi Nakamoto.

As of May 2018, over 1,800 cryptocurrency specifications existed. Within a proof-of-work cryptocurrency system such as Bitcoin, the safety, integrity and balance of ledgers is maintained by a community of mutually distrustful parties referred to as miners: who use their computers to help validate and timestamp transactions, adding them to the ledger in accordance with a particular timestamping scheme. In a proof-of-stake (PoS) block chain, transactions are validated by holders of the associated cryptocurrency, sometimes grouped together in stake pools.

Block chain

The validity of each cryptocurrency's coins is provided by a block chain. A block chain is a continuously growing list of records, called blocks, which are linked and secured using cryptography. Each block typically contains a hash pointer as a link to a previousblock, a timestamp and transaction data. By design, block chains are inherently 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” uses as a distributed ledger, a block chain is typically managed by a peer- to-peer network collectively adhering to a protocol for validating new blocks. Once recorded, the data in any given block cannot be altered retroactively without the alteration of all subsequent blocks, which requires collusion of the network majority

Wallets

A cryptocurrency wallet stores the public and private "keys" (address) or seed which can be used to receive or spend the cryptocurrency. With the private key, it is possible to write in the public ledger, effectively spending the associated cryptocurrency. With the public key, it is possible for others to send currency to the wallet.

There exist multiple methods of storing keys or seed in a wallet from using paper wallets which are traditional public, private or seed keys written on paper to using hardware wallets which are dedicated hardware to securely store your wallet information, using a digital wallet which is a computer with a software hosting your wallet information, hosting your wallet using an exchange where cryptocurrency is traded or by storing your wallet information on a digital medium such as plaintext. When Google was founded in September 1998, it served ten thousand search queries per day. Currently, there are more than 2 million Google searches per second. The search engine finds a trillion unique URL's on the web. Crawls many billion sites a day and processes numerous searches every month.

Legality

The legal status of cryptocurrencies varies substantially from country to country and is still undefined or changing in many of them. At least one study has shown that broad generalizations about the use of bitcoin in illicit finance are significantly overstated and that block chain analysis is an effective crime fighting and intelligence gathering tool. While some countries have explicitly allowed their use and trade, others have banned or restricted it. According to the Library of Congress, an "absolute ban" on trading or using cryptocurrencies applies in eight countries: Algeria, Bolivia, Egypt, Iraq, Morocco, Nepal, Pakistan,and the United Arab Emirates. An "implicit ban" applies in another 15 countries, which include Bahrain, Bangladesh, China, Colombia, the Dominican Republic, Indonesia, Iran, Kuwait, Lesotho, Lithuania, Macau, Oman, Qatar, Saudi Arabia and Taiwan. In the United States and Canada, state and provincial securities regulators, coordinated through the North American Securities Administrators Association, are investigating "bitcoin scams" and ICOs in 40 jurisdictions.

Various government agencies, departments, and courts have classified bitcoin differently. China Central Bank banned the handling of bitcoins by financial institutions in China in early2014.

In Russia, though cryptocurrencies are legal, it is illegal to actually purchase goods with any currency other than the Russian ruble. Regulations and bans that apply to bitcoin probably extend to similar cryptocurrency systems.

Cryptocurrencies are a potential tool to evade economic sanctions, for example against Russia, Iran, or Venezuela. Russia also secretly supported Venezuela with the creation of the petro (El Petro), a national cryptocurrency initiated by the Maduro government to obtain valuable oil revenues by circumventing US sanctions.

In August 2018, the Bank of Thailand announced its plans to create its own cryptocurrency, the Central Bank Digital Currency (CBDC).

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मे इंजीनियर हं.....?

पड़ोस के चाचा ने अपने बेटे को कम्प्युटर ला के दिया उसके वायर्स जोड़ के ऑन करने के लिए मुजे बुलाया क्या इसी लीए मे इंजीनियर हु ?
मामा की बाइक की चेन मे झंग लग गया था उसमे ऑइल डालने के लीए मुजे बुलाया गया, क्या इसी लीए मे इंजीनियर हु ?
घर पे कोई वायर का प्लग तुट गया वो नया प्लग लगाने के मुजे बुलाया गया, क्या इसी लीए मे इंजीनियर हु ?
कोई मेरे करीबी का सोसियल अकाउंट है, वो जब भी पासवर्ड भूल जाते है तो उसको रेसेट करने के लीए मुझे बुलाया जाता है क्या इसी लीए मे इंजीनियर हु ?
मेरी पढ़ाई पूरी हुए ३ महीने हो गए अभी मुजे मेरे लायक कोई अच्छी जॉब नई मिली इसके दोरान लोगो के ताने सुन ने को मिल रहे है मुजे क्या इसी लीए मे इंजीनियर हु ?
अक्सर तुटी हुई रोड देखके मुजसे सवाल किए जाते है की बता इसमे कितनी डामर, कितनी मिट्टी ओर कितने सलिए डाले थे क्या इसी लीए मे इंजीनियर हु ?
नानी का फोन बार बार ऑफ हो जाता है उसे ऑन करने के लीए हर वख्त मुजे बुलाया जाता है क्या इसी लीए मे इंजीनियर हु ?
अक्सर मेरे दोस्त कुछ एसे काम देते है जिसका मुजे कोई आइडिया भी नई होता ओर वहा वो मझाक मेरी इंजीनिरिंग की पढ़ाई पर आता है क्या इसी लीए मे इंजीनियर हु ?

पड़ोस के चाचा ने अपने बेटे को कम्प्युटर ला के दिया उसके वायर्स जोड़ के ऑन करने के लिए मुजे बुलाया क्या इसी लीए मे इंजीनियर हु ?

मामा की बाइक की चेन मे झंग लग गया था उसमे ऑइल डालने के लीए मुजे बुलाया गया, क्या इसी लीए मे इंजीनियर हु ?

घर पे कोई वायर का प्लग तुट गया वो नया प्लग लगाने के मुजे बुलाया गया, क्या इसी लीए मे इंजीनियर हु ?

कोई मेरे करीबी का सोसियल अकाउंट है, वो जब भी पासवर्ड भूल जाते है तो उसको रेसेट करने के लीए मुझे बुलाया जाता है क्या इसी लीए मे इंजीनियर हु ?

मेरी पढ़ाई पूरी हुए ३ महीने हो गए अभी मुजे मेरे लायक कोई अच्छी जॉब नई मिली इसके दोरान लोगो के ताने सुन ने को मिल रहे है मुजे क्या इसी लीए मे इंजीनियर हु ?

अक्सर तुटी हुई रोड देखके मुजसे सवाल किए जाते है की बता इसमे कितनी डामर, कितनी मिट्टी ओर कितने सलिए डाले थे क्या इसी लीए मे इंजीनियर हु ?

घर मे रखी हुई आटा पीसने वाली चक्की को सेट कर ने के लीए मुजे बुलाया जाता है क्या इसी लीए मे इंजीनियर हु ?

फोन मे नेटवर्क नई आ रहा उसे ठीक करने के लिए मुजे बुलाया जाता है क्या इसी लीए मे इंजीनियर हु ?

कोई गवर्नमेंट जॉब की भर्ती का फोर्म भर ने के लीए कई बार मुजे कहा जाता है क्या इसी लीए मे इंजीनियर हु ?

तो यही कुछ सवाल थे मेरे मन मे जानता हु कही ना कही आपके मन मे भी होंगे ओर ये सब मे किसी ओर को नई पूछने वाला, मेरे अपनो से ही मुझे ये सवाल करने है क्यूंकी उन्हे पता है की मेने इंजीनिरिंग की है तो मुझे सारे काम आते होंगे पर उन्हे ये नई पता की इंजीनियर केहलाने के लीए मेने अपनी कई राते बगेर सोये गूझारी है, कई दिनो तक नाह्ये बगेर रहा हु, ओर नाही मुजसे दस दस बारह बारह घंटे पढ़ाई होती थी तो भी की, घर का खाना तक नशीब नहीं होता था कई महीनो तक, इतने तो कमजोर नहीं थे की पढ़ाई के बोझ तले लटक जाए, कूद जाए या कही भाग जाए, अब इस मोड पर आके वापस भी नई जा सकते थे वरना ये डर हर वख्त लगा रहेता की लोग क्या कहेंगे, देखो ये वही है जो इंजीनियर बनने चला था|

ना कभी इन १५ सालो मेने अँग्रेजी पढ़ी थी ओर ना कभी किसिने ये बताया की अँग्रेजी इतनी इंपोर्टेंट है हमारे लिए तो भी मेने की पूरी इंजिनीरींग अँग्रेजी मे। जो बच्चा रट्टा मार मार के पास हुआ हो १०वी या १२वी मे लोग तब ही से कहते थे अगर सफल होना है तो एक ही रास्ता है इंजिनीरींग, मेने कभी नहीं चाहा था की ये इंजिनीरींग लाइफ मे चूज़ करु ओर ना ये भी की ये इंजिनीरींग लाइफ मुजे चूज़ करे, ना जाने कितनी बार दिल टुटा, सपने टुटे, ख्वाइसे दब गयी, दोस्ती टुटी, जलील हुए

लाचार हुए, अकेले हुए ओर तो ओर हर सेमेस्टर मे ६ सब्जेक्ट हर सब्जेक्ट मे थिओरी, प्रेक्टिकल, वायवा, लेब वर्क, एक्सटर्नल, इंटरनल, मजोर्स, माइनर्स, असाइनमेंट, प्रोजेकट्स, थीसिस ओर ना जाने क्या क्या किया था इस इंजीनिरिंग की पढ़ाई मे, ओर उस वख्त पढ़ाई के साथ साथ करियर की चिंता, ब्लोक्स, शादी, फॅमिली प्रोब्लेम, फाइनान्सियल प्रोब्लेम, झगड़े इन सबके बावजुद आज ३ साल के बाद मे खड़ा हु आज आपके सामने एक इंजीनियर बनके ।

ये ३ साल की पढ़ाई की बात हुई, जो इंजिनीरींग पढ़ता है वही जानता होगा पर आज भी सोचता हु शायद पापा ने लोगो की ना सुनते हुए बस एक सवाल किया होता मेरी १०वी या १२वी खतम होने के बाद, के बेटा तुझे क्या करना है, तुझे क्या पढ़ना है तो शायद मे आज लोगो से इतने सारे सवाल ना करता, मे तो क्या कोई इंजीनियर क्या दुनिया का कोई भी इंसान एसा नई है की जो काम उसने सीखा ही नहीं है या उसे उसका कुछ पता ही नहीं है तो वो करके दिखाएगा, इस बात पे तान्हा मारने का हक नई है ओर आज भले ही मेरे गाओ को या देश को एक खराब इंजीनियर मिला हो कही ना कही वो लोग भी जिम्मेदार है इसके, जिस काम मे मेरी रुचि ही नहीं है, जिस मे मुजे कुछ समज ही नई आता उसे केसे मे अपने दिमाग मे झोर-जबरस्ती डालु, अंत मे सिर्फ इतना कहूँगा किसी को भी कुछ भी कहने से पहले सोचिए उसके हालात समजिए, मेरी कॉलेज ने आज तक मुजे ये नई शिखाया की बाइक की चेन मे ऑइल केसे डालते है, ना ही ये सिखाया की चक्की मे आटा केसे दले, ना ही कभी ये सिखाया की फोन को केसे ठीक करे ओर ना तो कभी ये शिखाया की ऑनलाइन फॉर्म केसे भरे, शायद अगर कॉलेज मे ये शिखाया होता की लोगो के तानो को केसे संभाले, तो अच्छा होता मेरे कुछ मरे हुए सपने पूरे हो जाते ।

ओर कहिना कही इन सारी वजाहों से ही मेरे ऊपर लिखे सवाल का जवाब मिला, इसी वजह से मे इंजीनियर हु ।

- जो किताब के पन्नो ने शिखाया वो दुनिया मे हर जगह था पर जो दुनिया ने शिखाया वो किताब के एक भी पन्ने पर नहीं था ।
- अक्सर अपनों से ही सुना है की कोई अपना नई है, इस भीड़ भरी दुनिया मे अकेले ही जाना है, भले ही कुछ पल की हसी कुछ पल का दुख सब साथ मे गूझारना है, क्या करे एक ना एक दिन तो जाना है, उस खन्धे पर सर रख के रोले ना आज, कल नई मिलने वाला, कुछ खोकर वो भी बोहोत रोएगा पर क्या करे वो वख्त भी उसे नहीं मिलने वाला, वो चाहे या ना चाहे उसे वो भी गूझारना है, क्या करे एक ना एक दिन तो जाना है ।

Brijesh Rathod
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CLIMATE CHANGE

Climate is sometimes mistaken for weather. But climate is different from weather because it is measured over a long period of time, whereas weather can change from day to day, or from year to year. The climate of an area includes seasonal temperature and rainfall averages, and wind patterns. Different places have different climates. A desert, for example, is referred to as an arid climate because little water falls, as rain or snow, during the year. Other types of climate include tropical climates, which are hot and humid, and temperate climates, which have warm summers and cooler winters.

Climate change is the long-term alteration of temperature and typical weather patterns in a place. Climate change could referto a particular location or the planet as a whole. Climate change may cause weather patterns to be less predictable.

These unexpected weather patterns can make it difficult to maintain and grow crops in regions that rely on farming because expected temperature and rainfall levels can no longer be relied on.

In Polar Regions, the warming global temperatures associated with climate change have meant ice sheets and glaciers are melting at an accelerated rate from season to season. This contributes to sea levels rising in different regions of the planet. Together with expanding ocean waters due to rising temperatures, the resulting rise in sea level has begun to damage coastlines as a result of increased flooding and erosion.

The cause of current climate change is largely human activity, like burning fossil fuels, like natural gas, oil, and coal. Burning these materials releases what are called greenhouse gases into Earth's atmosphere. There, these gases trap heat from the sun's rays inside the atmosphere causing Earth's average temperature to rise. This rise in the planet's temperature is called global warming. The warming of the planet impacts local and regional climates. Throughout Earth's history, climate has continually changed. When occurring naturally, this is a slow process that has taken place over hundreds and thousands of years. The human influenced climate change that is happening now is occurring at a much faster rate.

Devanshu J. Patel
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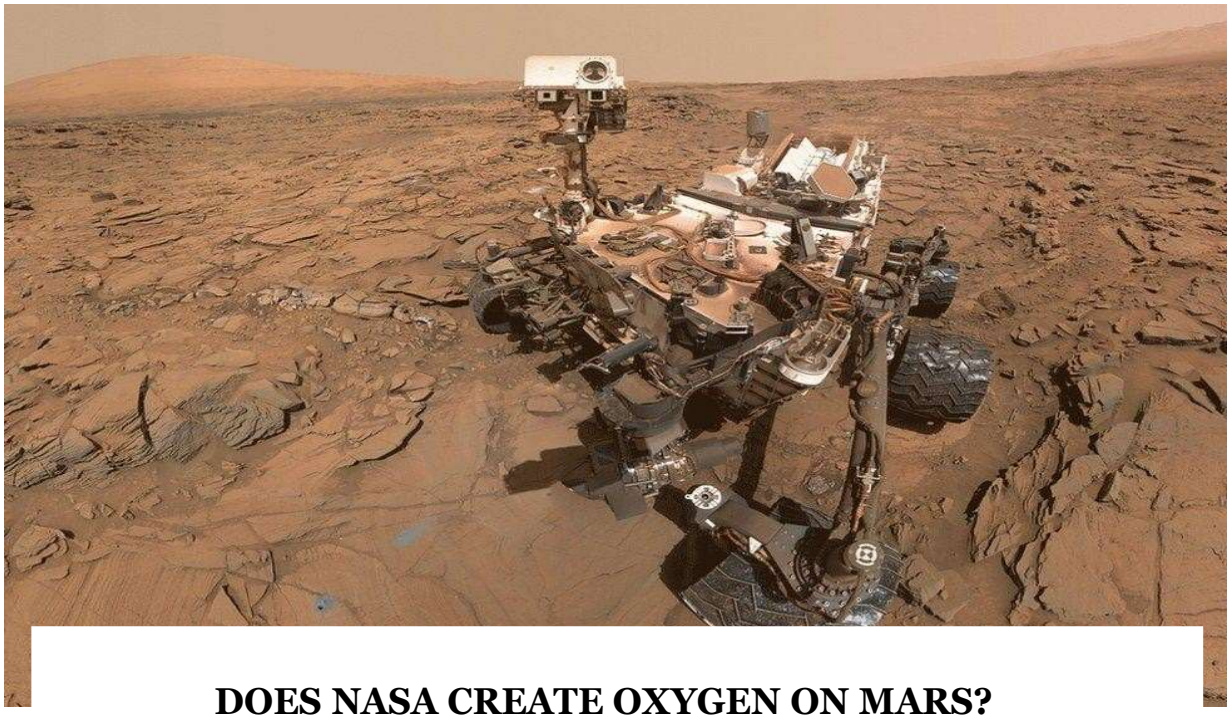


DOES NASA CREATE OXYGEN ON MARS?

An instrument on NASA's Perseverance Rover on mars has made oxygen from the planet's carbon dioxide atmosphere. It's the second successful technology demonstration on the mission, which flew a mini-helicopter. The oxygen generation was performed by a toaster-sized unit in the rover called Moxie - the mars Oxygen In-Situ Resource Utilization Experiment. It made 5 grams of the gas - equivalent to what an astronaut at mars would need to breathe for roughly 10 minutes. NASA's thinking is that future human missions would take scaled-up versions of Moxie with them to the Red Planet rather than try to carry from Earth all the oxygen needed to sustain them.

Oxygen (O_2) is also an integral part of the chemistry that propels a rocket. Thrust is achieved by burning a fuel in the presence of an oxidiser, which could be simple oxygen. Mars'atmosphere is dominated by carbon dioxide (CO_2) at a concentration of 96%. Oxygen is only 0.13%, compared with 21% in Earth's atmosphere. Moxie is able to strip oxygen atoms from CO_2 molecules, which are made up of one carbon atom and two oxygen atoms. The waste product is carbon monoxide, which is vented to the Martian atmosphere. The NASA team behind Moxie

is running the unit in different modes to discover how well it works.

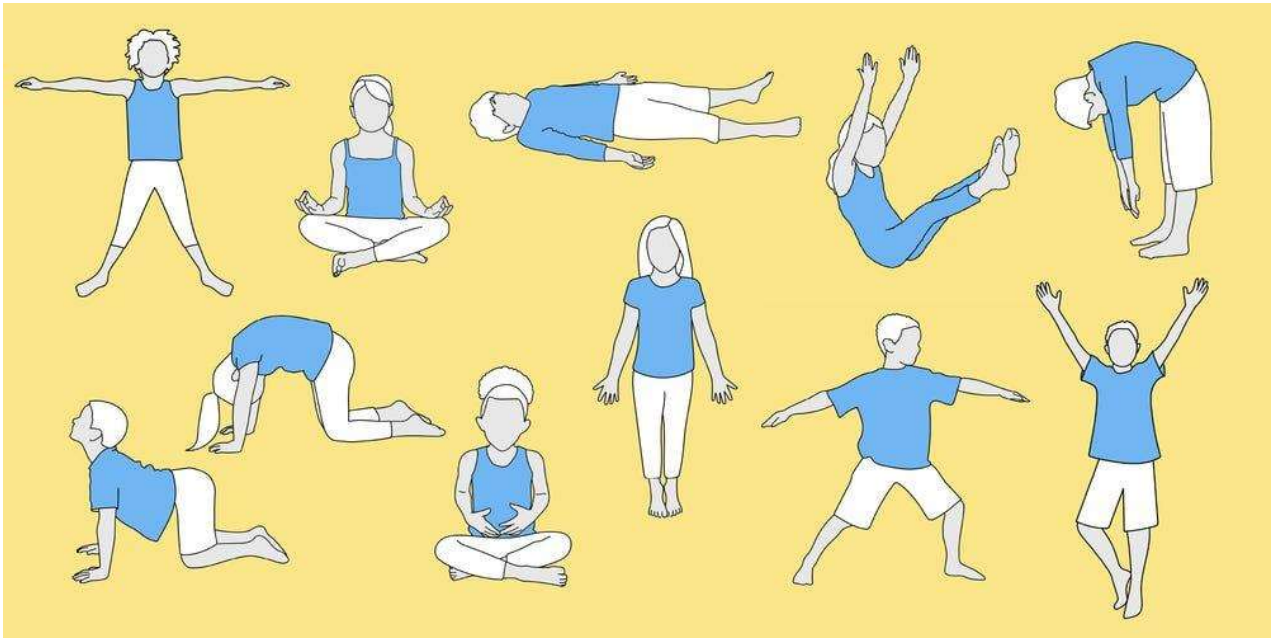
NASA's Perseverance Rover, due to launch to Mars, will search an ancient crater lake for signs of past life. But if biology ever emerged on the Red Planet, how will scientists recognize it? Here, deputy project scientist Ken Williford explains what they're looking for. Today, Mars is hostile to life. It's too cold for water to stay liquid on the surface, and the thin atmosphere lets through high levels of radiation, potentially sterilizing the upper part ofthe soil. But it wasn't always like this. Some 3.5 billion years ago or more, water was flowing on the surface. It carved channels still visible today and pooled in impact raters. A thicker carbon dioxide (CO2) atmosphere would have blocked more of the harmful radiation.

NASA successfully flies small helicopter on Mars. The American space agency has successfully flown a small helicopter on Mars. The drone, called Ingenuity, was airborne for less than a minute, but Nasa is celebrating what represents the first powered, controlled flight by an aircraft on another world. Confirmation came via a satellite at Mars which relayed the chopper's data back to Earth. The space agency is promising more adventurous flights in the days ahead. Ingenuity will be commanded to fly higher and further as engineers seek to test the limits of the technology. The rotorcraft was carried to Mars in the belly of NASA's Perseverance Rover, which touched down in Jezero Crater on the red planet.

The expectation is that it can produce up to 10 grams of O_2 per hour. "Moxie isn't just the first instrument to produce oxygen on another world, it's the first technology of its kind that will help future missions 'live off the land', using elements of another world's environment, also known as in-situ resource utilization" said Trudy Kortes, director of technology demonstrations within NASA's Space Technology Mission Directorate. "It's taking regolith, the substance you find on the ground, and putting it through a processing plant, making it into a large structure, or taking carbon dioxide – the bulk of the atmosphere – and converting it into oxygen. This process allows us to convert these abundant materials into useable things: propellant, breathable air,

or, combined with hydrogen, water." NASA will attempt to fly its Ingenuity helicopter again on Thursday. The mini-chopper made history this week by performing the first powered, controlled flight by an aircraft on another world. For its second sortie, the drone will raise itself to 5m above the ground, move sideways by 2m, swivel and take some pictures, before reversing back to the take-off spot to land.

Kashish A. Jansari
206310307068



YOGA FOR WELL-BEING

Yoga: Yoga is a spiritual system of physical, breathing and meditation exercises practiced to bring harmony between body and mind.

આજના સમયમાં મોટાભાગની અથવા તો ૯૦% (ટકા) બિમારીઓ માનસિક હોય છે, જે તનાવ (સ્ટ્રેસ), અનિયમિત ખાન-પાન અને કુટેવોને લીધે જ થાય છે. યોગ પદ્ધતિ ખૂબ જ ફાયદાકારક છે.

પ્રાણાયામ અને આસન એ બે યોગના અભિન્ન અંગ છે.

પ્રાણાયામનું મહત્વ: પ્રાણાયામને યોગ શાસ્ત્રોમાં ખુબ જ મહત્વ આપવામાં આવ્યું છે.

વ્યાસભાષ્યમાં કહ્યું છે:

तपो न परं प्राणायामात् । ततो विशुध्धिमँलाना दिप्तिश्ज्ञानस्य ॥

અર્થાત પ્રાણાયામ કરતા મોટું કોઈ તપ નથી. એનાથી મળ દુર થાય છે અને જ્ઞાનનો ઉદય થાય છે.

પ્રાણાયામને યોગનો આત્મા કહે છે. જેમ શરીરની શુધ્ધિ માટે સ્નાનની જરૂર પડે છે. તેમ મનની શુધ્ધિ માટે પ્રાણાયામની જરૂર પડે છે.

પ્રાણાયામના પ્રકારો:

પ્રાણાયામ ઘણા બધા પ્રકારના છે. જેમાંના થોડા નીચે પ્રમાણે છે.

(૧) **ભસ્ત્રિકા**

ભસ્ત્રિકા એટલે ગુજરાતીમાં ધમણ. આ પ્રાણાયામને ભસ્ત્રિકા કહે છે કેમ કે એમાં શ્વાસનો પ્રવાહ સતત તમામ વેરાયટીમાં ચાલે છે અને જાણે ગામના લુહારની કોઢમાં ધમણ સતત ચાલ્યા કરે એવું લાગે છે.

<u>લાભ</u>:

- એ લિવર, સ્પ્લિન, પેન્ક્રિઆસ અને એબડોમિનલ મસલ્સને એક્ટિવેટ અને ઇન્વિગોરેટ કરે છે.
- એનાથી ડાયજેશન સુધરે છે.
- એ સાઇનસ ડ્રેઇન કરવામાં મદદ કરે છે જેથી નાક ગળતું બંધ થાય છે.

(૨) **કપાલભાતિ**

કપાળની અંદર આવેલા તમામ અવયવોને તેજસ્વી બનાવવાની અને ચમકાવવાની શ્વાસોચ્છ્વાસની પ્રક્રિયા એટલે 'કપાલભાતિ પ્રાણાયામ'

શ્વાસોશ્વાસની આ ક્રિયાથી શરીરનાં ઝેરી અને નકામાં દ્રવ્યો ઉછ્વાસ વાટે બહાર ફેંકાઈ જાય છે અને આપમેળે વધુ ઑક્સિજન બૉડીમાં જતો હોવાથી ફૅટ બળવાની ક્રિયા ઝડપી બને છે. લાંબા ગાળા સુધી આ ક્રિયા નિયમિત કરવાથી શરીર કાંતિમય બને છે.યોગક્રિયાની ભાષામાં શ્વાસ શરીરમાં પૂરવો એટલે પૂરક કહેવાય અને કાઢી નાખવો એને રેચક કહેવાય છે.

<u>લાભ</u>:

-પાચનક્રિયામાં વધારો કરીને વજન ઘટાડવામાં અસરકારક છે.

-રક્ત પરિભ્રમણ સુધારે છે અને ચહેરા પર ચમક લાવે છે.

-પાચનમાર્ગના કાર્યમાં સુધારો કરે છે અને પોષકતત્વોને શોષવામાં અને પચાવવામાં મદદરૂપ થાય છે.

-પેટ સુડોળ અને વ્યવસ્થિત રાખે છે.

-ચેતાતંત્રને સક્રિય બનાવે છે, પ્રાણ પૂરે છે અને મગજના કોશોને ચેતનવંતા બનાવે છે.

-મનને શાંત અને ઉન્નત બનાવે છે.

(3) **અનુલોમ-વિલોમ**

સંસ્કૃત શબ્દ અનુલોમ વિલોમ એટલે અપ અને ડાઉન, ઉપર-નીચે, 'અલ્ટરનેટ-વૈકલ્પિક' અથવા 'રિવર્સ્ડ- પાછી વાળેલ'. આ એવી ટેકનિક છે જેમાં શ્વાસનો ફ્લો દરેક નસકોરામાંથી વૈકલ્પિક રીતે પાછો વળતો હોય છે.

<u>લાભ</u>:

- એનાથી માઇન્ડ અને બોડી રિલેક્સ થાય છે.
- એ મેન્ટલ કોન્સન્ટ્રેશન અને અવેરનેસ વધારે છે.
- એ ડીપ્રેશન, એન્ઝાઇટી, સ્ટ્રેસ અને ઇન્સોમનિયા (અનિદ્રા)ને દૂર કરવામાં મદદ કરે છે.
- યોગ્ય અવેરનેસ સાથે કરવામાં આવે તો તમારા સ્પેસિફિક ચક્રો એક્ટિવ થઈ શકે.
- ખાલી પેટે પ્રેક્ટિસ કરવી એ શ્રેષ્ઠ સમય છે, જેથી શ્વાસની જાગૃતિથી સમાધિમાં સરી પડાય છે.

(૪) **ભ્રામરી**

ભ્રામરી પ્રાણાયામ ખૂબ અસરકારક છે અને તરત જ તમારા મનને શાંત કરે છે. આ એક શ્રેષ્ઠ કસરત છે શ્વાસની જેનાથી મનને હતશા, ચિંતાઓ અને તણાવ તેમજ ક્રોધથી છુટકારો મળે છે. એક ખુબજ સરળતાથી થતી પ્રક્રિયા છે ક્યાય પણ કરી શકાય છે. ઘરે કે ઑફિસ મા, તમારા મનને તણાવ રહિત કરવાનો ત્વરિત વિકલ્પ છે.

<u>લાભ</u>:

-તણાવ, ક્રોધ અને ચિંતા માથી મુક્ત થવા માટે આ ખુબજ અસરકારક શ્વાસની પ્રક્રિયા છે. હયપેરટેન્શન થી પીડાતા લોકો માટે ખુબજ અસરકારક છે.
-માઇગ્રેન ઘટાડવામા મદદ કરે છે.
-કેન્દ્રિતતા વધારવામા અને યાદશક્તિ વધારવામા મદદ કરે છે.
-આત્મવિશ્વાસ વધારે છે.
-બ્લડ પ્રેશર ઘટાડવામા મદદ કરે છે.

(૫) **ઓમકાર**

ઓમકાર પ્રાણાયામ એ સાયકિક શ્વસન છે. ૐ સાથે સંકળાવાથી એ એક્સલન્ટ રિલેક્સેશન અને પ્રિમેડિટેટિવ ટેકનિક બને છે. એ શીખવા માટે સરળ છે અને કોઈ પણ સમયે, રાત્રે કે દિવસે યુવાનો-વૃદ્ધો બધાં એની પ્રેક્ટિસ કરી શકે છે. તમે તમને જે પોઝિશન સૌથી વધારે કમ્ફર્ટેબલ લાગે, ખાસ કરીને સ્પાઇન, નેક અને માથું એક લાઇનમાં રહે તેટલી વાર સુધી એનો ઉપયોગ કરી શકો છો.

<u>લાભ</u>:

- એની અસર આખાય શરીર પર તેમ જ માનસિક ફલક પર બહુ ઝીણવટભરી છે.
-આ ટેકનિક નર્વ્સ સિસ્ટમને શાંત કરે છે અને તમામ ચિંતાઓ તથા તકલીફો મગજમાંથી દૂર કરે છે.
-જે લોકો અનિદ્રાથી પીડાતા હોય તેઓ જો આ ટેકનિક રાત્રે પથારીમાં કરે તો તેમને ગાઢ ઊંઘ આવે છે.
-ઓશિકા વગર શવાસનમાં સૂઈ જવું, કેમ કે જો માથું ઊંચું હોય તો શ્વાસ લેવામાં વિઘ્ન ઊભું કરે છે. ઉજ્જયીની પ્રેક્ટિસ ૐ સાથે કરવાથી ઊંઘમાં વધારો થશે.
-બ્લડપ્રેશર હાઇ રહેતું હોય તેવા લોકો માટે આ બહુજ ઉપયોગી છે કેમ કે તે હૃદયના ધબકારા ઘટાડે છે.

પ્રાણાયામના ફાયદા:

(૧) પ્રાણાયામથી શરીર સ્વસ્થ અને નીરોગી રહે છે, વધુ પડતી ચરબી હોય તો તે ઘટે છે.

(૨) પ્રાણાયામથી યુવાની લાંબો સમય ટકી રહે છે. સ્મરણશક્તિ વધે છે અને માનસિક રોગો દુર થાય છે.

(૩) પ્રાણાયામથી નદીઓ શુધ્ધ થાય છે અને શરીરની સુસ્તી દુર થાય છે.

(૪) પ્રાણાયામથી જઠરાગ્ની પ્રદીપ્ત થાય છે અને શરીર તંદુરસ્ત બને છે.

(૫) પ્રાણાયામથી પાચનતંત્ર કાર્યક્ષમ બને છે અને પાચનતંત્રને લગતા તમામ રોગો દુર થાય છે.

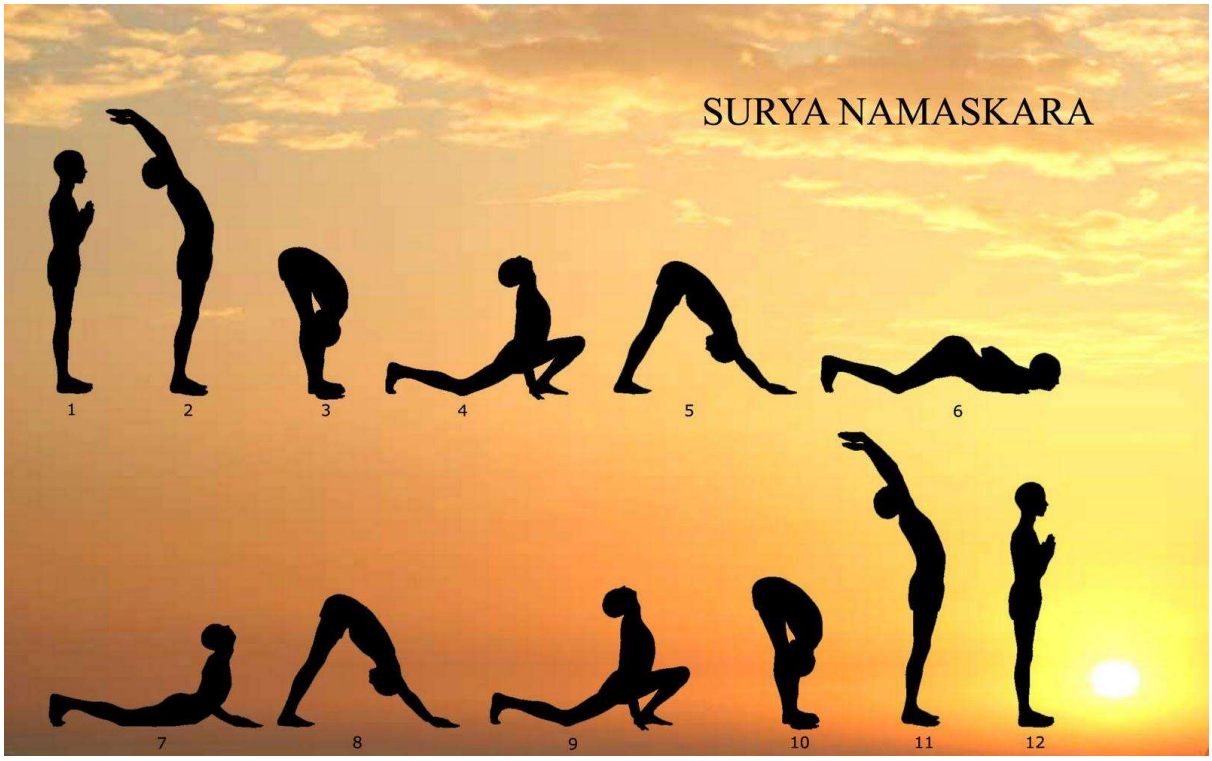
(૬) પ્રાણાયામના સતત અભ્યાસથી જ્ઞાનતંત્રને શક્તિ મળે છે. મનની ચંચળતા દુર થાય છે અને મન એકાગ્ર થાય છે.

(૭) પ્રાણાયામના નિયમિત અભ્યાસથી આત્મિક આનંદ અને માનસિક શાંતિ મળે છે.

<u>આસન</u>: કોઈ પણ એવી મુદ્રા જેમાં તમે આરામથી બેસી શકો, તે આસન કહેવાય. આસનમાં બે એટિટ્યૂડ હોય છેઃ

(૧) ફિઝિકલ એટિટ્યૂડઃ વિવિધ સ્પેસીઝ જેમ કે પ્રાણીઓ, વૃક્ષો, પક્ષીઓના અંશ-સબસ્ટ્રેટ ધરાવતા આસનોને ફિઝિકલ એટિટ્યૂડ કહે છે જેમ કે પદ્માસન-લોટસ પોશ્ચર.

(૨) મેન્ટલ એટિટ્યૂડઃ એ માનસિક સ્થિતિને અનુલક્ષીને છે. જેમ કે જો તમે પદ્માસન કરો છો તો એ આપણને જગતમાં કમળની માફક જીવવાનું જણાવે છે.



સૂર્યનમસ્કાર તમામ યોગાસનોમાંનો સર્વશ્રેષ્ઠ ગણવામાં આવ્યો છે. આપ ભલે કોઈ પણ વ્યાયામ કરો કે ન કરો, પરંતુ જો આપ દિવસમાં એક વાર પણ સૂર્ય નમસ્કાર કરી લો છો, તો સમજી લો આપના તમામ રોગો એક-એક કરીને ખતમ થઈ જશે. આ એકલો અભ્યાસ જ માણસને સંપૂર્ણ યોગ વ્યાયામનો લાભ પહોંચાડવામાં સમર્થ છે.

સૂર્યનમસ્કારના ફાયદા:

-સૂર્ય નમસ્કાર કરવાથી મેદસ્વીપણુ દૂર થાય છે

-સૂર્ય નમસ્કાર કરવાથી શરીરમાં જકડણ ઓછી થાય છે અને શરીરમાં લચક પેદા થવા લાગે છે

-સૂર્ય નમસ્કાર કરવાથી પાચન ક્રિયામાં સુધારો થાય છે.

-સૂર્ય નમસ્કાર કરતી વખતે લાંબા શ્વાસ ભરવા જોઇએ કે જેનાથી શરીર રિલેક્સ થઈ જાય છે. તેને કરવાથી બેચેની અને તાણ દૂર થાય છે તેમજ મગજ શાંત થાય છે.

-પાઇલ્સ અને કબજિયાત દૂર થાય છે

-અનિદ્રા દૂર થાય છે

-સૂર્ય નમસ્કાર કરતી વખતે આપ પોતાના શરીરનાં દરેક ભાગનો પ્રયોગ કરો છો કે જેથી આપનાં શરીરમાં લોહીનું પરિભ્રમણ ઝડપી થઈ જાય છે. આવું થતા શરીરમાં આખો દિવસ એનર્જી ભરેલી રહે છે.

-સૂર્ય નમસ્કાર કરવાથી આપાનું શરીર સમ્પૂર્ણપણે ફ્રી થઈ જાય છે. તેને કરવાથી વાત, પિત્ત અને કફ દોષ શાંત થઈ જાય છે. તેનાથી શરીર સ્ટ્રેસથી દૂર અધ્યાત્મ તરફ જતું રહે છે.

ALL THE BEST FOR FIT INDIA

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જીંદગી

જિંદગી કોઇ રેસ નહીં, જહા
કિસી એક કી જીત હોતી હે.
જિંદગી એક નિરંતર ચલતે,
હાઇ – વે કે જેસી હોતી હે,
કિતને ભી ઓવર ટેક કરો,
કોઇ ગાડી હમસે આગે હી હોતી હે.
જિંદગી કોઇ રેસ નહિ.....
સફળતા -નિષ્ફળતા અંત નહિ ,
યે તો એક પડાવ હે ક્યોકી,
હર કિસી કી શરૂઆત ઓર મંજિલ,
મંજિલ ભી અલગ હોતી હે .
જિંદગી કોઈ રેસ નહિ .....
જિંદગી ખુશહાલ તબ નહિ ,
જબ સારી ખુશીયા પાસ હોતી હે.
સુખ કે સાથી દુઃખમેં પાસ હો,
જિંદગી તબ ખુશહાલ હોતી હે.
જિંદગી કોઈ રેસ નહિ .....

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SHINING STARS (SUMMER-2021)

Diploma Semester 2

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1	206310307089	Darji Prince Kanubhai	10
2	206310307014	Rana Kishan Prakashkumar	10
3	206310307175	Aryan Patel	10
4	206310307095	Vyas Vishva Prafulchandra	9.86
5	206310307001	Panchal Nehal S	9.86

Diploma Semester 4

Sr. No.	Enrollment No.	Name	SPI
1	196310307517	Gohil Rahulkumar R	10
2	196310307025	Jansari Srushti Pravinkumar	10
3	196310307577	Thakor Rameshji Kuvarji	9.77
4	196310307004	Bhatiya Dhrumil Vipulbhai	9.52

Diploma Semester 6

Sr. No.	Enrollment No.	Name	SPI
1	176310307535	Rajput Prashant D	10
2	186310307514	Padhya Kasyap Rajanbhai	10
3	186310307501	Bava Abhaypuri Kishanpuri	9.87
4	186310307549	Raval Milapkumar A	9.81

- Nishtha M. Dave, student of 6th semester computer engineering has secured the second rank in classical dance competition, Yuva Utsav 2021 at district level.

- Hardik Joshi and his team, students of 6th semester computer engineering bagged the first position along with the prize of Rs.10,000 in Hackathon -2021 competition organized by SSIP- CELL of K.D.Polytechnic, Patan. They have designed and developed the Alumni Portal.

PAPER PUBLICATION

Paper Presented:

Paper Title	Name of Faculty	Conference	Paper Level	Date Of Publication
Docker Container Orchestration Management: A Review	Jigna Acharya	International Conference on intelligent vision and computing	International	03/10/2021

Paper Abstract:

Cloud Computing is online technology where computing resources like hardware, software and applications are available as per the user's needs. A cloud computing architecture microservices-basedapplication involves multiple microservices deployed, updated, and redeployed on lightweight virtualization technology called dockercontainer rather than hypervisor-based virtualization. Docker Swarm, Kubernetes and Apache Mesos are container orchestration tool for scheduling and managing individual Container for microservice application within a cluster of private cloud and public cloud. Docker container orchestration can include creating and scheduling Container, availability of container and the host machine,

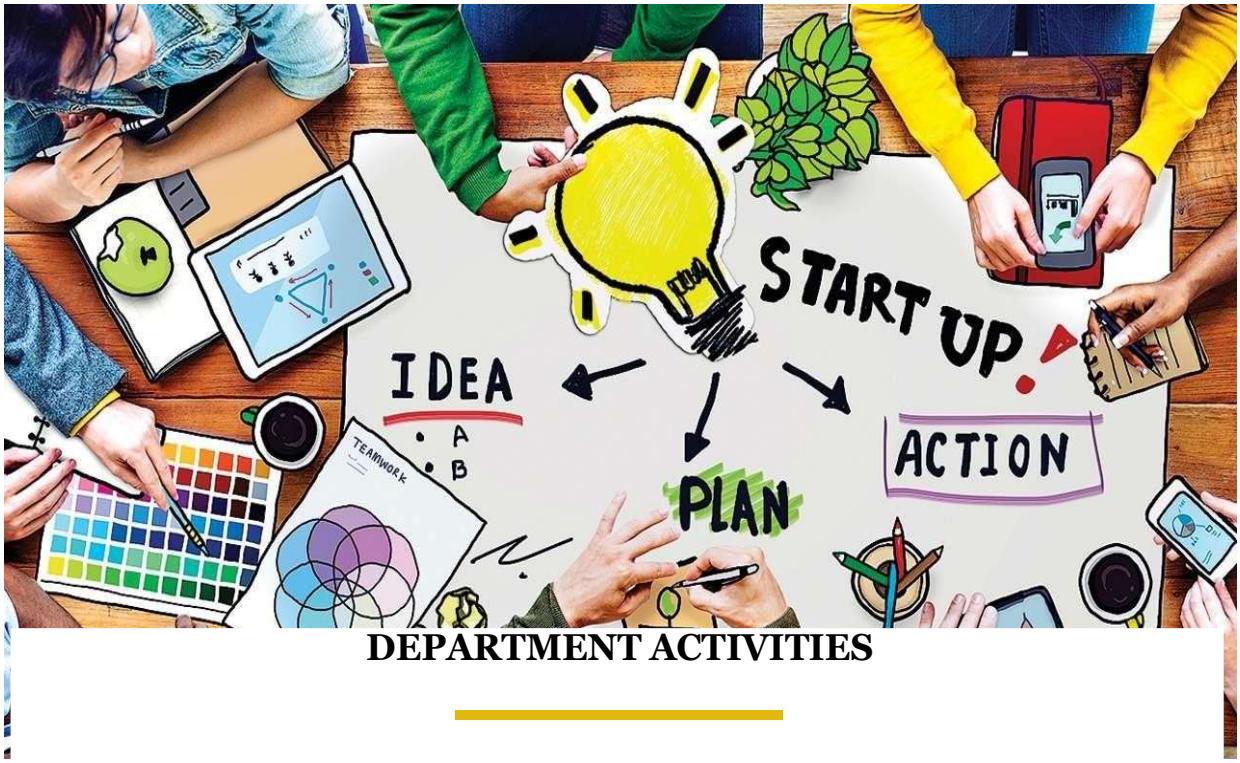
rescheduling of failed Container, scaling of Container to balance the workload on infrastructure and securing the interaction between container. This survey provides a complete description of docker container orchestration approaches with containers, analyzing the framework and classification of container orchestration management.

Journal Paper Publication:

Topic Name	Name of Faculty	Name of the Journal	ISSN No:	Cite-Score
A Novel Fault-Tolerant Container Scheduling Algorithm in Docker Based Cloud	Jigna Acharya	Design Engineering	ISSN: 0011-9342 | Year 2021	1.2

Paper Abstract:

Docker Container is newly introduced technology in cloud computing since last few years. Docker Swarm is tool for scheduling and managing individual Container for microservice application within a cluster of private cloud and public cloud. Docker swarm has three scheduling strategies spread, binpack and random. Currently, only Spread scheduling strategy is supported in docker swarm. Spread strategy is based on single objective to spread containers from each service over as many nodes as available, as evenly. But when there's a choice between suitable nodes for the next containers, preference is given to the node with the fewest total containers. However, when any node is failed it will place its running containers evenly on available nodes and in this situation some nodes are overloaded and some node will become underloaded. Other drawback of spread strategy is while creating container with memory reservation if suitable nodes are not available it will place all containers on same nodes. In this paper we proposed new scheduling strategy that will solve the problem and no node will be overloaded and underloaded after failure of nodes in cluster.



DEPARTMENT ACTIVITIES

SSIP - CELL Activities

On 11-08-2021 SSIP Sensitization Program is organized by SSIP – Cell, Depatment of Computer Engineering. SSIP awareness was the main objective of this program.

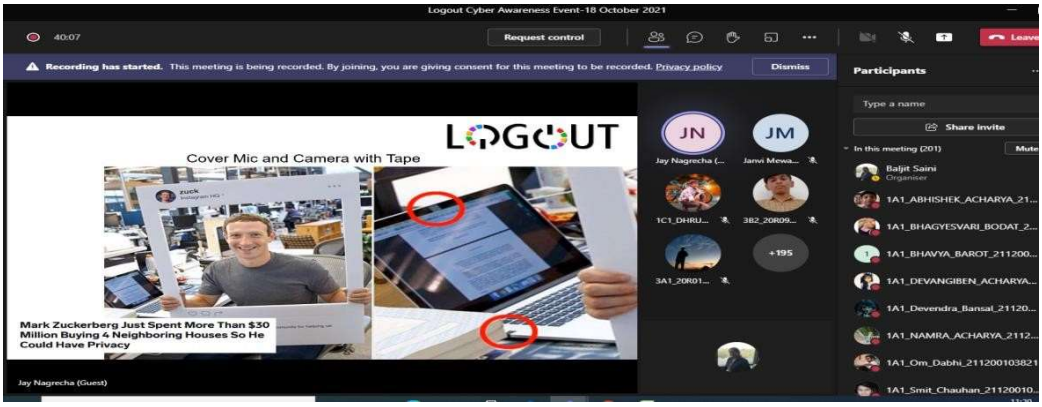
Mr. U. V. Patel Lecturer, Department of Electronics and Communication Engineering delivered Expert Lecture on "Introduction to Arduino Programming" on 04/09/2021. This event is organized by SSIP – Cell Department of Computer Engineering. 46 Students participated in this program. Objectives of the lecture are

1. Understand the Arduino board.
2. Interface digital and analog sensor with Arduino board.
3. Interface digital and analog actuators.

Cyber Awareness Event organized by SSIP – Cell Computer Engineering department on 18th October 2021. Mr. Jay Nagrecha Expert from Comexpo Cyber Security Foundation, Ahmedabad, Gujarat delivered this lecture. Objectives of the session was

- Types of Cyber Crime

- Cyber Bullying and Harassment
- Social Media Addiction
- Cyber Fraud and Online Scams
- Modus Operandi of Cyber Crime
- Banking Financial Frauds
- Safe Internet Surfing Tips
- Cyber Laws Reporting Cyber Crime



NDLI Club Activities

NDLI club, K.D.Polytechnic, Patan had organized seminar on "cyber Security" on 17/12/2021. Mr. C. D. Patel, Lecturer, Department of Computer Engineering Department, K. D. Polytechnic, Patan delivered this lecture. He had given information regarding cyber crime, laws of different cyber crime and also share his knowledge that how to we can prevent from this cyber crime. There were around 115 staff and students of NDLI club members to attend this seminar.

NSS Activities

NSS , K. D. Polytechnic, Patan had organized Tree Plantation Programme on 11/6/2021 and Expert Lecture on Indian freedom struggle- Vir Savarkar on 27/6/2021.

Department of Computer Enginering

Sr. No.	Name	Designation
1	Shri J. M. Joshi	H.O.D. (M. Tech)
2	Smt. A. M. Mevada	Lecturer (B. E.)
3	Smt. P. R. Sharma	Lecturer (B. E.)
4	Shri C. D. Patel	Lecturer (M. E.)
5	Smt. J. N. Acharya	Lecturer (M. E.)
6	Smt. R. K. Vaghela	Lecturer (M. E.)
7	Shri J. B. Patel	Lecturer (M. E.)
8	Shri P. J. Joshi	Lecturer (B. E.)
9	Smt. B. I. Saini	Lecturer (M. Tech)
10	Shri M. R. Thakkar	Lecturer (M. E.)
11	Shri N. A. Patel	Lecturer (M. Tech)
12	Shri S. D. Prajapati	Lecturer (M. E.)
13	Shri K. D. Prajapati	Lecturer (B. E.)
14	Shri P. M. Prajapati	Lecturer (M. Tech)
15	Shri K. M. Madhu	Lecturer (M. E.)
16	Shri Shyju Raju	Lecturer (M. E.)
17	Smt. N. J. Patel	Lecturer (M. Tech)
18	Shri Y. R. Patel	Lecturer (M. E.)
19	Shri M. C. Thakore	Lecturer (M. Tech)

"The strength of the team is each individual member. The strength of each member is the team." - Phil Jackson

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