G H PATEL COLLEGE OF ENGINEERING & TECHNOLOGY, VALLABH VIDYANAGAR

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Booklet of Recent Information for Career & Knowledge
A half yearly magazine

G H Patel College of Engineering & Technology, Vallabh Vidhyanagar started Civil Engineering branch in the academic year 2014-15 under the guidance of Charutar Vidhyamandal in view of the high demand for trained and employable Civil engineers. AICTE has approved an intake of 60 and the course is affliated to Gujarat Technological University (GTU), Ahmedabad. The revised syllabus from the academic year 2013-14 of GTU is followed throughout the semesters.

A separate building has been constructed and is named as "Dr. C. C. Patel & Mrs. Sushilaben Patel Department of Civil Engineering, GCET". The new building has four classrooms, six laboratories, staff rooms, department library and tutorial room as per AICTE criteria. All the basic labs for first year, Mechanics of Solids lab and Concrete lab are located in GCET main building. All other laboratories have been developed for this branch as per the syllabus of GTU. A separate computer lab has been developed in the new building with 40 computers with advanced software installations.

Highly qualified faculty members having good teaching experience are available in the Department. Department have organised various technical events, non-technical events, educational visits, GATE classes, General Aptitude sessions, etc. for the betterment of students.

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Israel's Prime Minister Benjamin Netanyahu recently visited India

Both countries gained their independence from the UK within months of each other, but they headed in different directions for nearly four decades - India as a leader in the NAM maintained close relations to the Arab world and the Soviet Union; Israel established close ties with the US and Western Europe. Although India publicly kept a distance from Israel until the late 1980's, there was in fact a great deal of bilateral activities between the two countries in the preceding years. Since the upgradation of relations in 1992, defense and agriculture have been the main pillars of bilateral engagement. The two countries recently completed 25 years of diplomatic ties and this is only the second visit by an Israeli prime minister after a gap of 15 years since Ariel Sharon in 2003.

Israel's flexible export policy meets Indian demands for technological transfer that have recently been an important part of governments overall developmental agenda. Israel's technological prowess remains unmatched in areas as diverse as waste management and reprocessing, desalination, agriculture, waste water recycling, health, biotechnology, and nanotechnology.

CAG released a performance audit report of FSSAI

Highlights of the report

No proper guideline: Ministry of Health and Family Welfare and the FSSAI are yet to frame regulations governing various procedures, guidelines and mechanisms as prescribed in the Food Act.

Monitoring lapses: It has also failed to monitor and cancel licenses issued under the **product approval system** declared unlawful by the Supreme Court in 2015, due to which market is still flooded with unsafe food.

Arbitrary functioning: FSSAI issued licences to food business operators without complete documents. It also does not have any documented policies and procedures for risk based inspections which allowed the sale of more than 800 processed foods with new formulations without assessing their safety.

Lack of data: FSSAI does not have a database on food businesses in the country as FSSAI and state food safety authorities did not conduct any surveys for enforcement and administration of the Act.

Human resource shortage: There is an acute shortage of licensing and enforcement officers in the states which severely affected food safety measures. It also noted that **contractual employees** were performing routine functions, defeating the intention of appointing contractual employees only for specific tasks of defined duration.

Poor Testing Labs: Quality of testing by the laboratories cannot be assured due to lack of quality equipment, lack of trained human resource as **65 out of the 72 state food laboratories** to which FSSAI and state food safety authorities sent food samples for testing do not possess

National Accreditation Board for Testing and Calibration Laboratories (NABL): It has failed to adhere to regulations in case of renewal of the license and failed to collect significant amount of penalties imposed for non-adherence. It has also failed to curb the import of unsafe foods in the country.

The Centre has decided to connect 73 underserved and unserved airports and helipads under the phase 2 of the regional connectivity scheme UDAN

The States with maximum number of airports and helipads which will see activation under UDAN 2 scheme include Uttarakhand (15), Uttar Pradesh (9), Arunachal Pradesh (8), Himachal Pradesh (6), Assam (5) and Manipur (5).

This was the first time bids were received from helicopter operators under the scheme.

The scheme will provide around 26.5 lakh seats per annum that will be covered with airfare cap of ₹2,500/hr of flying. In addition, around two lakh RCS (regional connectivity scheme) seats per annum are expected to be provided through helicopter operations.

The Centre has decided not to increase the ₹ 5,000 regional air connectivity levy charged from airlines flying on major routes to fund the UDAN scheme. It would now be partly funded by the dividend that AAI (Airports Authority of India) paid to the Government of India.

Key Features

UDAN will be applicable on flights which cover between 200 km and 800 km with no lower limit set for hilly, remote, island and security sensitive regions.

The scheme seeks to reserve a minimum number of UDAN seats i.e. seats at subsidized rates and also cap the fare for short distance flights.

This would be achieved through two means:

A **financial stimulus** in the form of concessions from Central and State governments and airport operators like tax concessions, exemptions from parking and landing charges etc.

A **Viability Gap Funding** to the interested airlines to kick-off operations from such airports so that the passenger fares are kept affordable. Such support would be **withdrawn after a three year period**, as by that time, the route is expected to become self-sustainable.

A **Regional Connectivity Fund** would be created to meet the VGF requirements under the scheme. The RCF levy per departure will be applied to certain domestic flights along with 20% contribution from states.

For **balanced regional growth**, the allocations under the scheme would be equitably spread across the five geographical regions of the country viz. North, West, South, East and North-east.

The scheme UDAN envisages providing connectivity to un-served and under-served airports of the country through **revival of existing air-strips and airports**.

The scheme would be in operation for a period of 10 years.

Strategic forces command of Indian Army successfully tests fired its indigenously built, nuclear-capable missile, Agni-V

It is an intercontinental surface-to-surface ballistic missile developed by DRDO under the Integrated Guided Missile Development Project (Other missiles developed under the programme were: Prithvi, Trishul, Akash and Nag).

At present, US, China, Russia, UK, France and Israel are known to have ICBMs. It has been equipped with very high accuracy Ring Laser Gyro based Inertial Navigation System (RINS) and Micro Navigation System (MINS). India has reportedly also been working on multiple independently targetable reentry vehicles (MIRV) for the Agni-V in order to ensure a credible second strike capability or credible minimum deterrence. MIRV means one missile can carry several warheads, each for different targets.

The Unique Identification Authority of India has launched a blue Aadhaar Card/Baal Aadhar for children below five years

It will not include child's biometric information. The first biometric update is required at the age of 5 while the second biometric update is required at the age of 15 and it will be linked to the parents' UID. Although it is not mandatory for children below 5 years to get an Aadhaar however it will be useful for attending educational programmes and availing government scholarships.

Kisan Urja Suraksha evam Utthaan Mahaabhiyan (KUSUM) scheme was announced in Budget 2018-19

It aims to incentivise farmers to run solar farm water pumps and use barren land for generating solar power to have extra income. The total cost of the capacities under this scheme would be Rs 1.4 lakh crore, out of which, the Centre will provide Rs 48,000 crore financial assistance.

Components of KUSUM

Utilization of barren land by farmers to generate 10,000 MW of solar energy and sell it to grid. For this, discounts would be given 50 paise per unit as generation based incentives to buy power from farmers for five years. The government will provide subsidy to farmers for buying 17.5 lakh off grid solar farm pumps. The Centre and the states will provide 30% subsidy each on solar pumps. Another 30% will be met through loans while 10% of the cost will be borne by the farmer.

DRDO successfully carried out test flight of Rustom-2 drone

Rustom-2 is medium-altitude long-endurance drone (MALE) designed and developed by Aeronautical Development Establishment (ADE) of the DRDO, and Hindustan Aeronautics Ltd and Bharat Electronics. It can fly up to an altitude of 22,000 feet and has endurance of over 20 hours. It can carry variety of payloads like Electronic Intelligence (ELINT), Synthetic Aperture Radar (SAR), Communication Intelligence (COMINT) and Situational Awareness Payloads (SAP) for performing missions even during the night. It will be used by all three services of Indian armed forces, primarily for intelligence, surveillance and reconnaissance (ISR) operations. Rustom 2 can fly missions on manual as well as autonomous modes.

More than 40 Languages in Unesco's Endangered List

According to a list prepared by the UNESCO, 42 languages in India are endangered and maybe be headed for extinction. These languages are spoken by less than 10, 000 people.

Facts

There are 22 scheduled languages in India mentioned in the Eighth Schedule (Article 344(1) and 351) of the Indian Constitution. Apart from the 22 languages, there are 31 languages that have been given the status of

official language by state governments and union territories. According to a Census Directorate report, there are 100 non-scheduled languages which are spoken by one lakh or more people Government Initiatives.

Government of India launched a scheme known as "Protection and Preservation of Endangered Languages of India" in 2014. Under this Scheme, the Central Institute of Indian Languages (CIIL), Mysore works on protection, preservation and documentation of all the mother tongues/languages of India spoken by less than 10,000 speakers keeping in mind the degree of endangerment and reduction in the domains of usage.

Under the programme, grammatical descriptions, monolingual and bilingual dictionaries, language primers, anthologies of folklore, encyclopedias of all languages or dialects especially those spoken by less than 10,000 people are being prepared.

The meeting of the Permanent Indus Commission (PIC) between India and Pakistan was held in New Delhi

This was the 114th meeting of the **Permanent Indus Commission (PIC)** that looks into the sharing of the Indus waters since the Indus water treaty (IWT) was signed by the two countries in 1960.

As per the treaty, control over three eastern rivers Ravi, Beas and Sutlej were given to India. While control over three western rivers Indus, Jhelum and Chenab was given to Pakistan. It allows India to use only 20% of the water of Indus River, for irrigation, power generation and transport.

It is said to be the **most successful water treaty** in the world. As, it has survived various India-Pakistan wars and other issues. Most disagreements and disputes have been settled via legal procedures, provided for within the framework of the treaty.

The **Permanent Indus Commission (PIC)** was set up as a bilateral commission to implement and manage the Treaty. The Commission also solves disputes arising over water sharing. It had last met in Islamabad in March 2017.

The World Bank's role in relation to "disputes" and "differences" with respect of IWT is limited to the designation of people to fulfil certain roles when requested by either or both of the parties.

Ministry of Mines has released a sand mining framework to assist the state governments in addressing the issues of the Sand mining sector

Demand of sand in the country was around 700 million tonnes in FY-2017 and it is increasing at the rate of 6-7% annually. Government amended the Mineral Auction Rules 2015 in November 2017 to make the auction process less cumbersome and help states auction mineral blocks. Government in May, 2017, constituted a committee to study the existing system of sand mining in various States and suggest a comprehensive sand mining policy/ guideline as a model for replication by the States.

सत्यमेव जयते
Ministry of Mines
Government of India

Features of the framework

Mining will be done as per the guidelines laid down in the **Sustainable Sand Mining Management Guidelines 2016** by the MoEFCC.

Alternatives to sand:

To meet the growing pace of urbanization and infrastructure development alternatives should be explored like Manufactured sand (M-**sand)** which is produced by crushing of rocks, quarry stones to a stipulated size of 150 microns. As compared to river sand, it is cheaper and has marginally higher bond strength and its mortar shows higher compressive strength Sand produced from coal **overburden.**

Importing sand from other countries such as Malaysia and Philippines to meet the requirement of coastal states. Encouraging alternative technologies in construction materials processing for reduced dependence on natural sand.

Affordability: can be achieved by controlling the price from supply side rather than through administrative mechanism Reducing illegal mining, closure of quarries and smuggling of sand to neighboring States. Regulating transportation through use of GPS/ RFID enabled dedicated vehicles for better and efficient management of resource.

Business Model: States should opt out of either of the two models depending upon their objective:

Market Model (Simple Forward Auction) for revenue maximization by State.

Notified/ Controlled Price Model for keeping the prices and operations under control.

Classification of states: as Sand surplus State, Sand sufficient State and Sand Deficit State on the basis of analysis of **demand and supply situation** and to help them in framing policy and regulation according to the needs of the states.

Separate Sand Mining Policy and Rules: for each state to better manage the sector and only the State Mining Department should be entrusted for regulating sand mining in the State.

District Survey Report (DSR): shall be prepared by the State Government to estimate the annual quantity of sand available in a particular district and their usage.

Clearances and approvals: Responsibility of seeking the clearances and approvals should be given to the lessee/contractors only and department should play the role of facilitator/ regulator only.

360-degree monitoring mechanism: States need to create and establish a robust system to monitor and measure the mined-out mineral at each lease location and its transportation in the State.

Classification of the rivers: States need to classify the rivers based on the stream orders i.e. **stream orders I, II, III, IV and above**, where for stream I, II and III, sand may be allowed to be extracted by manual means for local use in villages or towns bordering the streams, while for order IV and above streams, bidding is done for sustainable commercial mining and usage.

Pritzker Prize

Pritzker Prize is awarded each year to a living architect for his/her significant achievements and is also referred to as Architecture's Nobel and the profession's highest honour. It was established by the Pritzker family of Chicago through their Hyatt Foundation in 1979. The award consists of $100,000 and a bronze medallion.

Balkrishna V. Doshi is the first Indian who won the prestigious Pritzker Prize for his innovative work of designing low-cost housing.

About Balakrishna Doshi

Balakrishna Doshi is an Ahmedabad based architect and educator. He had been awarded Padma Shri and had established many institutions such as Vastu-Shilpa Foundation, Sanganth Studio, School of Architecture in Ahmedabad etc. He was also associated with Le Corbusier's projects in Chandigarh and Ahmedabad.

2018 STATE OF THE WORLD'S BIRDS REPORT

According to the 2018 State of the World's Birds report, even some well-known species of birds are now in danger of extinction.

About the Report

It is published by Birdlife International which contains a five-year compendium of population data of birds. Birdlife International is a global partnership of conservation organisations (NGOs) that strives to conserve birds, their habitats and global biodiversity, working with people towards sustainability in the use of natural resources. It also assesses avian extinction risk for the IUCN Red List

Major Observations of Report

40 percent of the world's 11,000 bird species are in decline and one in eight species of birds faces the threat of extinction.

Bird population trends often mirror those of other species The health of bird species is a key measure for the state of ecosystem in general, so these data are a warning for the whole planet

Some species which are globally threatened with extinction- Snowy Owl, Bubo scandiacus, Atlantic Puffin, Fratercula arctica, and European Turtle-dove Streptopelia turtur

Birds that were once Critically Endangered but have now been downlisted to Endangered include Red-billed Curassow Crax blumenbachi (Brazil), Pink

Pigeon Nesoenas mayeri (Mauritius), and Black-faced Spoonbill Platalea minor.

Major Threats to Bird Species

Expansion of agriculture and resultant habitat destruction: Neurotoxic insecticides known as neonicotinoids used in farming are having a detrimental impact on farmland birds.

Deforestation and Unsustainable logging - Nearly two-thirds of bird species are found in forests, mainly in the tropics

Unsustainable hunting for food or sport and trapping for the cage-bird trade

Climate change- many bird species are already struggling to adapt to the pace of climate change.

Fisheries bycatch- Seabirds are in serious danger from fisheries bycatch Urbanisation & pollution and Invasive alien species

Conservation Strategies

Despite the factors threatening the bird species, conservation efforts have been successful in bringing at least twenty-five bird species back from the brink of extinction so far this century**.** Some specific **conservation strategies** include:

Identifying **Important Bird and Biodiversity Areas** (IBAs) and **targeting resources** in these areas

Restoration of degraded habitats like- wetlands, coastal saltpans

Ending deforestation and restoring forests - In partnership with WWF and the Wildlife Conservation Society, Birdlife International has set an ambitious target known as **The Trillion Trees Project** that will see one trillion trees re-grown, saved from loss or receiving better protection by 2050.

Eradication and control of invasive alien species.

Captive Breeding and Reintroduciton- For example: vultures in Indian subcontinent.

Curbing the overexploitation of birds – The CITES plays an important role in regulating the wild bird trade.

Educating and raising awareness in people about birds and nature

The **needs of local communities** should be integrated to develop sustainable livelihood.

Effective laws and policies should be brought in to set the wider framework.

Conservation efforts must be **based on the best available scientific evidence** and projects with clear, measurable objectives- recently a tool **PRISM** has been launched for effective monitoring of conservation efforts.

New Element with Magnetic Properties Discovered

Researchers at the University of Minnesota (US) have discovered **magnetic properties in chemical element ruthenium (Ru).**

About Ruthenium (Ru)

It belongs to the platinum group, has atomic number 44 and is mostly used in the electronics industry for chip resistors and electrical contacts.

It is the **fourth element to have unique magnetic properties** at room temperature.
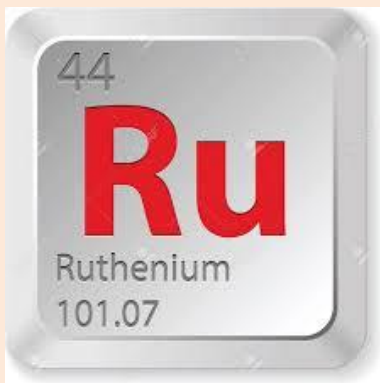
Other than this only three elements have been found to be ferromagnetic at room temperature - **iron (Fe), cobalt (Co), and nickel (Ni).**

It is one of the **rarest metals on the earth**, resistant to oxidation, and additional theoretical predictions claim it has a high thermal stability.

Magnetic materials are of great importance to modern industry and are used in many everyday applications such as sensors, electric motors, generators, hard drives and Spintronic storage.

Plastic Ban

Recently, India committed to eliminate all single-use plastic in the country by 2022.

India was the global host of 2018 World Environment Day (June 5, 2018) with "Beat Plastic Pollution" as the theme, reflecting world commitment to combat single-use plastic pollution.According to United Nations Environment Programme (UNEP) if current pollution rates

continue, there will be more plastic in the sea than fish by 2050, as globally, only 14% of plastics is recycled.

Only 24 States and Union Territories have complied with the Centre's Plastic Waste Management (PWM) Rules, 2016, to regulate manufacture, sale, distribution and use of plastic carry bags including those of compostable plastic and plastic sheets for packaging or wrapping applications.

Single Use Plastic: It account for 50% of the plastic we use, with none states in India have plans in place to tackle single use plastics.

Impact of plastic Pollution

Environmental Pollution: According to a 2014 toxics link study on plastic waste, it contributed directly to ground, air and water pollution.

Soil Pollution: Toxic chemicals leach out of plastic through landfill site, is linked to decreasing crop productivity, impacting food security, birthdefects, impaired immunity, endocrine disruption and other ailments

Poisoning Ocean: Every year, up to 13 million tons of plastic leak into our oceans, where it smothers coral reefs and threatens vulnerable marine wildlife. The plastic that ends up in the oceans can circle the Earth four times in a single year, and it can persist for up to 1,000 years before it fully disintegrates.

Air Pollution: Disposing of plastic waste by burning it in open-air pitsreleases harmful gases like furan and dioxin.

Social Cost: The social damage continuously being inflicted is inestimable as every sphere of life get affected by it like tourism, recreation, business, the health of humans, animals, fish and birds. Health Impact: Plastic bags often provide breeding grounds for mosquitoes and pests thus increase the transmission of vector-borne diseases like malaria.

Bioaccumulation: Plastic bags are often ingested by animals who mistakenly taken them for food due to which toxic chemicals entered the human food chain.

Financial Loss: The total economic damage to the world's marine ecosystem caused by plastic amounts to at least $13 billion every year.

Exuberating Natural Disaster: Encroachment and clogging of city drainage with plastic and solid waste often leads to suburban flooding eg Mumbai

experience annual flooding like situation during monsoon season due to water clogging etc.

Way Forward

Enacting strong policies that push for a morecircular model of design and production of plastics, for achieving India's commitment to eliminate all single-use plastic in the country by 2022

Encouraging Public-private partnerships and voluntary agreements as an alternatives to bans as it would allow citizens time to change their consumption patterns and provide an opportunity for affordable and ecofriendly alternatives

Exploring Alternative like biodegradable materials such as reused cotton or paper, jute bags, casein (main protein in milk) which can be used to make a biodegradable material for use in insulation, packaging and other products. According to Bloomberg, it is 500 times better than conventional plastics at protecting food from oxygen.

Promoting bio plastics as they can be easily decomposed and have higher biodegrability.

Promoting Green Social Responsibility concept to sensitize citizen and encourage them to be more sustainable in their approach through behavioral change by shifting to a production and consumption system that is smart, innovative and sustainable based on efficiencies across the entire life cycle of the product

Queen Pineapple

Recently the Queen variety of pineapple is declared as Tripura's state fruit.

About the fruit

Queen pineapple is spiny, golden yellow in colour with a pleasant aroma and flavor. Its sweetness and unique aroma differentiates it from pineapples of other states of Northeast region. It had received Geographical Indication (GI) tag in 2015. Tripura is one of the largest pineapple growing states in country.

500-year-old Leaning Tower of Pisa mystery unveiled by engineers

Why has the Leaning Tower of Pisa survived the strong earthquakes that have hit the region since the middle ages? This is a long-standing question a research group of 16 engineers has investigated, including a leading expert in earthquake engineering and soil-structure interaction from the University of Bristol.

Professor George Mylonakis, from Bristol's Department of Civil Engineering, was invited to join a 16-member research team, led by Professor Camillo Nuti at Roma Tre University, to explore this Leaning Tower of Pisa mystery that has puzzled engineers for many years.

Despite leaning precariously at a five-degree angle, leading to an offset at the top of over five metres, the 58-metre tall Tower has managed to survive, undamaged, at least four strong earthquakes that have hit the region since 1280.

Given the vulnerability of the structure, which barely manages to stand vertically, it was expected to sustain serious damage or even collapse because of moderate seismic activity. Surprisingly this hasn't happened and until now this has mystified engineers for a long time. After studying available seismological, geotechnical and structural information, the research team concluded that the survival of the Tower can be attributed to a phenomenon known as dynamic soil-structure interaction (DSSI).

The considerable height and stiffness of the Tower combined with the softness of the foundation soil, causes the vibrational characteristics of the structure to be modified substantially, in such a way that the Tower does

not resonate with earthquake ground motion. This has been the key to its survival. The unique combination of these characteristics gives the Tower of Pisa the world record in DSSI effects.

Professor Mylonakis, Chair in Geotechnics and Soil-Structure Interaction, and Head of Earthquake and Geotechnical Engineering Research Group in the Department of Civil Engineering at the University of Bristol, said: "Ironically, the very same soil that caused the leaning instability and brought the Tower to the verge of collapse, can be credited for helping it survive these seismic events."

Results from the study have been presented to international workshops and will be formally announced at the 16th European Conference in Earthquake Engineering taking place in Thessaloniki, Greece next month [18 to 21 June 2018].

The ministry of state for housing and urban affairs has set up a committee to look at a higher floor space index (FSI) to make our cities taller

Background

In Indian cities, FSI is generally about 1.50, which is said to be on the lower side given the needs of rapid urbanization. FSI in India (and FAR (Floor Area Ratio) everywhere else in the world), is the ratio of a building's total floor area to the size of the piece of the land on which it is built.

Most of the cities have low FSI as they have grown horizontally. This has put onerous demands on the amount of land that cities had to gobble up to accommodate the teeming millions. As per Census 2011, 377 million people lived in urban areas which are expected to increase to approximately 590 million people by 2030, according to a McKinsey report 2010.

Benefits of vertical growth of cities

Reduced cost of real estate-because the share of land cost in real estate comes down.

Facilitates mass transport–because greater density makes it much more viable and affordable. This, in turn, reduces the massive dependence on personal cars that are effectively choking roads across most cities.

Push to planned urban development – For ex: increasing the availability of land in urban areas is critical to meet the demand for affordable housing under Pradhan Mantri Awas Yojana (Urban).

Drawbacks of raising FSI

Infrastructure deficit - Pressing for a major upward revision of FSI without a corresponding improvement in infrastructure, particularly transport to deal with crowding will pose more problems.

High maintenance cost - High FSI will allow sky scrapers where day-to-day management of building requires a high cost. It will house the rich and may not be able to address the shortage in affordable housing category.

One size fits all - Cities are contextual, what applies in one city might not hold well in another. Thus, each city needs to decide what kind of growth they can facilitate rather than centre giving a broad overarching national recommendation.

Ground Water Depletion in India

In a new first-of-its-kind global analysis on freshwater availability, northern and eastern India emerged as major hotspots of groundwater depletion mainly because of overexploitation for irrigation although eastern regions also faced low rainfall, while the central and southern regions showed stability owing to water policy changes and increased rainfall.

Amid rising temperatures and high greenhouse gas emissions, the study projects increasing rainfall over India by 2100. But past research suggests that the Indo-Gangetic Plains have been hit by more droughts due to climate change and better water management policies are urgently needed to tackle India's groundwater woes.

"Groundwater in northern India is being depleted at a rate of 19.2 gigatons per year," said Matthew Rodell, lead author of the paper and chief of the Hydrological Sciences Laboratory at NASA's Goddard Space Flight Center. This is equivalent to almost a third of the capacity of one of India's largest reservoirs by water capacity, the Indira Sagar in Madhya Pradesh. "That is definitely a concern, because it is unsustainable," he warned.

While monsoonal rainfall contributes to groundwater recharge as water seeps through the soil collecting deep underground in the gaps between rocks and layers of porous rock, known as aquifers, pumping out stored water lowers the water table. Unlike rivers or lakes, recharge of groundwater can take years.

Nowhere is groundwater more important than in India where a quarter of the world's groundwater is extracted annually—the highest in the world—which is greater than that pumped up by China and the United States combined. Up to 80 percent of the population relies on groundwater for both drinking and irrigation. Although agriculture comprises only 17 percent of India's Gross Domestic Product, it employs more than half of the workforce.

General Development Control Regulations (GDCR)

The Gujarat government has announced the long awaited common General Development Control Regulations (GDCR) regarding permission to size, height and other dimensions of constructions under which the towns in Kutch district including its headquarter Bhuj which falls under strongest seismic zone (the area of maximum possibility of earthquakes) have been granted permission to construct buildings only up to a maximum height of 10 meters.

Deputy Chief Minister Nitin Patel announced that the government has accepted the long demand regarding common GDCR. He, however, said that capital Gandhinagar has been kept out of the common GDCR.

According to new regulations, in cities of Ahmedabad, Vadodara, Surat, Rajkot, Junagadh, Bhavnagar and Jamnagar the Floor Space Index (FSI) of 1.8 would be provided free of cost and for extra 0.9 FSI, one would have to pay 40% of the Jantri rates. In the cities construction up to 25 meters would be allowed djoining roads of width between 12 to 18 meters, 45 m for roads of width between 10 to 40 m and 0 m for roads with more width than 40 meters, however the height allowed would be only 15 meters for roads with less width than 12 meters.

Kucth district which falls in strong seismic zone and which had seen a devastating earthquake in 2001, the maximum height for construction in Bhuj, Bhachau, Anjar, Mandvi, Gandhidham, Rapar have been kept at 10 meters.

For the A and B grade municipalities the maximum permissible height was 30 meters while in those 45 municipalities which don't have a development plan (DP) so far, the maximum height was kept at 6.5 meters.

The GDCR for three metros Ahmedabad, Surat and Vadodara was common while that for Rajkot and Bhavnagar was one. The approval to common GDCR was likely to step up the pace of construction work in various urban areas of Gujarat and owing to it the skyline of cities including that of Ahmedabad was likely to change with many more high rise building likely to come up

Zojila Tunnel

R ecently, work was started on Zojila tunnel in the north-east of Srinagar in Jammu and Kashmir.

Importance of the tunnel

It will provide all-weather connectivity between Srinagar, Kargil and Leh, which remain cut-off from rest of country for several months in the winter

due to heavy snow. The project will make the travel free from threat of avalanches.

The project is important from the strategic point of view as it will help the Leh-based 14 Corps, which is responsible for military developments in areas near the Pakistan and China borders.

Smart City Updates

India is one of the fastest growing economies in the world. Investment planned across the key government initiatives includes Highways – USD 106.5 bn, Railways – USD 131.7 bn, Ports – USD 61.5 bn, Airports – USD 58 bn, Industrial Corridors – USD 100 bn, Smart Cities – USD 14.6 bn and Clean India - USD 29 bn.

Buildings

Home automation / IoT: The Home automation market is expected to cross USD 4.43 billion by 2022

Building Intelligence Monitoring (BIM): Smart Buildings optimize utilization, support green standards and control operating costs. Implementation of BIM technologies and workflows in Architectural, engineering, construction and facility operations (AECO) can reduce costs of construction and lifecycle costs by upto 50%, reduce greenhouse gas emission by upto 50% and reduce construction time by 50% from inception to completion.

Green Building Solutions: Buildings are responsible for a huge share of energy, electricity, water and materials consumption. The building sector has the greatest potential to deliver significant cuts in emissions at little or no cost. Buildings account for 18% of global emissions today, or the equivalent of 9 billion tonnes of CO_2 annually

Water & Sanitation

Water monitoring: Surface and ground water can be affected by land use, agricultural practices, pollution and climate change. Monitoring and treatment of water is essential since public health may be jeopardized if surface water is contaminated.

Water Metering / billing: Smart water metering, communication networks and analytics will increase such that by 2020 over US$200m will be channeled to address the country's water sector.

Water ATMS: There are 66,093 rural habitations in India where the drinking-water source is contaminated with either one or more chemicals, such as arsenic, fluoride, nitrate, iron and salinity. Water ATMs provide safe drinking water in urban and rural areas.

Solid Waste Management: Onsite handling, waste collection, waste transfer and transport, waste processing, recovery and disposal are key solutions.

Management programs, technologies including smart bins, waste to energy techniques are being used by smart cities and municipalities.

Toilets: 3 lakh plus public toilets have been constructed from 2015 onwards under Swach Bharat Urban.

Environment / Pollution

Pollution Monitoring: A recently published, World Health Organization (WHO) report, placed 13 Indian cities in the 20 most polluted cities of the world. Air quality monitoring system market is estimated to be worth $ 4.90 billion by 2022.

Urban Planning

Geo-Spatial: The $4 billion Indian geospatial industry in India is expected to become a $20 billion market by 2025

Smart IT and Communications

Command and Control Centre for Cities / Municipalities: The command and control systems market is projected to reach USD 35.65 Billion by 2022, at a CAGR of 4.15% during the forecast period.

Cloud / Open Data: The Public Cloud market in India reached about $658 million in the first half of the financial year 2017. It is estimated that by 2020, over 90% of global enterprises will adopt multi-cloud platform.

IoT: Smart Cities, Digital India campaigns is driving growth in the IoT segment and its market is projected to grow at a CAGR of 28.2 percent during 2016-22.

Safety & Security

Security Cameras: the India CCTV Camera market is expected to grow at a CAGR of 27.16% in the 2016 to 2021 period.

Video Intelligence / Data: India's video surveillance analytics software market is projected to grow at a CAGR of over 35% during 2017 to 2023

Smart Transport

USD 500 billion investment is expected through current government policies and missions including projects for highways, rail, metro, air and sea ports etc…

Traffic management market is expected to reach US$16.89bn by 2019.

Smart Grid

India is projected to invest $44.9bn in smart metering, distribution automation, battery storage and other smart grid market segments over the next decade. This investment will help to reduce the country's staggering 22.7% transmission and distribution loss rate.

Clean Energy

Intelligent Street Lights: Under Smart Cities Mission efficient street lighting has been given major impetus and the market is expected to touch $ 1.8 bn by 2022.networks in the country

Participation by Indian States, Smart Cities / PSU's

As of January 2018, 99 cities have been selected to be upgraded as part of the Smart Cities Mission. Special Purpose Vehicles, State's, UTs and Government entities relevant to Smart Cities Mission will exhibit their achievement and initiatives at the expo.

Country Pavilions

Foreign Direct Investment in India increased by 4007 USD Million in February of 2018. Foreign Direct Investment in India averaged 1294.03 USD Million from 1995 until 2018, reaching an all-time high of 8579 USD Million in August of 2017.

Leading countries are joining hands with India for Investment opportunities. Large country pavilions will be organized at the expo for engagement opportunities with Indian businesses and government.

Explore India´s first World Heritage City
Ahmedabad, Gujarat

The **city of Ahmedabad** is endowed with a rich architectural heritage that is vital to the local identity and continuity of the place. Along with the foremost heritage **Indo-Islamic monuments** of the 15th to 17th centuries, there are potential heritage precincts in the form of the **Pols**, the traditional residential clusters of the medieval period, which makes Ahmedabad exceptional. Combining these all, the historic walled city of Ahmedabad has it all to be the first city in India to be inscribed in **UNESCO's World Heritage City list of 2017**.
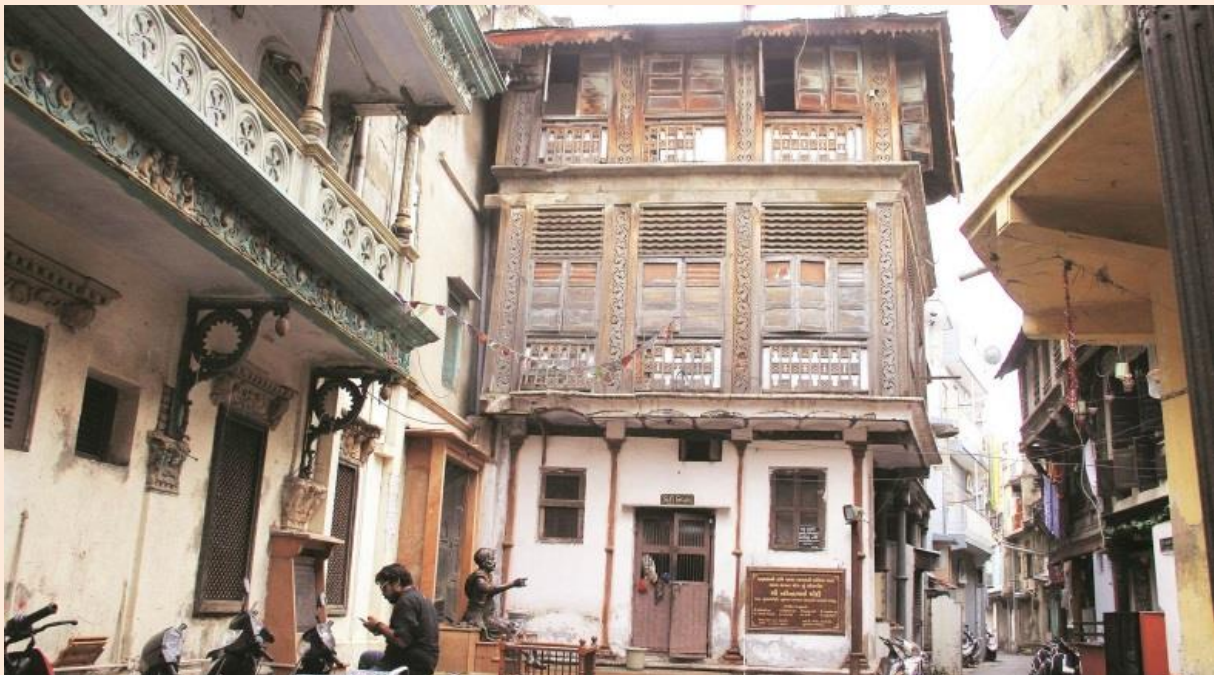
Historic City of Ahmedabad

Situated in the heart of Gujarat, Ahmedabad has a character like no other, defined by a spirit of enterprise. Although Ahmedabad is a bustling metropoliton with reputed institutes and a rapidly growing economy, it is also deeply rooted in tradition. The city if known for its association with Mahatma Gandhi and in addition to a complex maze of neighbourhood called pols, hosts some of the country's finest **medieval Islamic Architecture**.

The city of Ahmedabad was formerly known as Ashawal of Asha Bhil; Karnavati of Karanadev, Ahamdabad of Sultan Ahmed Shah, Rajnagar, the capital of Jainism, a politico-cultural city of Mahatma Gandhi and Sardar Patel and Amdavad of **'Amdavadis'.** The Britishers spelled it as Ahmedabad and it became internationally known as Ahmedabad. But in vernacular language, it became popular as Amdavad and all the Gujaratis know it as Amdavadis. The citizens are known as Amdavadis across the world.

There are hundreds of temples, mosques and other pilgrim spots in the city. Among all, one spot glaringly draws our attention, which is none other than **Sabarmati Ashram**, offered to the nation by Gandhiji, his humble residence known as **Hridaykunj**. The period in which he lived here is Known as the Gandhi-Era.

The seeds of prosperity of the city were sown by **Sheth Ranchhodlal Chhotalal** by establishing the **first textile mill in the city**. As a result, the city became an industrial town and the machine-age began in Ahmedabad. Once known as **Manchester of India**, today Ahmedabad is famous as the biggest industrial capital of Gujarat.

The Mahajan tradition, started by a sheriff, Sheth Shantidas Zaveri, was preserved and continued by another leading industrialist Sheth Kasturbhai Lalbhai. Sheth Kasturbhai and many others have contributed substantially in making the city prosperous.

Sahajanand Swami established Swaminarayan temple in Kalupur, located at the heart of the city. The artistic wood work of the temple is famous globally. The kite loving people of the city celebrate Navratri festival joyfully and with great fervor. Rathyatra, the chariot procession of Jagannath temple, is again the pride of the city. The musical programmes arranged under the auspices

of '**Saptak**' for the **last twenty seven years** are enjoyed by the music lovers of the entire country.

The assistant judge during British period, Mr. Alexander Kinlock Forbes was deeply interested in the architecture and folklore of the city. He also learnt Gujarati from our great Gujarati poet-Dalpatram. In comparison with other cities, the number of museums in Ahmedabad is larger. The most famous among them are Calico Textile Museum, Vechaar-Utensils Museum, City Museum and L.D.Museum of lndology. The academic institutions like Indian Institute of Management, National Institute of Design, Physical Research Laboratory, CEPT and Nirma University have made the city known as an **educational hub** in the country.

Union Budget 2018: Key Highlights

For Salaried Professionals

Personal income tax slab rates remain the same.

Introduction of Standard deduction of Rs 40,000 for the salaried class (replacing the transport allowance and the miscellaneous medical Reimbursement)
Education cess now to be called as Health and Education cess and effective rate increased to 4% from 3%

Introduction of tax on long-term capital gains above Rs 1 lakh on the sale of equity shares @ 10% without giving the benefit of indexation. Capital gains tax for until 31 January 2018 will be grandfathered

Short-term capital gains to continue to be taxed @ 15%

For Senior Citizens

No TDS on interest from FD upto Rs 50,000

Section 80TTB introduced to exempt interest from FDs , Post Office upto RS 50,000.

Exemption under Section 80D upto Rs 50,000 for medical insurance for senior citizens

Exemption limit for Medical Expenditure for certain critical illness from raised from Rs 60,000/- in case of senior citizens and from Rs 80,000 in case of very senior citizens, to Rs 1 lakh in respect of all senior citizens, under section 80DDB

Other Highlights

Reduction in corporate tax rate to 25% for companies having a turnover of Rs 250 crores and less.

Deduction under Section 54EC is restricted to the transfer of land/Buildings/ both and the Holding period of the long-term investment asset such as NHAI/ REC Bonds is now increased to five years from the earlier period of three years.

Equity Oriented Mutual funds to face a Dividend Distribution Tax @ 10%

Alternate Minimum Tax (AMT) @ 9% to be levied on non-corporate taxpayers operating in IFSC on par with MAT for corporates

Crypto currencies continued to be considered as not "legal tender". Government to consider exploring the Blockchain technology

Introduction of e-assessments to reduce interface between income tax department & taxpayers

Deduction under Section 80-IAC for the eligible business of Start-Ups, is now also available to those that are incorporated on or after the 1st day of April 2019 but before the 1st day of April, 2021 with a condition that the turnover should not exceed Rs 25 Crore for seven previous years commencing from the date of incorporation. Eligible business now also includes "Improvement of products or processes or services or a scalable business model with a high potential for employment generation or wealth creation".

"Remember to look up at the stars" – Stephen Hawking

Stephen Hawking, the brilliant British theoretical physicist who overcame a debilitating disease to publish wildly popular books probing the mysteries of the universe, has died at the age of 76.

Hawking was born in Oxford, England, on what turned out to be an auspicious date: January 8, 1942 -- the 300th anniversary of the death of astronomer and physicist Galileo Galilei.

In an exclusive interview with CNN in October 2008, Hawking said that if humans can survive the next 200 years and learn to live in space, then our future will be bright.

At Cambridge, he held the position of Lucasian Professor of Mathematics - the prestigious post held from 1669 to 1702 by Sir Isaac Newton, widely considered one of the greatest scientists in modern history.

Yet Hawking once said if he had the chance to meet Newton or Marilyn Monroe, he would opt for the movie star.

Hawking became a hero to math and science geeks and pop culture figure, guest-starring as himself on "Star Trek: The Next Generation" and "The Simpsons." His life was dramatized in the 2014 movie, "The Theory of Everything."

He had at least 12 honorary degrees and was awarded the CBE in 1982. A CBE, or Commander in the Most Excellent Order of the British Empire, is considered a major honor for a British citizen and is one rank below knighthood.

Despite being a British citizen he was awarded the Presidential Medal of Freedom, the US's highest civilian honor, in 2009 by President Barack Obama.

In September 2016 Hawking joined 375 "concerned" scientists in penning an open letter criticizing then-presidential candidate Donald Trump, citing the threat of climate change and blasting his push for the US to leave the Paris Accord.

Fellow scientists hailed Hawking for his work and influence in the field.

"His passing has left an intellectual vacuum in his wake," tweeted Neil deGrasse Tyson. "But it's not empty. Think of it as a kind of vacuum energy permeating the fabric of space-time that defies measure."

Civil Engineering Personality

Known as Gujarat's 'Highway and Canal Man', Satyanarayansinh Shivsinh Rathore joined the state administration as an engineer and retired as the additional chief secretary in 2014.
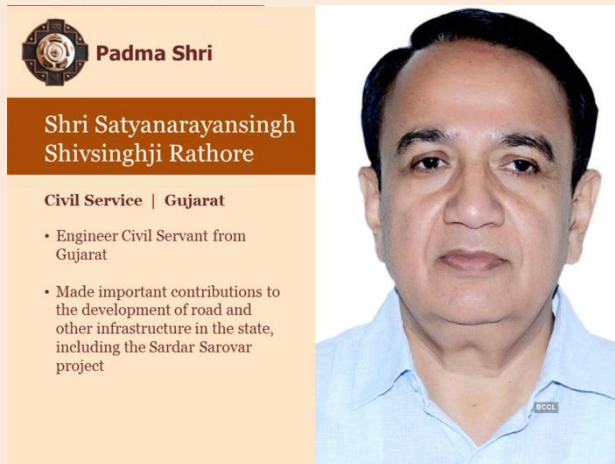
During his stint at the Sardar Sarovar Narmada Nigam Limited (SSNNL), Rathore supervised the construction of canal network connected to the Sardar Sarovar Dam to supply drinking and irrigation water from the Narmada river. He was appointed SSNNL's chairperson and managing director his retirement and is still serving on the post.

Rathore recently presided over the closing of radial gates of Sardar Sarovar Dam that marked the project's completion 56 years after its foundation was laid. Rathore has also been looking after Prime Minister Narendra Modi's ambitious project of building the statue of Sardar Patel.

S.S. Rathore, Principal Secretary in the Roads & Buildings Department, Government of Gujarat, had an interesting and challenging field of activity — construction and maintenance of more than Rs. 1 lakh km of road network in Gujarat. His work entails frequent interaction with Government of India as he was also handling all central projects like national highways and expressways, railways, and airstrips.

Rathore has pioneered long-distance PPP projects on state highways, including the first long-distance four-lane projects in India, namely the Ahmedabad-Mehsana and Vadodara-Halol projects. Other major projects undertaken by Rathore include the World Bank-assisted Gujarat State Highway Project, the World Bank and ADB- assisted Gujarat Emergency Earthquake Rehabilitation Project, widening of around 3,000 km of state highways to two lanes with paved shoulders, construction of Mahi, Narmada and other bridges on BOT, first cable-stayed bridge at Bhavnagar, and PMGSY and NABARD-assisted rural roads projects among others.

He was instrumental in completion of the Rs.180-crore Mahatma Mandir (convention centre) at Gandhinagar in a record 182 days. He successfully initiated and completed the World Bank-assisted Gujarat State Highways Project-I, rated by the global bank as "highly satisfactory" and the most

successful externally aided road project in the country. With this project, he initiated and undertook major reforms in the highway sector.

Born on March 15, 1956, S.S. Rathore obtained his Bachelor's Degree in Civil Engineering from L.D. College of Engineering, Ahmedabad, Gujarat University, in 1978, with Gold Medal, and topped the merit list of the Gujarat Public Service Commission Examination in 1980, the year he was appointed as Executive Engineer in the state R&B Department. Since then, he has worked in various capacities.

Apart from being the Principal Secretary in the R&B Department, Rathore is also the Chairman of Gujarat Road and Infrastructure Company Ltd and Director in Gujarat Industrial Development Corporation, Gujarat State Road Development Corporation, Gujarat Tourism Corporation and Gujarat Water Infrastructure Ltd. He has also served as the chairman of Gujarat State Centre of the Institution for the period 2004-2006 and has been a Member of IEI Council since 2004. He was also the chairman of Water Management Forum of the Institution during 2008-2011. In 2000, he was elected vice president of Indian Roads Congress and, in 2003, became its president.

The Ministry of Rural Development has utilised his vast experience and knowledge in formulation of the Rural Roads Manual and other aspects of Pradhan Mantri Gram Sadak Yojana. He has authored many papers on roads, environment, green highways, etc., and has travelled widely around the world on various government assignments.

Landmark Event: 75 years of Howrah Bridge

The iconic structure of the Howrah Bridge completes 75 years of its existence in February. The historical landmark that has been synonymous with the City of Joy has been a witness to history, both in pre-Independence India and thereafter. The bridge has been not only been a part of history, literature and art, but also a significant part of popular culture — be it in commercial cinema or magazine art and caricature. From Satyajit Ray to Richard Attenborough and Mani Ratnam to Anurag Basu, the popular iconography of Kolkata has been celebrated by film-makers and photographers alike

Connecting the twin city of Kolkata (earlier known as Calcutta) and Howrah, on either sides of River Hooghly in Bengal, the archetypal structure is one of the busiest bridges on the country. Renamed Rabindra Setu in 1965 after Nobel Laureate Rabindranath Tagore, the suspension-type balanced cantilever bridge has a central span of 1500 ft. between centres of main towers. As the bridge completes being functional for over seven decades, here are some interesting facts about the unique structure.

A bridge without nuts and bolts: Hard to believe? Yes, the gigantic bridge spread across the width of River Hooghly does not have a single nut and screw joining the array of metallic structures. Instead, the unique bridge was built by riveting the whole structure, which means a metal piece (rivet) is used to connect two or more plates inserted through the hole in plates and pressed on the other side.

A suspended bridge: If you didn't notice in all the photos of Howrah Bridge, then take a look now and observe how the metal structure hangs above the river with no pillars in between supporting it. It's a suspended-type balanced

cantilever bridge, the third longest when it was constructed and now, it's the sixth longest bridge of its type in the world.

It's the 'new' Howrah Bridge: Even though the vintage structure has been around for more than seven decades and even stood witness to the Second World War, it is ironically called the 'New' Howrah Bridge. The reason behind it is that it replaced an old pontoon bridge, which was set up in 1874. As in the 17th century, Calcutta was emerging as a bustling city by the merger of the three villages – Kolkata, Sutanati and Gobindapur, there was an urgent demand to link the city with the commercial hub Howrah. And after the Howrah station was built in 1906, the to-fro movement on the bridge began to escalate and engineers at Calcutta Port Trust started brainstorming ideas to build a better and stronger bridge.


Stalled by First World War: The bridge has a sad association with World War I (1914-1919). Even though the proposal to replace the old pontoon bridge had begun in the early 1900s, it was delayed owing to the catastrophic war. The bridge was partially renewed in the years 1917 and 1927. However, it was completed until the Second World War.

No formal inauguration: Even as a marvel for architects, engineers and the Colonials who built the emblematic landmark, it did not even have a formal opening, forget a grand inauguration. It was completed in 1942 and opened to the public in February 1943 but was not highlighted due to a fear of attacks by Japanese planes fighting the Allied Powers. Japan had already attacked Pearl Harbour in 1941 and that instilled fear among the Britishers that this could prove to be a target as well.

A made-in-India bridge: Unlike now, during the British Era, not only the raw materials but even the finished product were made in England and assembled here. Even the former Sir Bradford Leslie's pontoon bridge — different parts were constructed in England and shipped to Calcutta. However, it incurred a huge cost. Owing to the ongoing WWII (1939-1945) all the steel (26,000 tonnes) that was to come from the UK were diverted for the war effort in Europe. Out of total steel required for the bridge, only 3,000

tonnes were supplied from England. The remaining 23,000 tonnes were supplied by India's Tata Steel and even the erection work was reassigned to a local engineering firm of Howrah — the Braithwaite, Burn and Jessop Construction Co.

Trams used the bridge: As lakhs of commuters daily cross the bridge now either by foot on on cars and buses, but during its initial days of existence, trams used to ply on the bridge transporting people to and fro from the twin cities. In fact, the first vehicle to use the bridge was a solitary tram. The tram services on the bridge were discontinued in 1993 owing to rise in vehicular traffic.
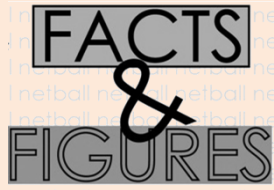
Facts & Figures

Concrete is the **second** most consumed material on the planet by human beings (first is water). Annually, over 3 metric tons per person concrete is produced globally.

The Empire State building is designed to be a lightning rod. In fact, it is struck by lightning more than 100 times every year.

The Burj Khalifa can apparently be seen from 90 kms. Yes! this gigantic architecture is visible from a distance of approximately 295276 feet.

Hong Kong is the city with the highest number of skyscrapers. It has a total of 308 skyscrapers taller than 150 meters.

The Panama canal was one of the most difficult engineering projects ever. It is estimated that more than 25,000 workers lost their lives during the construction.

The Great Wall of China cannot be seen from space with naked eyes. Rumors that the astronauts can see the long architecture with naked eyes is completely false.

Sagrada Familia, a Roman catholic church located in Spain is still unfinished. However, the construction was started back in 1882. The same is expected to be finished by 2026.

The Empire state building was the first to have 100 floors and was the tallest building of the world from 1931 to 1972.

The tallest turbine in the world, Vestas V164 in Belgium has rotor tips that reach over 220 meters (722 feet) above the ground.

The Hoover dam is made of enough concrete to make a two lane highway from New Delhi to Thiruvananthapuram. That's around 2800 kms (4000 miles)

Nearly a **third of Germany is powered by renewable energy**. Peak-generation from combined wind and solar reached a previous all-time high of 74% in April 2014.

The Millau Viaduct is the highest bridge being 343 meters high. That's more than the height of Eiffel Tower. A 90-story building extends that high.

The Pan-American highway is the longest highway in the world. It is 47,958 kilometers long and travels through 14 countries.

The Eiffel tower is made of iron weighing more than 10000 tons. It is named after the engineer Gustave Eiffel, whose company designed and built the tower

The Petronas towers are the twin towers with deepest foundations. 104 concrete piles, ranging from 60 to 114 meters (197 to 374 ft) deep, are bored into the ground.

Highway 1 is Australia's longest highway of total length of approximately 14,500 kms. It is one of the longest national highways in the world.

The Delaware Aqueduct in New York is the longest pumping tunnel in the world. It extends up to 137 kms in length.

The Zhaozhou Bridge is the oldest standing bridge in China and the world. It is the oldest segmental arch bridge built in 605 AD standing for 1400 years now.

Technical Gadgets

Ubtech Walker

Robots are everywhere at CES this year, and Ubtech's biped contains multitudes. The Walker is prepared to tackle your security needs, patrolling your home's perimeter, detecting motion and recording incidents with its integrated camera. And when it's quitting time, it can dance and play games. Pretty good for a robot with no arms.

Ubtech hasn't yet specified price or availability.

Misty I

The Misty I, on the other hand, is but a wee baby robot -- though one born into an esteemed family that's laser-focused on its future. Misty Robotics is the spin-off startup created last year by Sphero founder Ian Bernstein and Tim Enwall, who came from Nest Labs. Their goal: cultivate a community of developers that can build up Misty's skill set over the next decade.
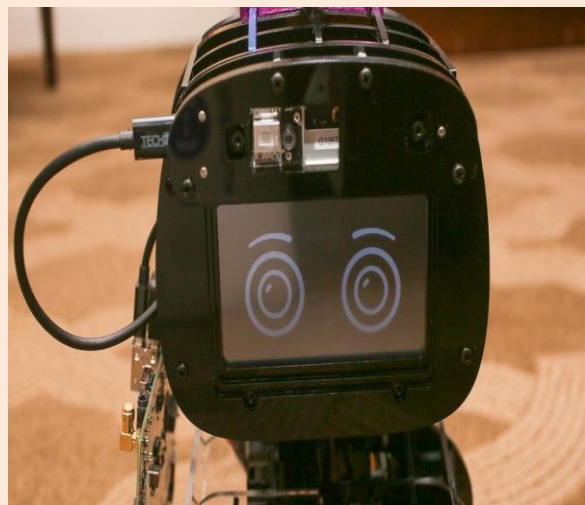
The Misty I Developer Edition will be available in February for $1,500 (about £1,100 or AU$1,900) to a "dozen" or so early partners.

Smacircle S1 folding eBike

Smacircle, based in Shenzhen, China, claims it's built the world's most compact and lightweight foldable eBike. Weighing in at roughly 15 pounds (6.8 kg), the bike can be folded into a small backpack and locked using your phone.

Available for preorder now on Indiegogo for $650 or £479 or AU$825 (the price will eventually go up to $1,500 or £1,100 or AU$1,900), the S1 starts shipping this month.

Fenix AR augmented-reality helmet

Skully Technologies launched an ill-fated Indiegogo campaign in 2016, raising nearly $2.5 million in preorders for a motorcycle helmet with AR features, and then folding. Backers of that campaign will soon receive the Fenix AR -- a helmet with a rear-view camera that displays a 180-degree view on a transparent display. It supports turn-by-turn navigation and (when connected to a phone via Bluetooth) voice commands, making phone calls and playing music.

The Fenix AR will be available for purchase later this year for $1,899 (about £1,400 or AU$2,400).

IMEC EEG headset

This EEG headset from Belgian research center Imec can assess your emotional state based on signals from the front of your brain. There are therapeutic applications, sure, but it also has the potential to improve your memory when you're learning, match music to your mood or even adjust your emotions by changing your music.

Pricing and availability have not been announced.

FF91 Faraday Future with Stealth Combat finish

The all-electric FF91 Future, shown here in the Stealth Combat finish, looks seriously cool, is autonomous-ready and, according to Faraday, goes from 0 to 60 in 2.39 seconds -- which would make it the fastest-accelerating SUV in the world.

Though there's no word on price yet, Faraday says the FF91 will hit customer driveways later this year.

Intel Volocopter

Intel CEO Brian Krzanich used his keynote to show off the Volocopter, an autonomous passenger drone, which he called "essentially a flying car." Volocopter's CEO Florian Reuter said the self-flying drone is "extremely simple to fly, quiet and when running on its batteries, emission free."

The Volocopter won't be available in the US until it receives approval from the Federal Aviation Administration
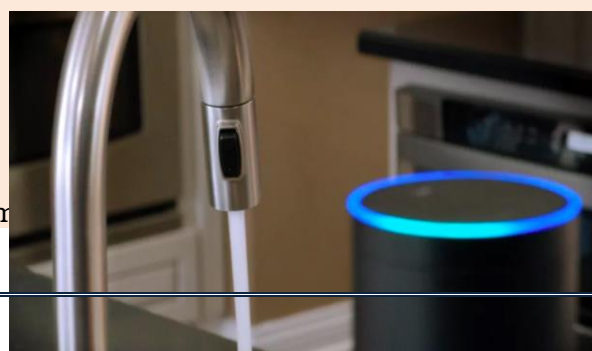
L'Oreal UV Sense

The makeup master has developed a battery-free wearable that measures UV exposure. At only 2mm thick and 9mm in diameter, the tiny electronic sensor can be worn on a fingernail or pair of sunglasses and, via an app, will give you warnings about sun exposure.
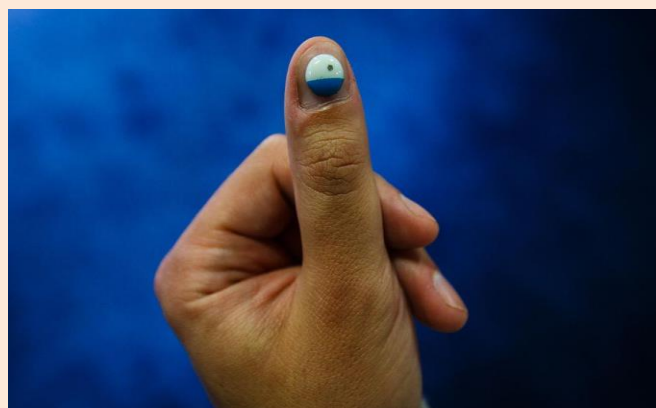
It's available exclusively through dermatologists in 2018 with a global launch planned for 2019. Estimated pricing is $40 or less (roughly £30 or AU$50)

Delta's Alexa faucet

"That's too cold, Alexa!" Delta's Wi-Fi-connected and Alexa-

powered smart faucet lets you use voice commands to turn the water on or off, pour out a specific amount or adjust the temperature.
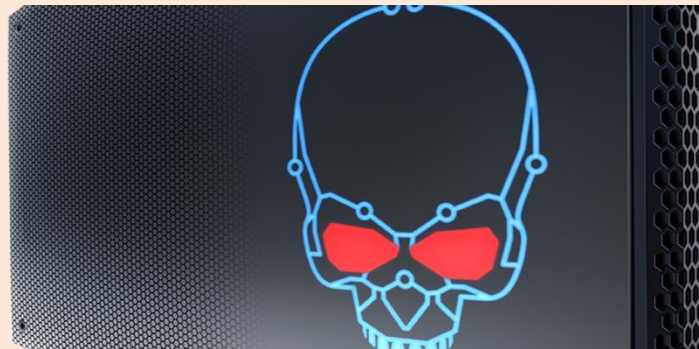
Asus ROG antibezel kit

This picture isn't of one super-long screen, it's three screens next to each other. The bezels are hidden, though, by Asus' new antibezel kit. It uses lenses to refract the content on the screen edges at a 130-degree angle -- essentially using a sort of stealth technology to hide them.

Intel's eighth-gen G series with AMD

Intel and AMD, rivals in the CPU game, have teamed up to bring us a new set of processors. Specifically, they merge Intel's Core i5 and i7 processing power with AMD's Radeon RX Vega M graphics technology. Like Nvidia's Max-Q architecture, this new setup will make gaming laptops smaller and thinner. And both the Dell XPS 15 and HP Spectre X360 already use versions of the chip.

Sports Updates

Swiss tennis player Roger Federer (World No. 2) has retained his Men's Singles title by winning 2018 Australian Open. In the summit clash played at at Melbourne, he defeated Croatia's Marin Cilic (World no. 6) in five sets 6-2, 6-7, 6-3, 3-6, 6-1. It was Federer's sixth Australian Open Crown (earlier won in 2004, 2006, 2007, 2010 and 2017) and overall 20th Grand Slam singles titles. With this, he joins elite group of Margaret Court, Serena Williams and Steffi Graf who have won 20 or more Grand Slam singles titles.

20 and counting

Roger Federer defeated Marin Cilic in five sets on Sunday to win the Australian Open, his 20th Grand Slam title. The Swiss maestro is now four clear of Rafael Nadal

MOST MAJORS WON

Player	Titles	Winning span
Roger Federer	20	2003-2018
Rafael Nadal	16	2005-2017
Pete Sampras	14	1990-2002
Roy Emerson	12	1961-1967
Novak Djokovic	12	2008-2016

Of course, winning is an absolute dream come true — the fairytale continues... after the great year I had last year, it's incredible

FEDERER DOWN THE YEARS

● Australian Open ● French Open ● Wimbledon ● U.S. Open

2003 04 05 06 07 08 09 10 11 12 13 14 15 16 17 2018
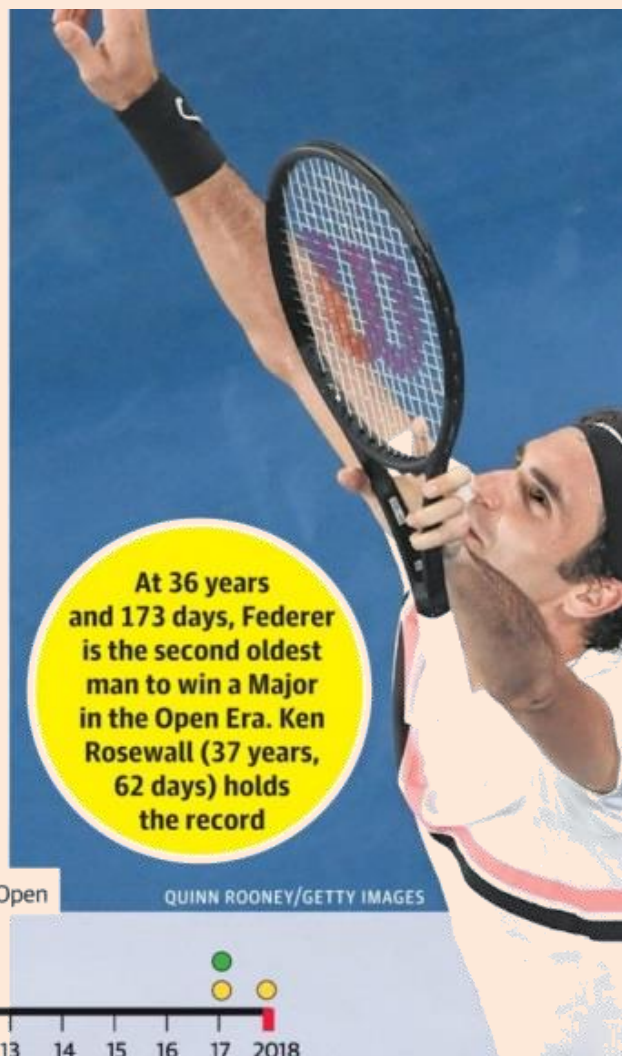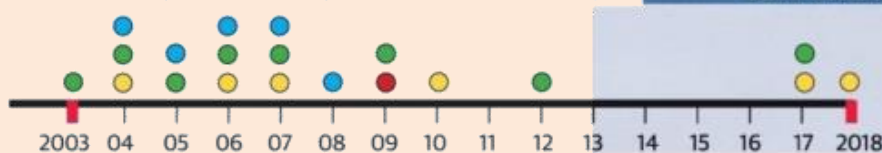
At 36 years and 173 days, Federer is the second oldest man to win a Major in the Open Era. Ken Rosewall (37 years, 62 days) holds the record

QUINN ROONEY/GETTY IMAGES

India has won Under-19 ICC World Cup 2018 by defeating Australia by eight wickets. With this victory, India became first nation to win Under-19 World Cup four times. It was India's sixth appearance in the under-19 World Cup finals. Australia had made into the final five times, winning the tournament three times.

The 2018 final match was played at Bay Oval, Mount Maunganui, New Zealand. Australia, choosing to bat first after winning the toss had set target of 216 runs (10 wickets) in 47.2 overs. India in the chase scored 220-2 in the 39th over. India's opener Manjot Kalra who scored 101 runs from 102 balls became second player in history to score century in ICC U-19 World Cup final, after Unmukt Chand. Indian team was led by Prithvi Shaw and was coached by former batsman Rahul Dravid.

Ace wrestler Navjot Kaur won gold medal in the 65kg freestyle wrestling category of Senior Asian Championships held in Bishkek, Kyrgyzstan. With his, she created history by becoming 1st Indian woman wrestler to win gold medal in Senior Asian Championships. This was also India's 1st gold in the championship. In the final match the women's 65kg freestyle wrestling category; Navjot defeated Japan's Miya Imai by 9-1 score.

Navjot Kaur

Navjot Kaur (born 10 February 1990) represents India in the women's freestyle wrestling in 67 kg category. She had won Bronze medal (67 kg category) at 2014 Glasgow Commonwealth Games. In Asian Wrestling Championships, she had won Bronze medal in 2011, Silver medal in 2013. In 2013 Wrestling World Cup held in Ulanbaatar she had won Bronze medal.

World champions Australia won 27th edition of the Sultan Azlan Shah cup 2018 for record 10th time. In the final match held in Ipoh, Malaysia, Australia defeated defending champion England by narrow 2-1 goal margin. Earlier, in the classification match for third place, Argentina defeated host Malaysia by 3-2 goals.

Azlan Shah Hockey Tournament

It is an annual international men's field hockey tournament held in Malaysia. It has been named after 9th king of Malaysia and 'Father of Malaysian Hockey' Sultan Azlan Shah also avid fan of field hockey. It was established in 1983 as biennial sporting event. It was converted into annual event after 1998, following its growth and popularity. Australia has won prestigious tournament for record 10 times in 1983, 1998, 2004, 2005, 2007, 2011, 2013, 2014, 2016 and 2018. India had won it 4 times 1985, 1991, 1995, 2009 and shared it in 2010 with South Korea.

India's talismanic football team captain Sunil Chhetri (33) became joint second highest international goal scorer among active players along with Argentine superstar footballer Lionel Messi. He achieved this feat after he scored his 64th goal in match between India and Kenya in Intercontinental Cup summit clash in Mumbai, Maharashtra. In this match, Chhetri scored two goals.

Sunil Chhetri's performance

It was Chhetri's 102nd international match, making him only the second Indian to feature in 100 international matches after former skipper Bhaichung Bhutia. In terms of goals scored, he and Messi are behind Portuguese superstar Cristiano Ronaldo who has 81 goals on his name from 150 matches. Chhetri and Messi are currently in joint 21st position in all-time list of goal scorers. Chhetri is just one goal below former Chelsea FC and Ivory Coast footballer Didier Drogba (65 from 104 matches). In terms of number of goals per match, Chhetri is better than Meesi (who is currently considered as best player in the football world). Chhetri has scored 0.62 goals per match as against 0.52 of Messi (64 goals from 124 matches). He is also better goal average than Cristiano Ronaldo (0.54 per match).
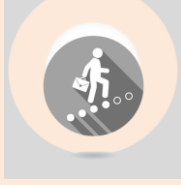
Job & Career

Interview Preparation Tips for Freshers

Whether you're a Fresher or Experienced we understand how difficult it's for you To Crack HR Interview. Let's check out here **Interview Preparation Tips for Freshers** as well as Experienced. Interview plays an important role although it's considered also as a difficult task in the life of service man and service women but how to make this task effective and efficient by your smart answers, behavior, attitude and so on is matters everything. So, in this page we are sharing Best Techniques To Crack HR Interview, this tricks help you about how to face the problems in exams and how to tackle the hurdles if arrived in the Interview at the same time. These below discussed Strategies, How to Crack Questions and Answers in Interview along with listed Do's & Don'ts will help you to prepare for success in interview.

Rejections or bad impression are few among things that make even the most confident people into a nervous man. Really believe us that a little bit of proper preparation can go a long way!!!! Guys, it's easy to handle fear that appears while appearing for a personal interview... well, by just changing your attitude and approach towards interview you can beat this stress out.... Self-confidence is what; very important in regard to share have success, so always appear in interview with this attitude... surely, this approach will boost your Self Confidence. So, let's explore more;

Interview Preparation Tips for Freshers

1. **Arrive on Time;** Note or mark the address somewhere, work out how you're going to get there and, if you can, do a practice run. Aim to arrive 15 minutes before the interview is scheduled to start.

2. **Review Your CV;** it's true that interviews put you under lots of pressure and can easily make you forget important things. So, Look over your CV if it becomes the focus of the discussion, you'll be ready to talk about your experience, achievements and qualifications well.

3. **Do Your Research;** Research all about the job account carefully and note what skills and strengths they require. Check the company's website and learn what they do and their goals are. You can use this information to explain how your personal qualities match up with the company's needs. Find out more in How to research an employer.

4. **Dress Appropriately;** Yes! It is a common complication occurs during and we all get confused about What to wear for an interview varies

according to the industry, but your clothes should always be clean and smart. Looking for inspiration? Check out fashion stylist and blogger Victoria Martin's tips.

5. **Be Positive;** Yes be positive about yourself, the position you're going for and your past experience.

6. **Go into Detail;** Think about several examples of times when you accomplished something important. Be specific about what the task was, how you went about it, any problems you faced and what skills or strengths you used to succeed.

7. **Emphasizes All Your Strengths;** There are probably lots of people going for the job with related work skills and qualifications to you, so make yourself stand out from the crowd. Highlight strengths that aren't just a result of a job or a course.

8. **Be Honest;** never lie in a job interview. It's very easy to get caught out.

9. **Listen;** be attentive while attending an interview and carefully listen to what he/he saying and wait until they have finished, and you'll be able to give the best answer.

Gujarat Infrastructure Development Board

Post Name: Planning Assistant

Qualification and Experience:

The Candidate to be appointed as planning assistant shall:

Not be more than 30 years of age.

Possess a Bachelor's Degree in Architecture or in Civil Engineering or should have Bachelor's Degree in Planning recognized by ITPI or other equivalent qualification of any recognized University.

Have at least 2 years of post-qualification experience of Town Planning and Urban Development sector.

Possess basic knowledge of computer application and should be conversant with Auto-Cad.

Mumbai Railway Vikas Corporation Ltd.(MRVC)

Mumbai Railway Vikas Corporation Ltd.(MRVC), a Public Sector Undertaking of Govt. of India under Ministry of Railways (MoR), incorporated on 12th July 1999 under Companies Act, 1956, executes the projects under Mumbai Urban Transport Project (MUTP). The Corporation already executed number of suburban rail improvement projects in Mumbai and extended suburbs for enhancing suburban rail transportation capacity. The corporation is also involved in the planning and development of Mumbai Suburban Rail system.

MRVC is looking for dynamic and result oriented candidates for manning the following position for execution of projects in Mumbai Suburban Area:

NAME OF THE POST	DISCIPLINE	NO. OF POSTS
PROJECT ENGINEER(CIVIL)	CIVIL ENGINEERING	18
PROJECT ENGINEER(ELECTRICAL)	ELECTRICAL ENGINEERING	12
PROJECT ENGINEER(S&T)	ELECTRONICS & TELECOMMUNICATION ENGINEERING	4

Ministry of Shipping

Asst. Executive Engineer (Civil)

Educational requirements: Degree or Equivalent in Civil Engineering from a recognized University & Institutions

References:

www.mrvc.indianrailways.gov.in

www.cnet.com

wikipedia.org

G H PATEL COLLEGE OF ENGINEERING & TECHNOLOGY

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