PRAJYA

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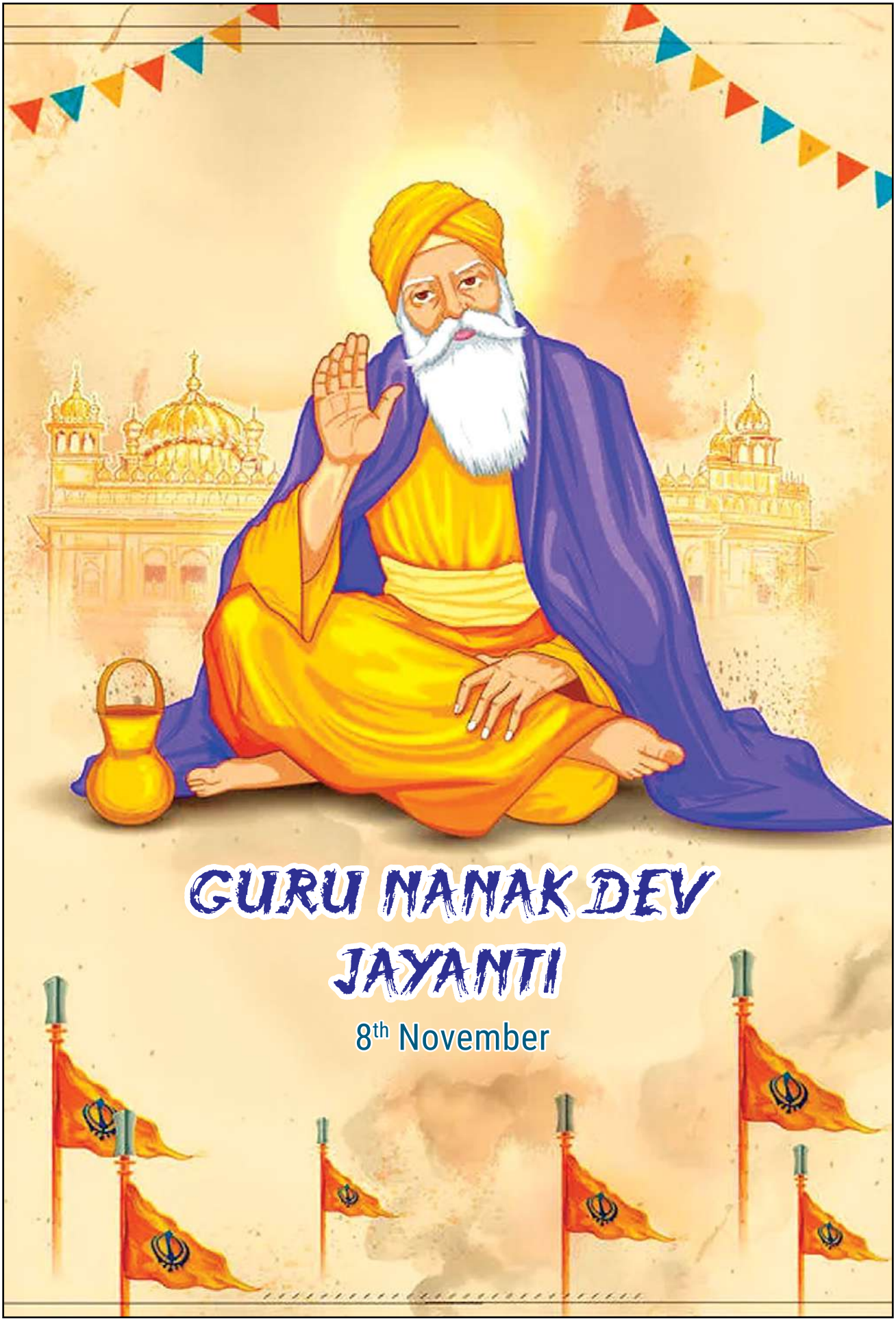
India's G20 Presidency


GURU NANAK DEV
JAYANTI
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THE PRAJYA TEAM

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FROM THE EDITOR'S DESK

अप्राप्यंनामनेहास्तिधीरस्यव्यवसायिनः।

(Translation: Nothing is unattainable to the one who has courage and works hard.)

It takes a lot of courage to face competition from a behemoth like China. Courage alone doesn't take one far. It has to be supplemented by hard work. There was ample evidence of this when Kalyani Cast Tech successfully manufactured and exported cargo containers worth USD 1.4 million to Europe.

Zoho Corporation is another illustrious example of unconventional entrepreneurship. With the courage of conviction to not spend too much on marketing and instead working hard to let its products speak for themselves, it has spread its customer base and grown to be a billion-dollar company. Its policy of "spending or reinvesting around 50% of its profits in new projects" is praiseworthy.

India's first successful flight test of the Ballistic Missile Defence (BMD) interceptor missile AD-1 capable of neutralising long-range missiles and aircraft is yet another exemplar of resoluteness and diligence. The indigenous missile showcases India's potential in newer realms placing India in the company of advanced nations with such air defence capability.

Success is inevitable when resolve and industriousness go together.

Read, reflect and revert with your thoughts and feelings.

We look forward to your support and suggestions.

Editorial Team

- Editorial Team

Dear Readers,

There have been requests from quite a few readers for hard copies of Prajya. We understand that quite a high percentage of our young readers keep revisiting some articles, and a handy print version within reach induces one to read more often, highlight things and make notes. This also partly contributes to students spending less screen time. The Prajya team is happy to bring to you the issue in print.

However, there are few things that we want to be careful about:

A. We don't want to print more than what is required and

B. Keep the cost of the print version (plus postage) within reasonable limits.

Please note that the access to free online e-version will continue.

So, it will greatly help us if you could fill in the details in the link provided.

http://bit.ly/Prajya

Happy Reading !

Watch out for the Monthly Prajya Quiz online

Visit https://davchennai.org/publications/prajya-news-magazine/

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General Knowledge

Kum Sunita D Behera

RISHI SUNAK

first Indian-origin Prime Minister of the U.K.

On 25th October 2022 - 10, Downing Street saw its first Hindu Prime Minister, Rishi Sunak.

He was born into an immigrant family in Southampton, England. His grandparents moved from Punjab to East Africa pre-independence and later laid their roots in the UK.

Sunak attended Winchester College and Lincoln College, Oxford – both known to produce Prime Ministers and Finance Ministers. As he studied, he waited tables at a Southampton Indian restaurant. He completed his MBA from Stanford University, where he met his wife, Akshata Murthy, fashion designer and co-founder of Infosys.

During his study at Oxford, he had the opportunity to intern at the Conservative Party head quarters. Before stepping into the political world, he worked at various investment banking firms and financial companies.

In the year 2010, Rishi Sunak started working for the Conservative Party. His political career saw him wearing various hats.

Boris Johnson, the 55th Prime Minister of England appointed Sunak as the Chief Secretary to the Treasury in 2019. He later went on to become United Kingdom's 4th youngest finance minister. During his tenure, he powered through many challenges that the government and the citizens faced during the Covid-19 Pandemic.

In a series of resignations under Johnson's government due to conflicts, Rishi Sunak left his post in July 2022. It led to Boris Johnson stepping down as the Prime Minister and Leader of the Conservative Party.

After Johnson, Liz Truss became the next Prime Minister. Sunak landed second place in the ministerial race.

She had the shortest tenure of 45 days in the history of U.K., as she failed to contain the rising inflation.

Rishi Sunak, who enjoyed massive support from the MPs, was voted to become the next Prime Minister and Leader of the Conservative Party.

Kum Kavya R

Cargo containers *exported to Europe*

The **Make in India** initiative has been a focused effort in making India not just self-sufficient but also a global manufacturing hub capable of exporting its goods and services to other countries. In line with its successes, the initiative has garnered another success: the export of cargo containers to Europe, despite direct competition from China.

Manufactured and exported by Kalyani Cast Tech, 360 shipping containers worth USD1.4 million have been shipped to Europe in October 2022. KCT is one of the few manufacturers in the world capable of competing with the stranglehold that China has in the cargo container manufacturing industry. Most countries across the world import containers manufactured in China.

With the successful completion of this order, KCT is in line to make a big change. Despite just being an internationally certified manufacturer for only 3 years, they have made great strides in ensuring that their processes are top of the line and customizable to meet the need of customers.

With a current daily export capacity of 12 containers per day, KCT is on increase their manufacturing capabilities to meet higher demands. Their success will surely pave the way for more indigenous companies in many other industries to become global manufacturers.

Shri Mrithyunjay GN

Immersive view is coming to Google Maps

Google has made some major changes to its search algorithm in recent times, which was the topic of discussion for its event **Search On 2022**, held on 28th September 2022. It announced 4 new updates for Google maps, with the most exciting one being the immersive view.

Google Maps first launched to help people navigate to their destinations. Today, from live traffic to finding a restaurant in your neighborhood, Maps has evolved to be much more. Advances in **computer vision and AI** have further increased the scope of Google Maps.

Immersive view helps you see stunning multi-dimensional views of an area with critical information like the weather, traffic and busyness layered on top. Using predictive modeling, immersive view automatically learns historical trends for a place to determine what an area will be like tomorrow, next week and even next month.

In the coming months, immersive view will be launched in Los Angeles, London, New York, San Francisco and Tokyo on both Android and iOS. This will consist of 250 photorealistic aerial views of global landmarks that span everything from the Tokyo Tower to the Acropolis.

Along with immersive view, Google Maps has also introduced Live View, eco-friendly routing and neighbourhood vibe. These new visual and intuitive maps will allow the users to experience a place as if they are there in person, from the comfort of their homes. This will also help users make informed decisions and explore new things.

Kum Silpa Nandakumar

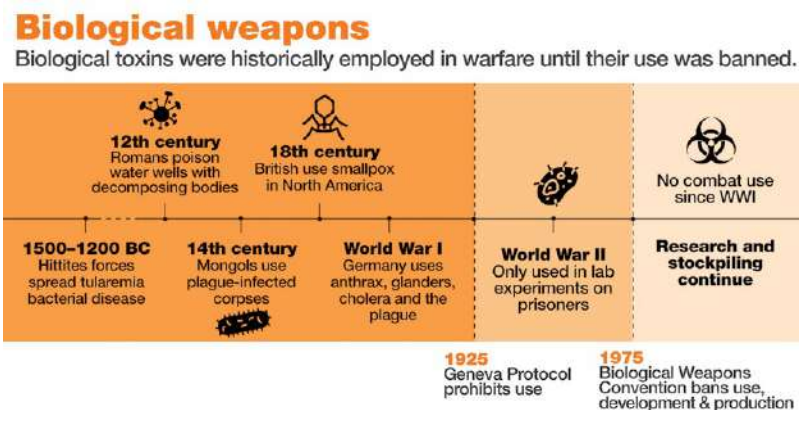
Probe on Ukraine's alleged bio weapons India abstains from UNSC

A motion was set to establish a commission to investigate claims by Moscow that the US and Ukraine are carrying out **"military biological activities"** in Ukraine. India abstained from voting at the United Nations Security Council (UNSC). The alleged bio arms are carried out in violation of the Biological Weapons Convention (BWC). Only two members - Russia and China - voted in favour of the probe.

A resolution at the Council needs to get at least 9 positive votes for it to be adopted.

Counsellor A. Amarnath from India's Permanent Mission to the UN said that India gives high importance to BWC and remains committed to enhancing its effectiveness and strengthening its implementation.

India had recently abstained from another one, which sought to declare Russia's annexation of 4 Ukrainian territories as invalid.



Biological Weapons Convention is the first non-discriminatory disarmament treaty banning a complete category of weapons of destruction. It supplements the 1925 Geneva Protocol signed at a conference held by the League of Nations.

Smt Shubha T R

LULA DA SILVA
Brazil's New President

77- year - old Luis Inacio Lula da Silva, veteran politician, popularly called Lula, made his big presidential comeback, when he defeated incumbent Jair Bolsonaro to become Brazil's next president.

Lula will become Brazil's 39th president in Jan 2023. He garnered 50.9% of the polled votes as against his opponent Bolsonaro's 49.1% votes.

Lula was born on 27th October 1945 into a poor peasant family, worked as a shoeshine boy and peanut vendor before becoming a metal worker at the age of 14.

In February 1980, he with few others, founded Brazil's Workers Party. He is credited with building extensive social welfare programmes during his Presidential (2003-2010) tenure which helped push 20 million citizens out of poverty. There were also corruption allegations against him and he was jailed for 580 days. His conviction though was later annulled by Brazil's Supreme Court.

Shri Sampath D

Netanyahu
returns to power in ISRAEL

Former Prime Minister Benjamin Netanyahu returned to power after winning the national election, with current Prime Minister conceding defeat. He is the longest - serving prime minister, having been elected for five times over the course of 15 years.

Netanyahu was officially tasked with forming a new government, paving the way for his comeback as the head of what is widely expected to be the most right-wing coalition in the country's history.

Final results showed Netanyahu's Likud Party and its

partners capturing a solid majority in Israel's Knesset, or parliament. It puts an end to Israel's political instability, for now. It also leaves Israelis split over their leadership and over the values that define their state: Jewish or democratic. In a gesture of inclusivity Netanyahu promised to serve all Israelis, those who voted for his party and those who did not – stating that it is his responsibility.

Netanyahu who has won a mandate to form the government will have to overcome the issue of corruption charges which are under investigation.

PM Modi has congratulated Netanyahu for his success in the Israeli general elections. He said, he is looking forward to continue their joint efforts to deepen the India-Israel strategic partnership.

Shri Sampath D

G20 Ministers launch billion-dollar fund to tackle next pandemic

There is an imperative need to improve the global health architecture because of the COVID-19 pandemic.

The G20 Presidency of Indonesia, in partnership with the Pandemic Fund Secretariat, officially launched the Pandemic Fund at a high-level event. It is an important step toward strengthening global health architecture.

The launch of the fund was welcomed as a key element of a solution in reducing risks from epidemics and pandemics in the most vulnerable parts of the world and contributing to a healthier and safer world.

Developed with Indonesia's and Italy's leadership during their respective G20 presidencies, the Pandemic Fund has US$1.4 billion in seed funding already committed by 24 donors.

G20 countries have provisionally agreed to set up a multi-billion-dollar fund that health officials have said will finance efforts like surveillance, research, and better access to vaccination for lower-to-middle income countries, among others. The World Bank, which will house the fund, and the World Health Organization (WHO), which is advising on the facility, estimates that the annual funding gap for pandemic preparedness is $10.5 billion.

There is an imperative need to improve the global health architecture because of the COVID-19 pandemic that has been sweeping the globe since the beginning of 2020.

Shri Sivakumar R

Google penalized

The Competition Commission of India (CCI) has imposed a fine of ₹1,337.76 crore on Alphabet-owned Google for **"abusing its dominant position"** in markets related to the Android mobile device ecosystem. CCI also restricted Google from certain revenue sharing agreements with smart phone makers, noting that such practices helped Google to secure exclusivity for its search services "to the total exclusion of competitors."

The CCI, India's competition watchdog is empowered under the **Competition Act, 2002, to check whether companies especially large tech companies are not eliminating healthy competition in the market and creating a monopoly.**

The CCI's current case in India has identified almost identical abuse of the Android ecosystem by Google as the European Union's Competition watchdog did in 2018. The over $4 billion fine on Google imposed by the EU regulator was confirmed by the European Court this year along with most of the anti-competitive practices identified by the probe.

In an earlier investigation, CCI had **imposed a fine of ₹ 135.86 crore** on Google for "search bias" and abusing its dominant position in online general web search and web search advertising services in India in February 2018.

In November 2020, CCI directed a probe into the issue of mandatory use of Google Play Store's payment system for paid apps and in-app purchases.

The investigation will also examine whether Google's payment business Google Pay has abused its dominance in the digital payments market. The decision in this case is expected to be announced by CCI in about a year's time.

Companies like Google may be very large and mighty, but with CCI around, the consumer is assured of a choice amongst similar quality products at a fair price.

Companies like Google may be very large and mighty, but with CCI around, the consumer is assured of a choice amongst similar quality products at a fair price.

Kum Kavya R

11 crore farmers to benefit from PM-Kisan Scheme's 12th instalment

Over the past 3 years farmers have received financial aid of ₹2.6 lakh crores.

On 17th October 2022, PM Modi released the 12th instalment of PM-KISAN, the government's flagship scheme to benefit farmers across the country. The latest instalment of this 3-year programme aims to provide financial benefits of up ₹ 16,000 crores to more than 11 crore eligible farmers across the country.

As per the scheme, eligible farmers receive financial benefit

of ₹6000 per year in instalments of ₹2000, every 4 months. These funds are directly transferred to the farmers. Over the past 3 years farmers have received financial aid of ₹2.6 Lakh crores.

This instalment is meant to provide farmers with the funds ahead of the rabi season. In the PM Kisan Samman Sammelan 2022 event, PM Modi stressed on the importance of the government supporting the farmers.

The two-day event also featured presentations and events conducted by more than 1500 agri-startups and was attended by more than 13,000 farmers from across the country.

Shri Sivakumar R

One District One Product Scheme

The objective of One District One Product scheme is to convert each district of the country into a manufacturing and exporting hub.

In SEZs, business and trade laws are different from the rest of the country for increasing trade balance and investment, employment, job creation and effective administration.

The Central Government has initiated the One District One Product (ODOP) in different States/UTs of the country. ODOP is seen as a transformational step towards realizing the true potential of a district, fueling economic growth, generating employment and rural entrepreneurship, taking us to the goal of **Atmanirbhar Bharat.** ODOP is operationally merged with '**Districts as Export Hub (DEH)**' initiative of the DGFT, Department of Commerce, with the Department for Promotion of Industry and Internal Trade (DPIIT) as a major stakeholder.

ODOP is aimed at fostering balanced regional development across all districts of the country enabling holistic socio-economic growth across all regions.

The objective is to convert each district of the country into a manufacturing and exporting hub by identifying products with export potential in the district. Institutional mechanism in the form of State Export Promotion Committees (SEPCs) and District Export Promotion Committees (DEPCs) have been constituted in 36 States/UTs to provide support for export promotion and address the bottlenecks for export growth in the districts.

ODOP was initially launched by Uttar Pradesh Government in 2018 and after its success, the Central Government adopted the plan for the entire country in 2019-20.

In Andhra Pradesh, Bihar, Chhattisgarh, Gujarat, Haryana, Himachal Pradesh, Jharkhand, Karnataka, Madhya Pradesh, Maharashtra, Punjab, Rajasthan, Sikkim, Telangana, Uttar Pradesh and West Bengal, exports have increased more than thrice since the introduction of ODOP-DEH plan. Maharashtra and Tamil Nadu have registered increases of 218% and 192 % respectively.

To conclude, what the **SEZ (Special Economic Zone)** initiative of the earlier times lacked, the current ODOP initiative is plugging the gaps and the immediate results foretell that India will soon emerge as a global export powerhouse.

Kum Kavya R

Carbon footprint reduction measures by Indian Railways

Indian Railways is on a mission to achieve net zero carbon emissions by 2030 to become the world's largest Green Railway.

Railway Minister Ashwini Vaishnav flagged off India's first indigenously manufactured aluminium goods train rake from Bhubaneshwar, Odisha on 16th October 2022. With 61 wagons, this new rake is 180 tonnes lighter than the current steel rake resulting in increased speed and lower power consumption for the same distance. They also carry 5-10% more load.

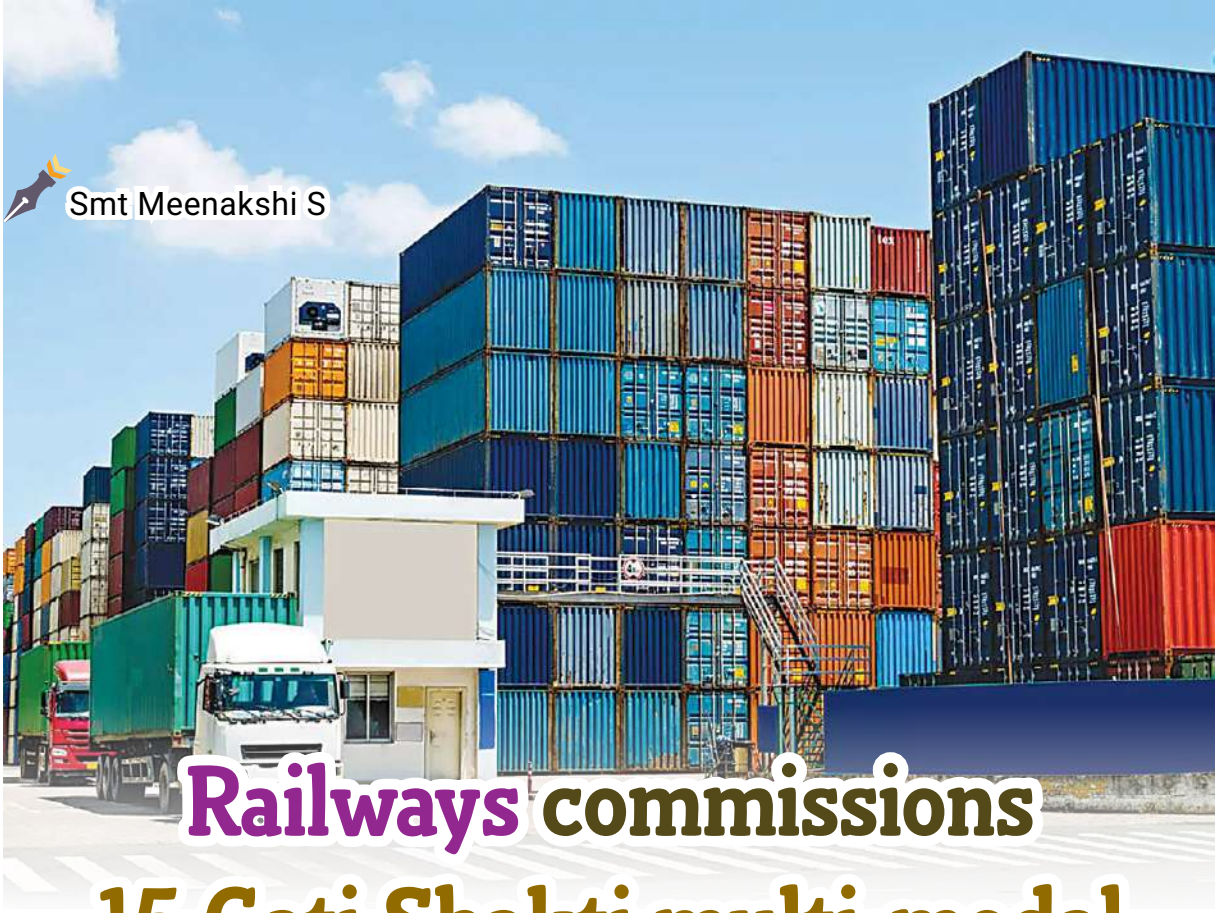
"These wagons save 14,500 tonnes of CO_2 emissions, have more carrying capacity, consume less energy and are corrosion-resistant. They are 100 % recyclable and even after 30 years, they will be as good as new. These aluminium wagons will enable us to achieve our climate goals," the minister said.

The aluminium rake was manufactured in collaboration with Besco Limited Wagon Division and aluminium major Hindalco. These freight rakes will help fast-track the country's ambitious plan to modernise freight transportation and enable significant carbon savings for the Railways.

IR is planning to deploy more than one lakh wagons in the upcoming years. This would constitute around 5-20% shift to aluminium which can potentially reduce annual CO_2 emissions by around 25 lakh tonnes.

IR is on a mission to achieve net zero carbon emissions by 2030 to become the world's largest Green Railway. Additionally, the Indian Railway Board has gone paperless from 1st November 2022. All types of correspondence in its various departments are being done through e-filing on the e-office system.

The railway ministry believes that the implementation of e-office will promote a more transparent, efficient and systematic work culture.



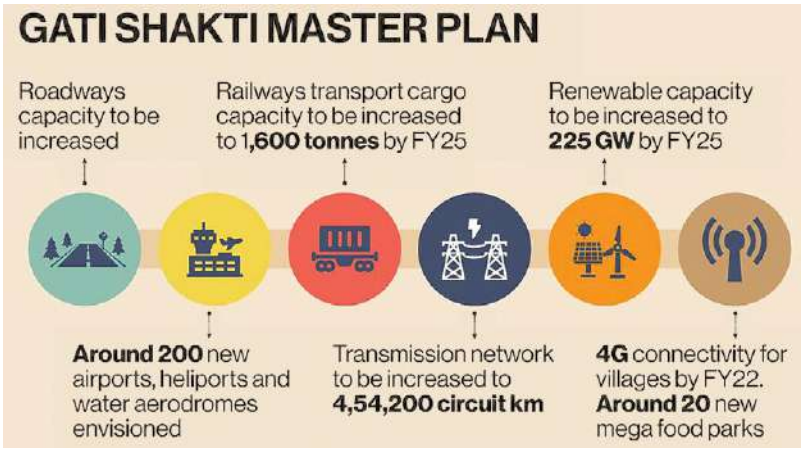
Smt Meenakshi S

Railways commissions 15 Gati Shakti multi-modal cargo terminals

Cargo terminal is a place where goods or container cargos are stored in order to transfer them to other locations. Cargo terminals may include accessory warehouses, rail roadyards, storage yards and offices. PM Gati Shakti is an initiative to accelerate transportation, cut logistics cost and bring synergy among ministries. The first Gati Shakti Cargo Terminal was commissioned in Asansol Division by the Indian Railways.

Railway Ministry has commissioned 15 more 'Gati Shakti Multi-Modal Cargo Terminals' and these are being developed for handling rail cargos.

Around 96 more locations have been provisionally identified for development of GCTs. It has been targeted to commission 100 GCTs within the next three financial years. Location of GCTs is being decided on the basis of demand from industry and potential of cargo traffic. GCTs are being developed by private players and can be developed on non-Railway land or fully/partially on Railway land.



Kashi -Thamizh Sangamam

Sangamam of scholars and intellectuals to discuss, debate and exchange ideas on various aspects of the society is an ancient Bharathiya tradition.

The Event

PM Modi inaugurated the month-long programme of the Kasi-Thamizh Sangamam at Varanasi on 19th November 2022. This event organized by the Ministry of Education in collaboration with the ministries of Culture, Textiles, Railways, Tourism, Food Processing, Information & Broadcasting and the Government of Uttar Pradesh, is to celebrate the historical, cultural and civilizational bond between India's North and the South.

This endeavour is consistent with the emphasis of the National Education Policy 2020, on integrating the wealth of ancient Indian knowledge systems with modern systems of knowledge. IIT Madras and the Banaras Hindu University are the knowledge partners for the event.

About 2400 people from Tamil Nadu will visit Kashi for eight days to get familiarized with the ancient knowledge shared by Kashi and Tamil Nadu. Seminars,lectures and discussions are organized as part of this event.

Sangamam or Sangam

Sangamam can be defined as the confluence of individuals, rivers, thoughts, ideologies or knowledge. Sangamam of scholars and intellectuals to discuss, debate and exchange ideas on various aspects of the society is an ancient Bharathiya tradition and it has resulted in invaluable and unmatched literary treasures. Ancient Thamizh land has had three Sangams. ***Tholkappiyam, Ettuthogai*** and ***Pathupattu*** are all products of the Sangam. The sangamam of rivers for example are also celebrated.

Kashi-Thamizh Connection

While inaugurating the event the PM said,

"Embracing entire India, Kashi is the cultural capital of India whereas Tamil Nadu and Tamil culture is the centre of India's antiquity and glory."

King Parakrama Pandiyan installed the Sivalingam brought from Kashi at Sivakasi in Tamil Nadu.

The spiritual and religious importance of Kashi can be gauged from the fact that almost every Hindu feels that life is incomplete without a pilgrimage to Kashi.

It was King Parakrama Pandiyan who installed the Sivalingam brought from Kashi, at Sivakasi in Tamil Nadu.

Later it was Adhiveerarama Pandiyan who built the Kasi Viswanathar Temple at Tenkasi after returning from a pilgrimage to Kasi. There are hundreds of Shiva temples in Tamil Nadu that bear the name of Kashi.

Kumara Guruparar Swamigal of the Dharmapuram Adheenam, consecrated the Vishveswaralingam at Kedarghat in Varanasi. He composed the ***Kasi Kalambagam***. Later his disciples also built a Kasi Viswanathar Temple at Thirupanandal in Thanjavur district. There is also a strong connection between the traders dealing in silk saris and textiles from Varanasi and Kanchipuram.

About 70 Tamil families live in the Hanuman Ghat Mohalla in Varanasi. This is called mini–Tamil Nadu and these families are keeping the Tamil traditions alive.

Well Begun

This event, being the first of its kind could just be the beginning of resurrecting and rejuvenating the shared heritage and the people-to-people bond between various regions of India.

More such events involving the various states of India would strengthen the unity and integrity of India. That is after all the objective of the **'Ek Bharat, Shreshtha Bharat'**(Ore Bharatham, Unnadha Bharatham) initiative.

National poet Subramanya Bharati said:

"Muppadhu Koti muga mudaiyal uyir moympura ondrudaiyal,

Ival seppumozhi padhinett udaiyal enin sindhanai ondrudaiyal."

"முப்பது கோடி முகமுடையாள் உயிர் மொய்ம்புற ஒன்றுடை யாள்- இவள் செப்பு மொழிபதி னெட்டுடை யாள் எனிற் சிந்தனை ஒன்றுடையாள்."

(**Rough translation:** India has thirty crore faces but is united in soul; she speaks eighteen different languages but is united in thought.)

Kum Anu Narayan

ISRO's heaviest rocket places 36 satellites in orbit

In a significant technological leap for the Indian Space Research Organization (ISRO), India's heaviest rocket has successfully placed 36 broadband communication satellites of U.K.-based One Web.

The Launch Vehicle Mark 3 (LVM3) has a gross lift-off weight of about 640 tons including the total combined satellite weight of about 5.7 tons. Its powerful cryogenic engine enables the LVM3 to deploy heavy payloads at altitudes as low as 600 km. Taking off from the second launch pad of the Satish Dhawan Space Center SHAR, Sriharikota at 12:07 am, the rocket injected the satellites into orbit about 75 minutes later.

Part of a commercial agreement between New Space India Ltd. and the UK-based One Web Ltd, this achievement has pushed the LVM3 into the global commercial launch market, marking the second launch vehicle available to customers after PSLV.

This marks One Web's 14th launch and represents more than 70% of the planned total of Low Earth Orbit (LEO) satellite fleet. If successful, this fleet would provide high-speed, low-latency internet connectivity worldwide.

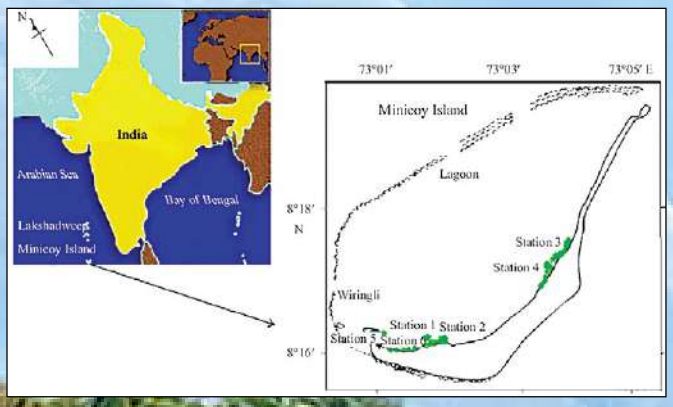
Formerly known as the Geosynchronous Satellite Launch Vehicle Mark 3 (GSLV Mark 3), ISRO renamed the rocket when it proved successful in placing the satellites in Low Earth Orbits. This triumph also improved the credibility of the GSLV Mark 3 Launch Vehicle, which is currently being human-rated for Gaganyaan mission to carry astronauts to space.

DO YOU KNOW?

Low Earth Orbit Satellites are placed less than 1,000 km above the earth's surface, while satellites in Geostationary Equatorial Orbit are placed 35,000 km above the surface.

Kum Meenakshi R

Minicoy Thundi & Kadmat Beach become Blue Beaches



Blue Flag is a unique eco-label certification presented to coastal areas all over the world as a mark of environmental distinction. The Foundation for Environmental Education (FEE), a non-profit organization with its headquarters in Copenhagen, Denmark, runs the Blue Flag initiative in support of the United Nations.

According to the FEE, Blue Flag is one of the world's most recognized voluntary awards for beaches, marinas and sustainable boating tourism operators. To qualify, stringent environmental, educational, safety and accessibility criteria must be met and maintained.

Twelve famous beaches in India already have this certification and now two more - Minicoy Thundi and Kadmat from Lakshadweep have entered the coveted list.The beaches are a part of the country's relentless journey towards building a sustainable environment. These give a sense of pride to the community and attract tourism.

Kum S. An. Ananiya - Student

Plastic paves the way

Did you know that India generates 3.6 lakh million tonnes of plastic in one year? What if this plastic waste could be put to good use by constructing roads? Indian Border Road Organisation (BRO) lays and maintains roads across the borders of the country. As a part of its Special Campaign 2.0, BRO has paved an 8 km long road using shredded plastic waste spanning across Arunachal Pradesh and Bhutan.

This includes a 4.5 km long road in Pheuntsholing – Thimpu in Bhutan, a 2.5 km long road on Balipara Chardur Tawang and 1 km long road on Roing Koronu Paya, the border regions of Arunachal Pradesh.

Apart from being an effective means to manage waste, these plastic roads are likely to be more durable. Additionally, trials for construction of plastic roads have been carried out in Noida, Mumbai, Kolkata and Maharashtra. BRO is now taking efforts to maximise the use of shredded plastic in resurfacing roads as a step towards a cleaner and greener India.

Smt Sarada Devi Ravutu

SRI RAM MANDIR FOUNDATION TO BE EARTHQUAKE PROOF

The Ram Janambhoomi Teerth Kshetra Trust has been undertaking the Ram Mandir's construction on the banks of the river Saryu, in Ayodhya. The special stones from the mines of Gukanhalli and Adigullu villages on the outskirts of Chikkaballapur district of Karnataka will be used to make the foundation heat, water and earthquake-proof.

The stones had been tested at a 1500 ^{0}C temperature and also by exposing them to freezing temperatures for more than 24 hours, making them totally waterproof.

Each block will be 5 feet long, 3 feet thick, and 2.75 feet wide. According to the geologists, the granite rocks formed in Chikkaballapur about 2500 million years ago are hard in nature and there would be no impact of an earthquake on them.

Kum Gaayathri

Pilot for Digital Rupee

Digital rupee (e₹) will be used for issuing virtual currency for transactions in Government Securities.

Sweden is the country which is fully cashless.

A Central Bank Digital Currency (CBDC) or Digital Rupee is a digital form of currency note issued by a central bank. It is substantially not different from bank notes, but being digital it is likely to be easier, faster and cheaper.

Apart from reducing the transaction cost, having a digitised currency will make it easier for governments to access all transactions happening within the authorized networks. Another benefit of digital currency is that they do not get torn, burnt or physically damaged. Neither can they be physically lost.

CBDC can be classified into two types

- **Retail(CBDC-R):** This would be potentially available for use by all.
- **Wholesale (CBDC-W)** is designed for restricted access to select financial institutions.

India's first digital rupee pilot project for wholesale (e₹-W) has been rolled out by RBI. Digital rupee (e₹) will be used for issuing virtual currency for transactions in Government Securities. The money will be in virtual form but the digital rupee will not be decentralised, it will be regulated by the RBI. The digital rupee will be completely legal and acceptable to the Indian Government.

The digital rupee rollout is a big step ahead in India's digital transformation. It will be an excellent opportunity for India since it will potentially increase the ease of doing business, as well as improve resilience and security of the entire payment's infrastructure.

Nine banks namely State Bank of India, Bank of Baroda, Union Bank of India, HDFC Bank, ICICI Bank, Kotak Mahindra Bank, Yes Bank, IDFC First Bank and HSBC have been identified for participation in the pilot.

Shri Sampath D

Hyperscale Data Center in Greater Noida

Yotta D1 can house 5000 racks across seven server floors and offers fail-safe, 48-hour power backup on full load.

Hiranandani Group's Data centre business, Yotta Infrastructure has unveiled North India's first hyperscale data center, Yotta D1. It was inaugurated by Chief Minister of Uttar Pradesh, Yogi Adityanath and Rajeev Chandrasekhar, Union Minister of State for Electronics & IT and Skill Development & Entrepreneurship in the presence of leading IT leaders and government officials.

The first of 6 data center buildings built and made operational in a record time of 20 months has been set up with an investment of around ₹1,500 crores. Once fully operational, Yotta D1 will see an additional investment of ₹ 5,000 crores in IT equipment.

The Indian Government has been pushing IT companies to host its customer's data locally, and on account of it, the Data Center market in India has opened up investment opportunities.

Yotta D1, a part of the Yotta Greater Noida Data Center Park, is located near National Capital Region, providing an impetus to the region's digital economy. It spans over 3,00,000 sq. ft., across ground plus 7-floors and offers an IT load capacity of 28.8 MW. Yotta D1 can house 5000 racks across seven server floors and offers fail-safe, 48-hour power backup on full load.

The company also entered into an MoU with the Government of Uttar Pradesh to invest ₹39,000 crore in a phased manner over 5-7 years. The investment will be used to construct the data center campus and procure IT equipment and other hardware for Yotta customers.

Chi Shashank Ranganathan - Student

First Smart Instrumentation Factory in Bengaluru

DO YOU KNOW ?

Smart Instrument is an electronic device that uses embedded sensors and software to monitor and report on its own performance and the performance of the system it is part of.

ABB (Asea Brown Boveri, a Swedish-Swiss multinational corporation) inaugurated its smart instrumentation factory in Bengaluru for flexible mass production of measurement and analytical devices.

This factory supports the region's ambition of transforming into a global design and manufacturing hub. In line with the **"Make in India"** programme aimed at supporting the local economy, the factory is equipped with state-of-the-art manufacturing technology to meet the growing demand for instrumentation devices that enables more efficient and sustainable customer operations.

The factory also features innovative first-of-its-kind automated welding, enabling a significant productivity improvement and helping in manufacturing a product of superior quality.

The modular production flow design increases flexibility and enables additional manufacturing capacities to introduce new products in line with future customer expectations.

Smt Sumathi Ramakrishnan

Mangarh Dham declared a National Monument

Mangarh Dham is a symbol of the sacrifice of tribals. PM Modi declared Mangarh Dham in Rajasthan as a national monument, which is a memorial for around 1,500 tribals who were massacred on 17th November 1913 by the British Army in the hills of Manghar. It is located in Banswara district on the Gujarat-Rajasthan border, with a large tribal population.

The tribals and forest dwellers' fight against the British was led by social reformer Govind Guru. The massacre that took place six years before Jallianwalla Bagh is sometimes referred to as the **"Adivasi Jallianwala".**

Kum Silpa Nandakumar

Bengaluru airport becomes the first to offer 5G Network

Kempegowda International Airport at Bengaluru became the first airport in India to get access to ultra-fast 5G network.

Bharti Airtel launched its 5G services in Terminal 2 in one of South India's busiest airports. It allows all Airtel customers with 5G smartphones to enjoy blazing speeds while they are at the arrival, departure terminals, lounges, boarding gates, migration, immigration areas, security gates, baggage claim belt area etc.

5G services or fifth generation services of Airtel was launched on 1st October in Delhi, Mumbai, Chennai, Bengaluru, Hyderabad, Siliguri, Nagpur and Varanasi.

The company claims that it runs on a technology that has the most developed ecosystem which ensures that all 5G smart phones can smoothly connect to the network.

4G SIM will also automatically connect to the 5G network once it is in the vicinity. Airtel is planning to have its 5G coverage across urban India by December 2023 and across the country by March 2024.

Shri Mrithyunjay GN

97% of mobiles used by Indians are Made in India

Production Linked Incentive scheme aims to give companies incentives on incremental sales from products manufactured in within the country.

We live in a digital age and there is no bigger evidence for that than the devices we use on a daily basis. Across India the usage of smart phones has grown exponentially. This has also created a great need for new, reliable devices. In 2014, 90 % of smart phones in India were imported, mostly from countries like China.

But Union Minister of State for Electronics and Information Technology Rajeev Chandrasekhar revealed in a recent interview that, with the success of initiatives as **Amritanirbhar Bharath** and **Make in India,** over 97 % of mobile phones sold in India have been manufactured in the country itself.

Speaking at the inauguration of a new mobile phone manufacturing facility of Taiwanese electronics major **Pegatron** at Chengalpattu, the minister said that this drastic shift in manufacturing efficiency has made India an important player in the technology manufacturing sector, and has also created increasing demand for skilled labour in various other supporting sectors.

India is currently the second largest manufacturer of mobile phones. In Tamil Nadu there are 5 manufacturing plants worth Rs. 6500 crores, a result of the Indian Government's **Production Linked Incentive (PLI) scheme.** This has created over 45,000 direct jobs.

PLI scheme aims to give companies incentives on incremental sales from products manufactured in within the country.

The scheme invites foreign companies to set up units in India and also encourages local companies to set up or expand existing manufacturing unit, to generate more employment and cut down the country's reliance on imports.

The Union Minister stressed that the next leap in development will come in India's increase in production capacity of other electronics, such as laptops, smart watches and so on.

He also stressed the developments happening through the government's **"Internet for All"** plan which aims to provide India's 120 crore citizens fast and reliable internet access by 2026.

Shri Nagarajan R

LONGEST STEEL DECK

on India's longest Sea Bridge

Once opened to the traffic, the bridge will cut the travel time between Mumbai and Navi Mumbai from 2 hours to 25 minutes.

The Mumbai Metropolitan Region Development Authority (MMRDA) has successfully launched the Mumbai Trans-Harbour Link's (MTHL) longest Orthotropic Steel Deck (OSD).

At 2,400 MT, these OSDs weigh as heavy as six large-sized aircraft and give a navigation space of 180 m to ships traversing under the bridge without obstruction. These steel deck superstructures, being used for the first time in India, will carry the vehicular load more efficiently and improve the load-carrying capacity of the bridge as compared to a concrete superstructure. These also weigh less than concrete girders.

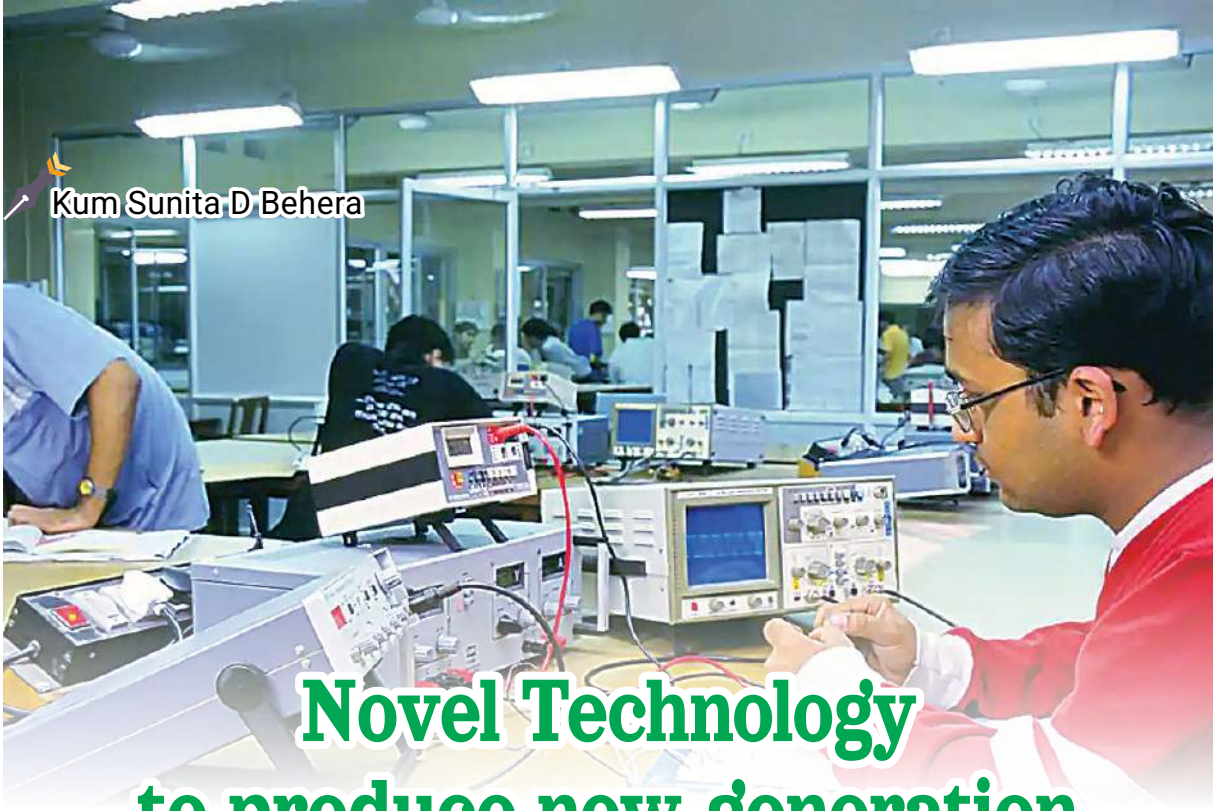
Up till now, five OSDs have been launched on the MTHL. The first one was launched on 3rd January and was 70-metres long. There will be a total of 70 OSDs on MTHL.

Once opened to the traffic, it will cut the travel time between Mumbai and Navi Mumbai from 2 hours to 25 minutes. The bridge will also open up real estate development opportunities with affordable houses near Mumbai.

When completed, it would be the longest sea bridge in India and would cater to 70,000 vehicles daily. MTHL is a 22 km long, 6-lane bridge with about 16.5 km long over the sea and about 5.5 kms long via duct on land on either side.

The sea bridge will be equipped with an intelligent transport system (ITS) and other amenities. Traffic conditions on the stretch will be monitored and managed from the traffic control centre with the help of CCTV cameras and related facilities installed.

The project cost is pegged at ₹17,843 crores. About 75 % of piers work is complete and the overall project progress achieved is about 67 % to date. The project is expected to be complete by 2023.



Kum Sunita D Behera

Novel Technology to produce new-generation Super Abrasive Tools

- **Abrasives** can be sandpapers, honing stones, polishes, grinding wheels, etc. These form the core of some of the biggest industries like the manufacturing of automobiles, aerospace, mining and dental surgery – all these require components and ultrasmooth surfaces that are highly precise.
- **Super abrasives or abrasives** can be sharp or hard materials used to shape and polish softer, less resistant materials. These include natural and synthetic substances in the formula found in household cleaners and the polish used for diamonds.

A research team from IIT Madras led by Dr Amitava Ghosh has used advanced chemical bonding technology to create an application-specific novel formulation for various purposes in the manufacturing industry.

This new technology can now produce super-abrasive tools to meet high productivity requirements that can withstand more grinding force and are energy efficient with enhanced tool life.

The tools made of this bond have remarkable strength and characteristics that are superior to those of their commercial counterparts.

This indigenous tool fits the requirement of the **Make-in-India** mission and is under lab validation. It is ready to be taken up by a start-up or any industry for a full-scale launch.

Sri Krishna Kumar C.S

Two women officers in top positions in CRPF

Seema Dhundiya

Annie Abraham

The mission of Central Reserve Police Force (CRPF), a federal police organisation under the Ministry of Home Affairs (MHA), is to enable the government maintain rule of law, public order and internal security effectively and efficiently.

Efforts are taken to ensure higher representation of women in the armed forces. In 1986, the CRPF became the first Central Armed Police Force (CAPF) to induct women in combat.

Recently, two women officers of CRPF, **Seema Dhundiya** and **Annie Abraham** have been promoted to the rank of Inspector General. Seema Dhundiya will head the Bihar sector of the CRPF while Annie Abraham will be posted as the head of the Rapid Action Force (RAF) of the CRPF.

Indian Culture always respects and promotes Nari Shakthi (Power of Women). The lives of these two brave women officers will serve as an inspiration to the girls of our country to chase their passion and achieve success in life.

Shri Sivakumar R

India's cost effective manufacturing facility

The US News and World Report states that India has been ranked as the nation with the cheapest manufacturing cost ahead of China and Vietnam. According to the report, out of 85 nations, India has secured the 31st position in the Overall Best Countries ranking.

The report evaluates 85 countries across 73 attributes. The attributes are grouped into 10 sub-categories; including adventure, agility and entrepreneurship, open for business, social purpose and quality of life. **Under the open for business sub-category, India has scored 100 % when it comes to cheap manufacturing costs.**

The list of top 10 countries with the cheapest manufacturing costs, which is headed by India, also includes Thailand (fourth), Philippines (fifth), Bangladesh (sixth), Indonesia (seventh), Cambodia (eighth), Malaysia (ninth) and Sri Lanka (tenth).

China, which is India's prime economic competitor in South Asia is placed in the second spot behind India. Vietnam, which has attracted a slew of apparel and footwear manufacturers over the past few years, has been placed at the third spot.

Initiatives of the Central Government such as Production-Linked Incentive (PLI) schemes in several sectors, the ODOP initiative and the reduction of compliance burdens have helped build India as a major **'manufacturing hub'** and a big alternative to China.

The list of top 10 countries with the cheapest manufacturing costs is headed by India.

Shri Bharath

EWS QUOTA

– an affirmation or negation of equality ?

Those whose annual family income is less than ₹8 lakhs shall be eligible for this reservation.

The Act

On 7th November 2022 a Constitution Bench of the Supreme Court of India upheld the validity of the 103rd Amendment Act of the Parliament by a 3-2 majority. This Act that was passed by the Parliament in 2019 provided for the reservation of 10% for employment in government jobs and for admission to government and private unaided educational institutions for the Economically Weaker Sections (EWS) amongst those who are not eligible for the existing caste based reservation meant for the OBCs, SCs and STs. The minority educational institutions have been exempted.

The amendment introduced changes in Articles 15 and 16 of the constitution that includes the right to equality. Those whose annual family income is less than ₹8 lakhs shall be eligible for this reservation. Households with more than 5 acres of agricultural land or 1000 sq.ft. of residential land shall be excluded. This was challenged by Janhit Abhiyan and others.

History of economic criteria based reservations

There were three earlier attempts at reservations based on economic criteria – one by M G Ramachandran in Tamil Nadu in 1979, second by Narasimha Rao in 1992 and the third by Anadiben Patel in Gujarat in 2016. All the three met with either political backlash or judicial roadblocks. The Gujarat Government's appeal is pending before the SC.

Janhit Abhiyan vs Union of India

Let us try to understand in simple terms the vital details of this case and Judgment.

The key issues involved in this case are:

a) While the constitution provides for reservations on the basis of social and educational

backwardness, can it be granted solely based on economic criteria?

b) Does this reservation violate the basic structure of the constitution?

c) Can the SCs, STs, OBCs and other communities that are beneficiaries of the reservations be excluded from the ambit of this reservation?

d) Can the total percentage of reservation breach the 50% ceiling laid down by the SC?

e) Can states stipulate reservations in private educational institutions that do not receive government aid?

On the first question there was unanimity and all the 5 judges ruled that reservations can be based on economic criteria alone.

In fact the dissenting judges U.U.Lalit CJI and S.R. Bhat J invoked the obligation of the state to address economic inequalities as outlined in the Directive Principles of State Policy of our constitution. The amendment is constitutionally valid on this count.

The majority of three judges D. Maheswari, B.M.Trivedi and J.B. Pardiwala felt that this amendment did not violate the basic structure of the constitution. On the other issues while the majority upheld the amendment, the dissenting judges did not dwell on them as they felt that the amendment is unconstitutional.

Possible impacts on the society and governance

This judgment has wider ramifications on many fronts- political, social, legal,constitutional and governance. There are opinions and analyses supporting the judgment and against it. Review petitions are being filed for a review of the judgment.

The operational constraints and challenges in implementation notwithstanding, this Act is a step in the right direction. It is a step forward towards individual centric governance from the current group centric approach. It is also a movement towards a class based society from a caste based one.

This act seems to have factored the aspirations and the dynamics of the polity today and expands the logic of affirmative action in India. It is also a proactive step to prevent any counter mobilization that may happen against reservations. In a vast and diverse country like India where there are still great disparities, reservations cannot be wished away.

But there is a crying need to set up a permanent and independent body to objectively study the impact of reservations on the beneficiary groups and dynamically change the criteria and the groups/ individuals that would be eligible for reservations every decade.

This could take us to the egalitarianism that our Constitution makers dreamt of. If properly implemented, the 103rd Amendment Act could be a major step towards that goal.

Smt Sumathi Ramakrishnan

Tamil Nadu's 17th Wildlife Sanctuary

India has about 543 wildlife sanctuaries that cover an area of 118,918 square kilometres in total.

The Tamil Nadu government has declared an area in the reserve forests of Krishnagiri and Dharmapuri as the Cauvery South Wildlife Sanctuary. The area has a unique ecological, faunal and floral significance. It is also an important elephant habitat in Southern India.

It is home to 35 species of mammals, 238 species of birds, Leith's soft-shell turtles, smooth-coated otters, marsh crocodile, and four-horned antelopes. Grizzled giant squirrels and Lesser Fish Eagles which are exclusively dependent on the Cauvery River and its riverine forest system are also found here.

The sanctuary will connect Cauvery North Wildlife Sanctuary of Tamil Nadu with Cauvery Wildlife Sanctuary in neighbouring state of Karnataka thereby forming a large, contiguous network of protected areas of wildlife.

The landscape maintains further continuity to the Nilgiris Biosphere through Malai Mahadeshwar Wildlife Sanctuary, Billigiri Rangaswamy Temple, Tiger Reserve and Sathyamangalam Tiger Reserve.

ABOUT THE SANCTUARY

JUMBO SIGHTING: Elephants at the new sanctuary

Location | Between Cauvery North Wildlife Sanctuary in TN and Cauvery Wildlife Sanctuary in Karnataka

In pipeline | Wildlife authorities to write an integrated management plan for the sanctuary

Tiger movements | As tiger sightings have been reported in Cauvery Wildlife Sanctuary, chances are the animals may enter the newly notified sanctuary

Important elephant habitat | A sizeable population of elephants is reported

Formation | Ten reserved forests in Krishnagiri and six in Dharmapuri have been clubbed to form the sanctuary

Shri Mrithyunjay GN

India's G20 Presidency

This presidency will be an opportunity for India to focus on global good.

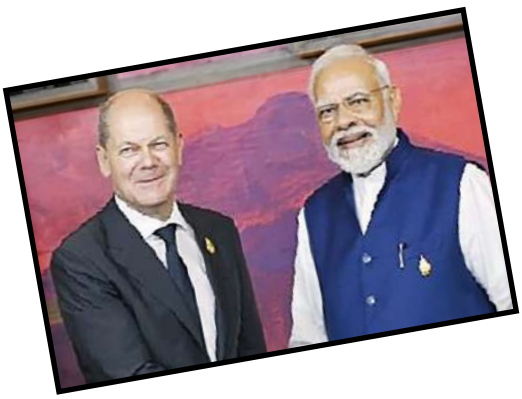
In 2023, India will become the president of G20. Founded in 1999 and convening every year since 2008 G20 or Group of Twenty, is an intergovernmental organization of 19 countries and the European Union. It aims to address issues related to global economy, climate change, sustainable development and so on.

Each year, one of the member countries holds the G20 presidency and decides the issues that the organization will focus on. On 1st December 2022, India will assume the presidency from Indonesia and will convene the G20 leaders' summit in the country in early 2023.

Speaking in his monthly radio broadcast **Mann Ki Baat** PM Modi proclaimed that this presidency will be an opportunity for India to focus on global good as it is capable of providing solutions for various global issues.

During the unveiling of the new G20 Logo, the PM emphasized the principle of *Vasudhaiva Kutumbakam* and the theme of **One earth, one family, one future.** India will prioritize sectors of energy, agriculture, trade, digital economy, employment, environment and health, anti-corruption, countering terrorism, and women empowerment.

Advancing Sustainable Development Goals for 2039 will also be a major focus during the presidency. These are 17 goals adopted by the United Nations to promote development of countries across the world.



In the post-pandemic economy, India's focus is expected to be on multilateral development. During its presidency, India plans to hold 200 meetings of different G-20 tracks in cities across the country. These meetings will mark some of the most significant diplomatic outreach that India has ever undertaken.

India has, as of September 2022, become the fifth largest economy in the world, pushing United Kingdom to the 6th place. The presidency gives India a chance to ensure that its growth will be used to help support some of the developing countries, which may not have a powerful voice.

India is expected to host leaders from all member countries, including Russia and the US. This might be a challenge due to the ongoing conflict between them. But India's doctrine of strategic autonomy, maintaining a diplomatic middle ground is expected to provide avenues to ensure that diplomacy and cooperation prevail.

This will be a chance for India to prove itself as a unifying force for good; also grow and uplift its international allies along.

Kum Kavya R

India's first private rocket launched

DO YOU KNOW ?

- **A single stage spacecraft is capable of achieving orbital speed starting from Earth's surface without using separating parts.**
- **Suborbital flight means that the vehicle will cross the boundary of space but it will not be travelling with sufficient speed to stay in orbit once it gets there. So, it will come back to Earth. A spacecraft/vehicle needs to reach a speed of 28,000 km/h or more to stay in orbit.**
- **Solid-fuel propulsion systems carry the fuel and oxidizer mixed together in a solid state, which is pumped into the combustion chamber to propel the rocket forward.**

India's first privately developed rocket, Vikram-S was launched at 11.30 AM on 18th November 2022 from Indian Space Research Organisation's (ISRO) launchpad in Sriharikota. This is a monumental achievement for India in terms of private sector participation in space programmes.

Developed by Hyderabad-based startup Skyroot Aerospace Private Limited, Vikram-S is a 6-metre-tall launch vehicle named after Vikram Sarabhai who is known as the father of India's space programme. It is a single stage suborbital space launch vehicle powered by solid-fuelled propulsion.

It was developed within a record time of two years by incorporating advanced technologies including carbon composite structures and 3D-printed components.

Vikram-S reached a peak altitude of 89.5 km, higher than NASA's designated Earth-space boundary of 80 km, but short of the Kármán line (about 100 km above Earth), considered the boundary of space. This was a technology demonstration flight to showcase the capabilities of the company. The rocket will help validate the technologies that will be used in the subsequent Vikram-1 orbital vehicle of Skyroot.

Kum Inshirah Rizwan Khan - Student

Justice D.Y.CHANDRACHUD sworn in

On 9th November 2022, Dhananjaya Yashwant Chandrachud was sworn in by President Draupadi Murmu as the 50th Chief Justice of India.

Justice D.Y. Chandrachud has an

- an LLM from Harvard
- an LLB from Delhi University
- an Honours in Economics and Mathematics from St. Stephen's College, Delhi
- a Doctorate in Judicial Sciences from Harvard University, USA

DO YOU KNOW ?

His father Y.V. Chandrachud was the 16th and the longest serving CJI. (February 1978 to July 1985).

CAREER

- Former Chief Justice of Allahabad High Court and judge of Bombay Court.
- Former ex-officio executive chairman of the National Legal Services Authority whilst holding the position of J1 (the senior-most judge after the CJI)

Some of his most impactful judgements were written in cases dealing with Constitution (45) issues. Among the sitting Supreme Court judges, Justice Chandrachud has written 73 judgements - the most by any.

Shri Mrithyunjay GN

ZOHO is now a billion-dollar company

An intro to Zoho

Zoho is a privately held, Indian multinational tech company that was founded in 1996 by Sridhar Vembu and Tony Thomas. It offers over 55 business applications unified in a single operating system known as the 'Zoho Office Suite'. It has more than 80 million users around the world. Headquartered in Chennai, it has 12 offices operating in 9 countries around the world. Its current workforce is estimated to be over 11,000 employees.

Indian Software-as-a-Service (SaaS) firm Zoho announced on 9th November that it has crossed USD 1 billion in global revenue, with India leading the growth. India's annual revenue increased by 77% in 2021, which makes up almost 10% of its global revenue.

"We have also crossed an important milestone of USD 1 billion in annual revenue. While growth has slowed down quite a bit in 2022 over 2021, our diversified product portfolio and the fact that we save money for customers has helped us so far.

We hope to continue to serve our customers by bringing the highest quality offerings at very affordable prices," said Zoho CEO and co-founder Sridhar Vembu.

By offering unified solutions across various categories (customer experience, employee experience, marketing, collaboration, etc), that also integrate well with third-party solutions, Zoho is witnessing increased adoption from mid-and-large size businesses, especially in India.

The company also announced that it plans to open 100 network PoPs (point of presence) around the world in the next five years for providing users with faster networks, and also double investment for technologies such as blockchain and artificial intelligence (AI).

Linguistic Survey of India

As per the survey, there are only four language families in India, the Indo-Aryan, Austro-Asiatic, Dravidian and the Tibeto-Burman.

India is a kaleidoscope of culture, cuisines, languages, religious beliefs and landscapes.

The landscape that became India was made into states, based on the language spoken by the majority of people in that geographical area. But are we really a land of entirely different tongues?

The first Linguistic Survey of India conducted under Sir. George Abraham Grierson, based on the census of 1891, resulted in the understanding that the Indian tongues could be classified into five major families, namely, Indo-Nesian, Austra-Asiatic, Karen, Man and Siamese-Chinese.

The confirmation of the vast number of mother tongues in the 1961 census led to more research and reclassification. Languages were studied for similarities and differences.

The survey is being carried out state by state, using a scientifically devised questionnaire. The results being published in a common template have led to the identification of a good number of mother tongues not recorded earlier. As per the survey, there are only 4 language families in India, the Indo-Aryan, Austro-Asiatic, Dravidian and the Tibeto-Burman.

Indo-Aryan tongues (574) - Punjabi, Gujarati, Assamese, Sindhi, Marathi, Kashmiri, Lahnda, Maithili etc.

Dravidian languages (153) - Tamil, Telugu, Kannada,Konda, Toda, Tulu, Kuvi, Gondi, Parji, Kolami etc.

Austro-Asiatic languages (65) - Santali, Mundri, Bhumji, Savari etc.

Tibeto-Burman Languages (226) - Lepcha, Sikkimese, Garo, Bodo, Manipuri.

Reports have been published for Orissa, Dadra & Nagar Haveli, Sikkim (Part I and II) and Rajasthan (Part I). The latest is for West Bengal (Part-1).

Bengali a part of the Indic group of the Indo-Aryan branch of the Indo-European family of languages has similarities with Oriya and Assamese.

People with Bengali as their mother tongue speak either Assamese, English, Urdu, Arabi, Santali, Oriya or Nepali, if they are bilingual. If trilingual, they speak languages spoken in far off geographical locations like Tamil Nadu and Kerala apart from the ones that the bilinguals speak. Santali, the third most populous language of West Bengal was partly covered in LSI-Orissa and is likely to be covered in the LSI of Bihar and Jharkhand also.

The phrase "Unity in Diversity" that we often hear is not a cliché. **The project of studying tongues distributed in contiguous states may one day help us realise that we are indeed one "linguistic area" just as we are cognizant of being in one "geographical area".**

Smt Sandhya Nair

IRCTC OFFERS MEDICAL TOURISM ONLINE

6.97 lac medical tourists visited India in 2019.

Medical tourism refers to the rapidly-growing practice of travelling across international borders to seek healthcare services.

Indian Railway Catering and Tourism Corporation (IRCTC) in an effort to improve its travel and tourism is aggressively marketing its medical tourism initiative through the network of hospitals, nursing homes and diagnostic centers empanelled with its technical partner.

Medical tourism refers to the rapidly-growing practice of travelling across international borders to seek healthcare services.

ADVANTAGES

- Cost-effective
- Shorter waiting time
- Quality healthcare
- Wide range of procedures available
- Access to specialists
- Availability of alternate treatments
- Access to cutting-edge technology
- Opportunity to explore new destinations

WHY INDIA?

- Doctors and surgeons with international exposure
- Medical professionals are fluent in English
- Top-of-the-line medical and diagnostic equipment available
- Indian nurses are of top quality
- Budget friendly
- First-rate service and luxury amenities

HOW TO USE

A customer has to **log in to the tourism portal of IRCTC** and fill up a basic enquiry form detailing his need of treatment.

Shri Nagarajan R

Bumper harvest of saffron in Kashmir

DO YOU KNOW ?

The botanical name of the flower is *Crocus sativus*. Once the flowers have been harvested, its stigmas must be plucked and dried for around 12 hours.

It takes between 15,000-16,000 flowers to produce 1 kilogram of saffron spice. In terms of labour, producing this amount takes 370–470 hours! It is this labour-intensive harvesting process that makes saffron so expensive.

Red gold, as they call saffron, is a legendary crop of Kashmir. Due to favourable weather conditions, there has been a 20 % increase in the harvest this year in comparison to last year. Demand for saffron is good due to which farmers are also getting a good return for their produce.

Saffron production

Year	Production (in tons)
2017	16.45
2018	5.2
2019	5.9
2020	6

A little above 16,000 families are engaged in saffron cultivation in the valley compared to 19,000 a few years ago. The Pampore area in Pulwama is the main hub for growing saffron. This year a kg costs ₹2.5 lakh. The use of saffron in puja and making sweets for festivals is considered auspicious. It provides great flavour and taste to dishes.

The saffron farmers indicated that the Geographical Indication (GI) tag will benefit them as it makes sure the purest Kashmiri saffron is sold in the market.

With the establishment of Spice Park in Dussu village of Pampore, consumers purchase pure saffron from the farmers at reasonable costs, and this has benefited the producers. Online bids are submitted by clients from numerous states and nations.

How to use Kashmiri Kesar?

Smt Shyamala Vishwanathan

National Sports Awards 2022

National Sports Awards is a collective name that is given to the 6 Sports Awards of the Republic of India.

The Ministry of Youth Affairs & Sports announced the National Sports Awards 2022 in November. The awardees received their awards from the President of India, Droupadi Murmu at Rashtrapati Bhavan on 30th November 2022.

National Sports Awards is a collective name that is given to the 6 Sports Awards of the Republic of India. This year's recipients are mentioned alongside under each category.

1. **Major Dhyan Chand Khel Ratna Award** is given for the spectacular and most outstanding performance in the field of sports by a sports person over the period of the previous four years.
   - Table Tennis player Sharath Kamal Achanta
2. **Arjuna Award** is given for good performance over a period of the previous four years and for showing qualities of leadership, sportsmanship and a sense of discipline.
   - Seema Punia (Athletics)
   - Eldhose Paul (Athletics)
   - Avinash Mukund Sable (Athletics)
   - Lakshya Sen (Badminton)
   - HS Prannoy (Badminton)
   - Amit (Boxing), Nikhat Zareen (Boxing)
   - Bhakti Pradip Kulkarni (Chess)
   - R Praggnanandhaa (Chess)
   - Deep Grace Ekka (Hockey)
   - Shushila Devi (Judo)
   - Sakshi Kumari (Kabaddi)
   - Nayan Moni Saikia (Lawn Bowl)
   - Sagar Kailas Ovhalkar (Mallakhamb)
   - Elavenil Valarivan (Shooting)

This year, for the first time, applications were invited only online and sports persons/ coaches/ entities were permitted to self-apply through a dedicated portal.

- Omprakash Mitharval (Shooting)
- Sreeja Akula (Table Tennis)
- Vikas Thakur (Weightlifting)
- Anshu (Wrestling)
- Sarita (Wrestling)
- Parveen (Wushu)
- Manasi Girishchandra Joshi (Para Badminton)
- Tarun Dhillon (Para Badminton)
- Swapnil Sanjay Patil (Para Swimming)
- Jerlin Anika J (Deaf Badminton).

3. **Dronacharya Award** is given to coaches for their outstanding and meritorious work on a consistent basis and for enabling sportspersons to excel in international events.
   - Jiwanjot Singh Teja (Archery)
   - Mohammad Ali Qamar (Boxing)
   - Suma Siddharth Shirur (Para Shooting)
   - Sujeet Maan (Wrestling)
4. **Rashtriya Khel Protsahan Puruskar** is given to entities (both in private and public sector), Sports Control Boards, NGOs, including sports bodies at the State and National level, who have played a visible role in the area of sports promotion and development.
   - TransStadia Enterprises Private Limited
   - Kalinga Institute of Industrial Technology
   - Ladakh Ski and Snowboard Association
5. **Maulana Abul Kalam Azad (MAKA) Trophy-** The overall top performing university in inter-university tournaments.
   - Guru Nanak Dev University of Amritsar.
6. **Dhyan Chand Award** for Lifetime achievement in Sports and Games is given to honour sports persons who have contributed to sports by their performance and who continue to do so in the promotion of sports even after their retirement.
   - Ashwini Akkunji C
   - Dharamvir Singh
   - B.C Suresh
   - Nir Bahadur Gurung

This year, for the first time, applications were invited only online and sports persons/coaches/entities were permitted to self-apply through a dedicated portal. A large number of nominations were received which were considered by the selection committee headed by Justice A. M. Khanwilkar, Retd. Judge, Supreme Court of India and members from eminent sports persons, sports administrators and sports journalists.

Shri Sridhar P

India's plan for net zero emissions by 2070

According to the latest data 75% of India's energy comes from coal fired plants, rest from nuclear, hydro, solar, oil and natural gas.

COP (Conference of Parties) is perhaps the most well attended international conference on environment and climate change, including the recent one, COP 27 at Sharm el Sheik, Egypt.

Over its rather contentious journey of 30 years several international agreements, ideas surfaced, only to get mired in technical jargons and word play, snowballing to ambiguity and establishing consequent escape routes.

Amongst nations with top economies India was perhaps the only nation with a clear road map to achieve net zero carbon emissions by the year 2070. It is worth while revisiting the outcomes of **Paris Accord** on climate change that moved countries like India to establish infrastructure to explore various options to harness the power of renewables to power Indian economy of the future.

Paris summit

Paris summit on climate change saw countries agreeing to restrict the rise in global temperature to less than 2^0C from the pre-industrial times by the year 2100 to prevent catastrophic extreme weather events. That demanded a clear road map to curtail the emissions of green house gases that cause global warming.

PARIS2015
UN CLIMATE CHANGE CONFERENCE
COP21·CMP11

The explosion of ambiguous technical jargons finally settled on **"Nationally determined contributions" (NDC).** The COP 26 meet held last year at Glasgow required countries to cut greenhouse gas emissions by 45% by 2030, compared to its 2010 levels and achieve net zero emissions by 2050.

Why is India important?

India is the world's third largest emitter of green house gases, though per capita emission is at 2.4 tonnes of CO_2 a year, well below the world average. India has emerged as a leading software and

manufacturing power, thanks to two decades of sustained economic growth.

As a responsible economic power India needs to demonstrate leadership in cutting down emissions and focus on sustainable economic growth. Technological innovation with capacity building is a powerful determinant for the success of renewable energy. Fortunately India has the capacity to absorb technology transfers, thanks to its robust industrial base and impressive domestic consumption. Several projects involving diverse forms of renewable energy production had to be shelved elsewhere, for the place of renewable energy production were uncomfortably far away from population centres, hence transmission loss rendered these projects unviable. Not so in India.

The energy consumption mix in India

According to the latest data 75% of India's energy comes from coal fired plants, rest from nuclear, hydro, solar, oil and natural gas. It varies from state to state. Tamil Nadu's electricity consumption is around 13,000 MW. During peak wind season wind energy constitutes more than a third of its electricity consumption. It is quite obvious that India is heavily dependent on coal for its energy needs.

India's plan for Net Zero by 2070

The Paris Accord on climate change mandated countries to submit a clear roadmap as to how they are to cut emissions, that was followed up and reviewed at the Glasgow summit last year. Achieving net zero emissions consistently for most countries is an extremely difficult milestone, for it "awaits" technology. India has committed to produce 50% of its electricity consumption from non-fossil sources by 2030.

Nuclear: Nuclear power constitutes just 3.2% of India's energy mix now and is to be tripled by 2030. This is crucial for much of it might come from thorium. India sits on 30% of the world's proven reserves of thorium.

Ethanol blend: India imports 80 to 85% of its crude requirements. Blending petrol with ethanol can be useful in saving precious foreign exchange. Ethanol blending is to go up to 20% from 10% as of 2023.

Dedicated freight corridor (DFC) and mass transportation: Movement of freight by rail is the most efficient way. Rail freight in India now is 17%. 8,000km of dedicated freight corridor is to be established. That would bring down transportation cost of goods. Massive expansion of public transportation is also on the cards.

Hydrogen: Integrating hydrogen as a transportation fuel is at a nascent stage for it is costly, leaves a lingering doubt about its practicality in doing so. But India is upbeat on hydrogen for it is certainly a competing fuel in long haul bus, rail and shipping.

Reforestation: An additional 2.5 to 3 billion tons of CO_2 is to be sequestered with massive reforestation programmes.

India bargained for "phasing down coal" than phasing out coal" at Glasgow last year. It simply exhibited India's logic,sincerity in lowering emissions an commitment to net zero emissions by 2070.

Col Shashidhar

India tests nuclear-capable Agni Prime Ballistic Missile

Canisterised means the missile is capable of launch at short notice through improvements in its storage and handling features.

The Defence Research and Development Organisation (DRDO) successfully tested the new-generation nuclear-capable ballistic missile Agni Prime (AGNI-P) from APJ Abdul Kalam Island off the coast of Odisha on 21st Oct 2022. Agni Prime is the latest and sixth variant of the Agni series missiles. With multiple independently targetable re-entry vehicles, the missile is capable of delivering a number of warheads at separate locations.

What is Agni Prime Missile?

- Two-stage canisterised solid propellant ballistic missile with dual redundant navigation and guidance system.
- A canisterised surface-to-surface ballistic missile with a range 1,000 - 2,000 km.
- A new generation advanced variant of the Agni class (under IGMDP - Integrated Guided Missile Development Program).
- Comes with new composites, propulsion systems, and innovative guidance and control mechanisms, besides the latest navigation systems.
- Sixth in the Agni (missile) series of ballistic missiles.

Shot in the arm

- Agni-P's range of 1,000-2,000 km is too short to reach targets in China's mainland, but can cover all of Pakistan's territory
- Being a canisterised missile, it can be transported easily and fired at very short notice
- It will replace the Prithvi, Agni-1 and Agni-2 missiles in India's arsenal that were built two decades ago with tech now considered obsolete
- It will enter service as a two-stage, solid propellant missile. Both stages will have composite rocket motors and guidance systems with electro-mechanical actuators
- Agni-P and Agni-5 originate from the Integrated Guided Missile Development Programme launched by then DRDO chief Dr APJ Abdul Kalam in the early 1980s

Capabilities and significance

The Agni P, initially named Agni-1P is the lightest and smallest (weighs 50% less than the Agni-III missile) because of technological advancements.

As a counter force weapon, it enhances movement and launch options for India's nuclear arsenal. It can be launched from rail or road and can be transported to various parts of the country.

Its low weight facilitates the configuration of the missile to be integrated to naval warships as an anti-sip attack weapon. As an arsenal for peace, it validates India's "No-First-Use" policy while reserving the right of massive retaliation if struck with nuclear weapons first.

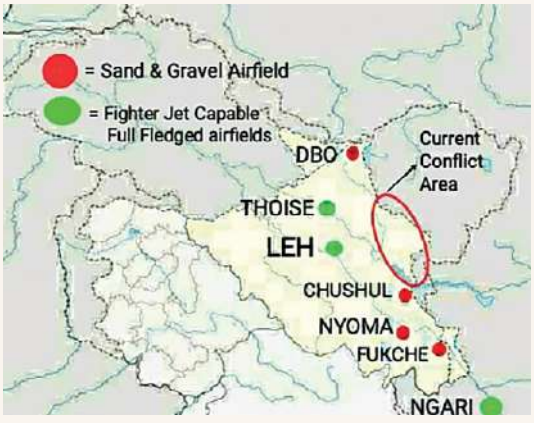
Col Shashidhar

Upgrading advanced landing ground for fighter operations

Overview

The Indo - China debacle (1962) resulted in a humiliating defeat and our losing a large chunk of territory in Aksai Chin in Eastern Ladakh. Even now, the Indian Army and China's People's Liberation Army (PLA) are still locked in a standoff along the Line of Actual Control (LAC).

China has refused to return to the April 2020 status quo and established buffer zones instead out of Indian territory. To counter this, India is considering multiple options to develop airfields in eastern Ladakh including Daulat Beg Oldi (DBO), Fukche and Nyoma, all which are close to the LAC.



Nyoma Advance Landing Ground (ALG)

Nyoma ALG is strategically important also because it enables quick movement of troops and logistics to Eastern Ladakh by overcoming terrain restrictions for the IAF who have now successfully been operating presently the Apache attack helicopters, Chinook heavy-lift helicopters, Mi-17 helicopters and C-130J special operations aircraft for transportation of troops and logistics.

Plans are afoot to deploy fighter aircrafts soon and fixed wing operations soon once the infrastructure upgrade is completed.

Recently IAF has built one of the world's highest mobile air traffic control (ATC) towers. The ATC controls operations of the fixed-wing aircraft and helicopters operating in the eastern Ladakh region.

Border roads Organisation (BRO) will develop airport and other military infrastructure. This will significantly strengthen the IAF capability to tackle any misadventures at lightning speed.

Regular deployment of own fighter aircraft including the Rafale and MiG-29s for carrying out operations in Ladakh has commenced for making our skies and borders impregnable.

Nyoma ALG is a big proactive step towards power projection i.e., to engage the enemy far away from your own soil thus building our capability to establish combat air superiority in Eastern Ladakh besides improving air connectivity for the entire population in the eastern Ladakh region.

Col Shashidhar

Deesa Airbase in Banaskantha district

PM Modi laid the cornerstone of 52 Wing Air Force Station at Deesa in Gujarat, located only 130 kilometres from the Indo - Pak border.

Deesa air base will act as the fire wall between Mirpur Khas, Hyderabad and Shahbaz F-16 airbase in Jacobabad(Pakistan) and Ahmedabad, Bhavnagar and Vadodara which house Gujarat's industrial complexes which are potential economic targets on the western border.

Significance

The IAF had earlier encountered numerous difficulties in 2017 to establish relief air-bridge when flood relief operations were severely affected in Banaskantha district. GOI swung into action and construction of the airbase picked up speed.

The way forward

Deesa with a single airstrip is presently used for helicopter landings for VIPs and civilian aircraft operations.

Once constructed, the runway at the new base (approx. 45,000 acres) will be designed to handle new-generation air carriers such as the Boeing C-17 Globemaster. After Vadodara, Jamnagar, Bhuj and Naliya air bases, this will be a strategic location for the South western Air Command which will witness the airport, taxiway, and aircraft hangars being built in its first phase.

It will significantly increase the potential threat level of cities like Hyderabad, Karachi, and Sukkur in Pakistan and make them vulnerable to our deep penetration strike aircrafts.

Own air defence fighters like MiG-29 and Tejas are likely to be stationed here to intercept enemy fighters from targeting Gujarat's industrial complex. Once operationalised, the airbase can also be used to retaliate in case of a major terror strike in Gujarat or along the south-western sector apart from giving support to own land offensive in future.

By 2024, this air base is expected to give fillip to our defence capabilities. It will also enhance regional connectivity Ude Desh ka Aam Naagrik (UDAN) and facilitate smooth conduct of High Availability Disaster Recovery (HADR) operations during natural calamities.

Col Shashidhar

New interceptor for Two - tier ballistic missile shield

India's first interceptor missile was tested in November 2006.

India's nuclear policy of **'No First Use'** implies that it is prepared to absorb a first strike and still can retaliate (a 'second-strike') for which deploying an "effective missile-defence shield" to thwart some or all of inbound missiles without resulting in major damage to its own war machinery.

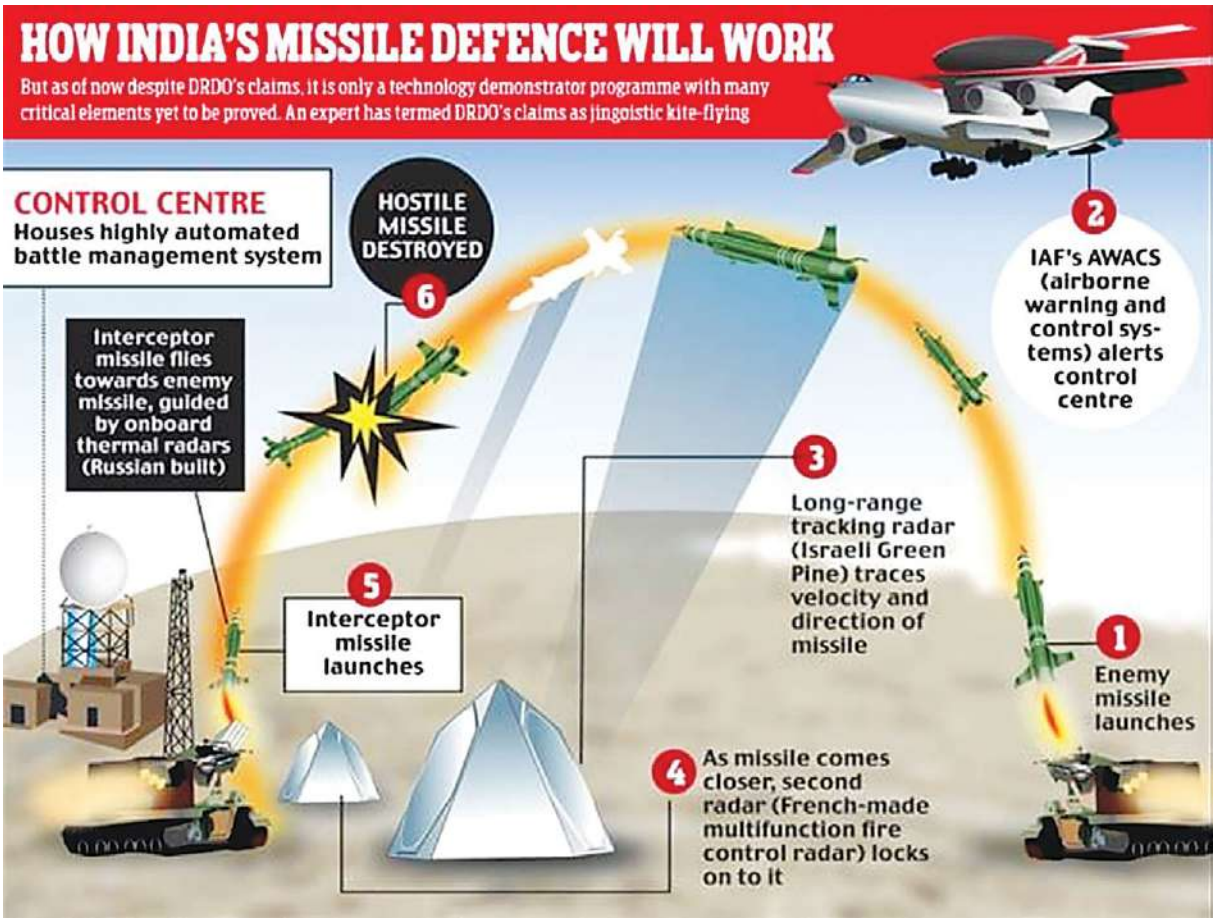
On 2nd Nov 2022, a gigantic strategic leap happened in achieving Ballistic Missile Defence (BMD) capability when DRDO successfully tested the AD-1 Interceptor Missile as part of Phase 2 of India's BMD System. AD-1 can intercept and destroy Intermediate Range Ballistic Missiles (IRBM) like Pakistan's Ghauri and Shaheen Missiles and China's Dongfeng (DF)-21.

Genesis

India's first interceptor missile was tested in November 2006. After over a dozen tests, a few of which failed, DRDO has effectively has now achieved a "kill probability of 99.8%" with the mix of exo and endo-interceptor missiles. The BMD system includes the endo-atmospheric Advanced Air Defence (AAD) interceptor and the exo-atmospheric Prithvi Air Defence (PAD) systems.

BMD Phase 1

➔ The outer layer for high-altitude interception currently consists of Prithvi Air Defence (PAD) Hypersonic Missile Interceptor with an operational range of 300 to 2000 km which can intercept and destroy missiles at altitudes of 50 to 180 km. The PAD consists of a solid-fuelled first stage and a liquid-fuelled second stage. The interceptor mounts an active phased array radar with the capability to track 200



Prithvi-II Missile was modified to mimic the trajectory of China's nuclear-capable M-11.

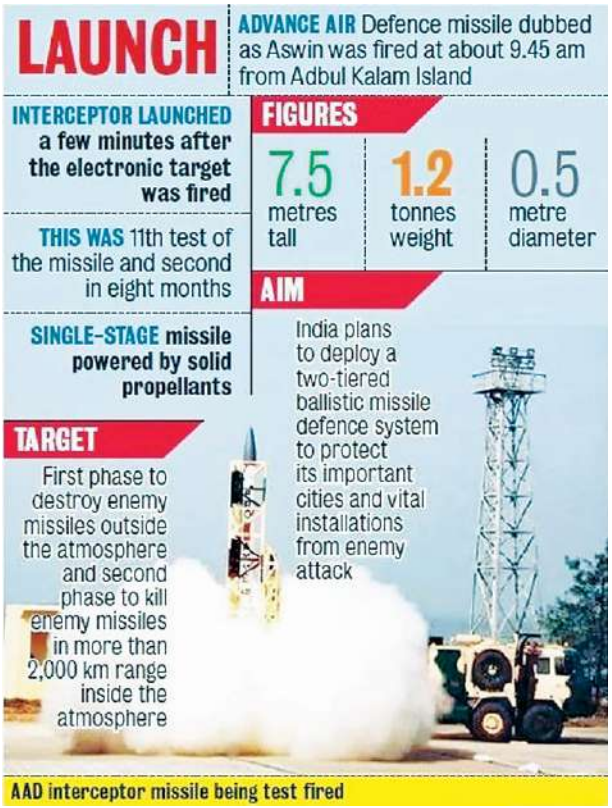
targets at a range of 600 km. In the first live-firing test of the PAD (November 2006) it successfully intercepted a Prithvi-II Ballistic Missile at an altitude of 50 km. This Prithvi-II Missile was modified to mimic the trajectory of China's nuclear-capable M-11.

➔ A second PAD test (March 2009) against a Dhanush Missile (ship-launched variant of Prithvi) was carried out by the Swordfish Radar ; successfully intercepted and destroyed the target at an altitude of 75 km.

➔ The second or inner layer for low-altitude interception is the Advanced Air Defence (AAD), Supersonic Missile Interceptor (SMI) which is designed with a single-stage solid-fuel motor, with an operational range of 200 km, to intercept and neutralise hostile missiles in the endo-atmosphere at altitudes of 15 to 40 kilometres and at speeds below Mach 5.

➔ In December 2007 and March 2011 from the Integrated Test Range at Chandipur, Odisha, AAD successfully intercepted and destroyed a modified Prithvi acting as a target missile. Subsequent tests were held twice in 2015; May 2016, December 2017 and August 2018.

➔ Development of Phase-I of the two-tier BMD designed to track and destroy nuclear missiles both inside (endo) and outside (exo) the earth's



AAD interceptor missile being test fired

An effective BMD shield over India will provide an apt foil to China's Anti-Access Area-Denial strategy.

BMD Phase 2

➔ Whereas the AD-1 is a long-range interceptor missile designed for both low exo-atmospheric and endo-atmospheric interception of long-range ballistic missiles with ranges upto 3000 km as well as aircraft, especially adversary's high-value Airborne Early Warning & Control Aircraft. ICBMs, with ranges up to or over 5000 km and apogees (the farthest point from the earth) well clear of earth's atmosphere will need an exo-atmospheric interceptor with thrust vector control on-board rocket thrusters to manoeuvre in a near-vacuum environment- this along with other requirement is likely to be met by the under-development AD-2 Interceptor, as part of Phase 2 of BMD.

➔ Enhanced detection ranges and longer-range, over-the-horizon (OTH) target acquisition/tracking radars with the interceptors themselves having hypersonic capability (speeds greater than Mach 5) with high manoeuvrability and the ability to counter any foreseeable/ deployable interceptor countermeasures onboard.

System Architecture

The system architecture of the BMD Phase 2 would consist of launch vehicles, commanded from Launch Control Centres (LCC) distributed over a wide geographical area to reduce response time. The LCCs, along with Early Warning Radars, would in turn be linked to a Mission Control Centre (MCC).

India joins the select list of nations like the US, Russia, Israel and China who have fully-operational BMD systems with an overlapping network of early-warning and tracking sensors, reliable command and control centres, land and sea-based batteries of advanced interceptor missiles. An effective BMD shield over India will provide an apt foil to China's Anti-Access Area-Denial strategy. Greater incorporation of layered BMD and improving the kill-probability of its vectors would ensure far-reaching regional security, both in time and space.

Smt Archana Sundar

INDIAN BEACHES

Indian beaches are known across the world for their beauty and glory. India has the longest stretch of coastline with some serene beaches.

Find out the names of the beach with the given clues, out of which 12 are Blue Flag certified .

1

This beach in Maharashtra has one of the best coral reefs on the Indian mainland.

2

The backwaters of Chunnabar river will greet you as you arrive.

3

A part of an Indian archipelago.

4

It is known to be the second largest beach in the world.

5

It is a large, pristine lagoon on the western side.

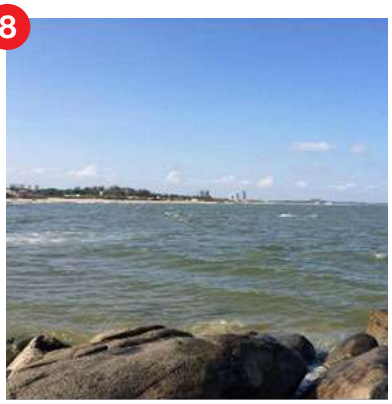
6

It is famous for the Dakkebali ritual held once in two years.

7

It is referred to as beach number seven. This was once voted Asia's Best Beach by TIME Magazine.

8



It was known as Covelong

9

It is known for its religious significance.

10

The shape of the beach actually resembles the shape of an Om in Sanskrit which makes it quite interesting.

11

In the foregone era, this beach acted as a major trading point and today this is a traveller's paradise.

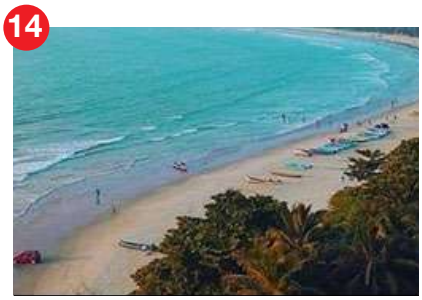
12

It is disabled-friendly.

13

It is famous for its splendid view, cathedrals and fortresses.

14



It is known as the longest Drive-in Beach in Asia.

15

This was listed by Lonely Planet as one of the world's most unusual beaches and is unique for its disappearing sea.

16

Jewel of the east coast.

17

Countless devotees flocking to take a dip for purification is the quintessential scene.

18

The place where Portuguese explorer Vasco da Gama landed with his entourage in 1498.

19

It is known for its assortment of wonderful butterfly species.

20

This virgin beach is covered in white sand and surrounded by Casuarinas.

Answers on page 58

Smt Vanaja Shankar

Beware of Digital Banking Frauds - II

Grandpa, Shravan and Gita were at the society hall. Grandpa started the second part of the discussion on digital banking fraudswith a quick recap.

"We have already covered the following topics on digital banking frauds:

- Safety tips for internet banking, mobile banking and debit card transactions.
- Different types of frauds – Phishing, Vishing, Card activation fraud, KYC activation fraud, Rewards and refund fraud.

Now, we have to be aware of many more types of frauds. If any one has experienced a different type of fraud, please share the details here to caution others."

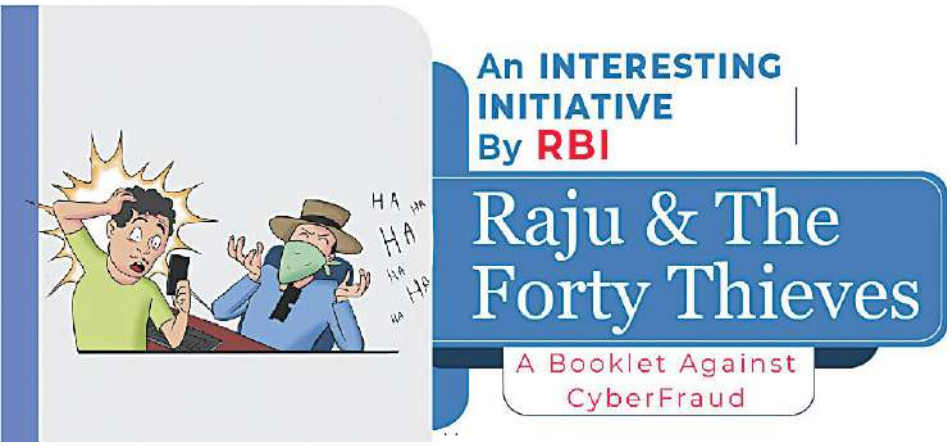
A hand went up in the audience.

"Sir, I am Lakshman, a software engineer. I'd like to share an incident that happened in our office."

Juice Jacking Fraud - Lakshman said, "Rs. 40,000 was debited to my boss's account for an online purchase. He had not shared his card details or passwords with anyone. His laptop had high level of security because it had official data. We wondered how the fraud could have happened.

We checked the CCTV footage in the office for any suspicious activity. That is when we noticed that the boss had charged his phone at a charging station near the coffee counter in the cafeteria.

When we investigated, we found that the cable was tweaked to send a virus to the mobile to hack important data."



Grandpa nodded. "Yes. This is called **Juice Jacking fraud**. The cartoon story in "Raju and the forty thieves" talks about a gentleman borrowing a charger from someone at the airport. Within a week, he finds unauthorized transactions in his account."

So, the lesson is, **do not charge your mobile phone at charging stations in public places.** The charger could have viruses that hack our personal data."

Grandpa continued.

"There are some more frauds we can prevent if we are careful.

Fraud using public Wi-Fi- A gentleman used public Wi-Fi at a restaurant to pay the bill since his mobile data was not working. He later found unauthorized debits in his account. Fraudsters had accessed his bank details through the fraud Wi-Fi network.

Fake loan offer – Sometimes fraudulent apps offer loans at very attractive rates and ask us to submit our bank details. Many have succumbed to this fraud, lured by easy loan at a cheap rate. The fraudsters have used the submitted documents to take loans under a false ID or have stolen the data to withdraw money. So, we should borrow only from banks and reliable financial institutions and not through these apps and agents.

Online job fraud – Here is a different type of fraud. In this story, a girl got an offer for a freelance job online. She was asked to provide her bank details for credit of her monthly fees. The job seemed genuine and she uploaded her work to the employers' site. She received a few thousand rupees for the work submitted. However, she did not realize that the employer was a fraudulent company and that hackers had gained access to personal data on her laptop. Thus, she lost a big amount to fraudulent online transactions."

SIM swap/upgrade fraud -Lakshman stood up again. "Sir, another important fraud nowadays is the SIM swap fraud. Fraudsters offer free upgrade of your SIM to 5G. Then they deactivate the SIM, go to the bank with your documents and change the mobile number registered to your account. So, don't get tempted by the fake offers for free 5G SIM."

Importance of checking mobile alerts - Grandpa nodded. "Thanks Lakshman. We need to remember that our mobile number is very important in digital banking for receiving OTP, authenticating transactions and receiving transaction alerts. So, we should be careful not to let others use our mobile. We should also check messages in our mobile regularly so that we do not miss any transaction alerts from banks. "

An elderly lady raised her hand. Shravan ran to her. She said, "I am Latha Swami. One of my bank accounts was linked to the mobile number that I do not use regularly. Last week, when I checked this old mobile, I found a message for debit of ₹1000. The message was a month old. I was so shocked. I went to the bank to complain. Luckily the

The fact that lottery frauds are happening shows that people get tempted by the offer of a lottery.

bank officer was able to identify the mistake and recover my money. The bank officer told me that I should have complained within 3 days and it's not always possible to recover the money if it is too late."

Grandpa nodded. **"Yes. The important learning here is to check our mobiles every day for transaction alerts from banks."**

Grandpa continued. "Here is another story."

Lottery fraud -"Raju received a message that he had won a jackpot of ₹10 lakhs. To claim the prize money, he called the number given in the message. The caller asked him to send an initial amount of ₹1000 immediately to process the claim. Raju sent the money. The caller confirmed the receipt and asked Raju to send ₹25,000/- for tax fees, so that they could send the prize money of ₹10 lakhs. Without thinking, Raju sent ₹25,000/-. He waited for a few days for the prize money of ₹10 lakhs. Then he realized that he had been cheated."

"How can he send money to an unknown person? We can see that it is a fraud." Mrs. Gupta exclaimed.

Grandpa answered. "The fact that lottery frauds are happening shows that people get tempted by the offer of a lottery. They don't think before sending the initial payment. We should be cautious about jackpot offers from fake companies. We should not respond to such messages."

Recovery frauds

Grandpa continued. "In another story, Raju had taken a vehicle loan and had not paid EMI for three months. A man visited his house, said he was the recovery agent from the bank and threatened to seize the vehicle if Raju did not pay his dues."

Mr. Lakshman put up his hand. "He must check the identity of the agent, verify if he is from the bank."

Grandpa nodded. "Yes, but Raju was so agitated about losing his bike that he did not stop to think. So, he paid ₹5000 to the visitor, who asked him to collect the receipt from the bank. Later, Raju found that he had been cheated.

We need to be alert whenever we interact with unknown persons or receive messages from unknown numbers."

A young woman stood up.

Electricity bill/Utility bill payment alert fraud- "Sir, I am Girija. I received a message two days back from an unknown number saying that my electricity connection will be cut for non-payment of bill. It read "To make payment click the link here or call this number."

"I panicked and was about to click the link when I remembered that I had already paid the electricity bill. Then I remembered last week's session on phishing frauds. I read the message again and found that neither my name nor my consumer number was mentioned. Then, I realized it was a fraud message."

Grandpa smiled. "Yes. We must stop and think before we act on any communication through email, message or phone. Fraudsters always project a sense of urgency, pushing us to act without thinking."

This has been a very interesting session because of everyone's participation. We covered a lot of topics but we must continue to stay updated as newer frauds are attempted daily. So, I'm sharing the link of the RBI cartoon series with you all. I suggest that you read about all the forty different types of frauds so that you can be aware when you encounter similar situations."

Kum Deepasri

TAXATION LAW in India - II

The GST regime was introduced with a view to remove difficulties by bringing in a uniform system of taxes across the nation.

As discussed in the previous edition, indirect taxes are those which are not levied directly on the income of a person but on the ultimate consumer of goods and services, for the consumption of the same. Currently in India, the major form of indirect taxes is the Goods and Services Tax (GST), which has been in effect since 2017.

Background

In the erstwhile regime of indirect taxes, goods were subject to tax by both the Centre and the State. There were taxes including excise, sales tax and value added tax. Some challenges were differing rates of tax in different states; lack of uniformity in registration, filing, refund mechanism, etc; multiple components in the form of surcharges and cesses, etc. Due to the multiplicity of taxes, there was a possibility of multiple taxes (or double taxation) on the same transaction. There was also a 'cascading effect' of taxes since there was no option for 'set-off' of taxes. The GST regime was introduced with a view to remove these difficulties by bringing in a uniform system of taxes across the nation, with clear categorisation of transactions which are taxable.

Overview

GST is a consumption-based tax levied based on the 'Destination Principle,' which levies tax at the point of consumption. There are various rates for different categories of activities. It also allows set-off of taxes throughout the value chain. Many of the existing taxes have been brought under GST. However, certain categories have been kept out of the ambit of GST, such as motor vehicles tax, alcohol and

DO YOU KNOW ?

Cascading effect: **Imposition of taxes on products at multiple stages in the supply chain (from raw material to consumption).**

Set-off: **Adjustment or reduction of a future payment, to the extent of an excess payment made earlier.**

Subsumed: **Absorbed**

electricity. India has adopted a dual GST model, where tax is imposed concurrently by the Central and State Governments. In intra-state transactions, tax is split equally into Central GST (CGST) and State GST (SGST). For inter-state transactions, Integrated GST (IGST) is collected by the Centre. GST is governed largely by the CGST Act, IGST Act, UT (Union Territory) GST Act and the GST (Compensation to States) Act.

Key Concepts

In any tax, the crux of taxation is the 'incidence,' or the event/point at which the tax becomes leviable. In GST, 'supply' is the taxable event. Such supply must be of goods or services and must be made for a consideration.

However, Schedule I of the CGST Act lists some transactions which may not have consideration but are still taxable, as they are 'deemed supply.' Schedule II lists the activities which are to be treated as supply and Schedule III lists activities which are not to be considered supply.

Often, goods and services are supplied in combination. When two or more taxable supplies are naturally bundled and made in a single transaction, it is called 'composite supply.' When they are deliberately bundled, it is called 'mixed supply' and the taxability varies accordingly.

Exemptions

The government has the power to grant exemptions based on goods and services consumed by low income and disadvantaged persons etc. General exemptions may be granted by notification and specific exemptions may be granted by way of special orders. Further, some essential goods and services are exempt supplies, including education, healthcare, milk, eggs, vegetables, etc.

ANSWERS of page 52 & 53

What is Blue Flag certified beach?

The Blue Flag is a voluntary tag given to environment-friendly and clean beaches with hygienic facilities. The tag is part of an eco-tourism model that promotes sustainability in the tourism sector through environmental awareness, protection and sustainable development practices.

1. Tarkarli, Maharashtra
2. Eden Beach – Puducherry
5. Minicoy Thundi, Lakshadweep
7. Radhanagar, Andaman and Nicobar
8. Beach, Tamil Nadu
11. Poovar, Kerala
12. Shivrajpur, Gujarat
15. Chandipur, Odisha

3. Kadmat, Lakshadweep
4. Marina, Tamil Nadu
6. Padubidri Beach, Karnataka
9. Dhunshkodi, Tamil Nadu
10. Om, Karnataka
13. Ghoghla Beach, Diu
14. Muzhappilangad, Kerala
16. Rushikonda, Andhra Pradesh
17. Golden, Odisha
18. Kappad, Kerala
19. Butterfly, Goa
20. Kasarkod Beach, Karnataka

Dr.Preethy SP

TULSI

A holy medicinal herb

- **Tulsi is held as a sacred plant as per the Sanatana Dharma.**
- **It is planted in the centre of the central courtyard of many houses in India for spiritual reasons.**
- **Tulsi revered for its self-purifying properties and is used in the water offered during worship.**

A common herb grown in homes for its holiness, the Tulsi is an aromatic shrub native to India and the eastern world.

Called as "The Incomparable One," "Mother Medicine of Nature", "The Queen of Herbs" and an "elixir of life" in Ayurveda, it is known for its medicinal and spiritual properties.

There are different types of Tulsi, such as **Rama Tulsi** (Green leaf), **Krishna Tulsi** (purple leaf),**Vana Tulsi** (Wild Leaf) and **Kapoor Tulsi** (Heavy Flowered).

Tulsi tastes hot and bitter. Consuming a few tulsi leaves every day will help to prevent disease and promote longevity. Tulsi has been recommended for a variety of ailments including anxiety, cough, asthma, diarrhoea, fever, dysentery, arthritis, eye diseases, otalgia, indigestion, hiccups, vomiting, gastric, cardiac and genitourinary disorders, back pain, skin diseases, ringworm, insect, snake and scorpion bites and even malaria.

Tulsi has a unique combination of anti-microbial, anti-inflammatory, memory enhancement and immunomodulatory properties. These properties help to maintain the body's homeostasis and hence tulsiis a potent anti-stress relief.Tulsi has a calming effect on the mind. Just grab a few tulsi leaves and eat them daily during stressful times. However, eating too much can cause hormonal imbalance in men.

Tulsi can also be used as herbal mouth wash for treating bad breath, gum disease and mouth ulcers.

Did you know that Tulsi has also been used to combat air pollution? Especially in Agra, to help protect the iconic Taj Mahal from environmental pollution, thousands have been planted around it.

Drinking a concoction of Tulsi, ginger, lemon and honey can be a soothing remedy for cold and cough.

Recipe

1. Wash and clean the ginger thoroughly. Then grate it without peeling.
2. Take water in a saucepan and boil it.
3. Add the grated ginger and boil for 2-3 minutes again.
4. Add the tulsi leaves.
5. Turn off the heat, cover the vessel and allow it to remain for 2-3 minutes.
6. Add honey, squeeze lemon juice and give a quick stir. Serve hot.

Drinking this tea is more beneficial when on an empty stomach.

Kum Priyadharsshini S

Balu

HIMACHAL PRADESH

Dadu

Balu sat at the table feeling hungry. Soon, Dadu came with a basket of apples. Balu picked up one and relished the juicy apple.

Balu: Dadu, this is delicious. Where are these from?

Dadu: A good friend had been to Himachal Pradesh. He brought these Shimla apples and handicrafts. Have a look!

Balu: Wow! Dadu, isn't Himachal Pradesh a state bordering Jammu and Kashmir, Ladakh, and Punjab?

Dadu: Perfect!!

Balu: Also, today my social studies teacher told us in class that "Himachal Pradesh is situated in the Western Himalayas; it is one of the thirteen mountain states and has breathtaking landscapes featuring several peaks and extensive river systems. Himachal is also known as Dev Bhoomi, meaning "Land of Gods," and Veer Bhoomi, which means "Land of the Brave."

Dadu: Impressive!

Balu: Dadu, if you tell me more about this place, I can take upsome projects connected to the lesson, "Our Country, India."

Dadu: I am amazed by your desire to learn. Now, it is time to know more about Himachal Pradesh.

Tribal people known as Dasas were the area's first recorded residents. Later, the land was ruled by Aryans from the Mauryan Empire, the Kaushans, the Guptas, and the Kanuaj dynasty. Ranjit Singh annexed many kingdoms in the 19th century, then the British defeated the Gorkhas and entered into treaties with some Rajas and annexed their kingdoms. After Independence, 30 princely states in the area were united; Himachal Pradesh was formed on 15th April 1948.

Balu: What do they do for their livelihood?

Dadu: They depend on agriculture, pastoralism, horticulture, industry and forestry. Industries are known for their production of agricultural implements, turpentine, resin, fertilizers, cement and electronic goods. Hydropower is one of the major sources of income.

Balu: Fantastic! What about their culture?

Dadu: The culture of Himachal Pradesh is largely reflected in the diverse cuisine, occupations and traditional dress. Himachali caps are a representation of cultural identity. It is a state with different religions, beliefs and rituals and a home for various tribes. Look at what my friend has clicked!

Pahari People

Rajputs

Tribal Dress

Dadu: These are the state's well-known delicacies.

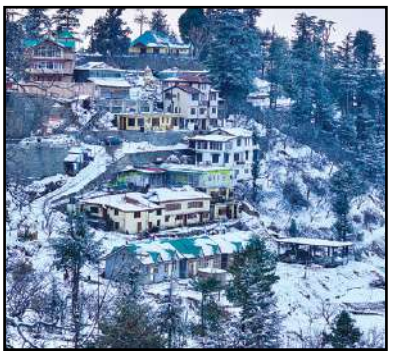
Aktori

Mittha

Dhaam

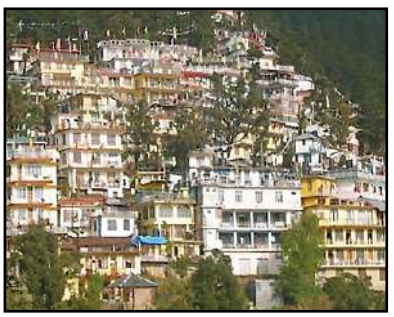
Dadu: These are the must-see attractions and highlights.

Kullu Manali



Shimla

Kasauli



Dharmasala

Balu: Thanks, Dadu, it is going to be very helpful for tomorrow's social science class.

Smt Ramamani N

Govinda Hari Sonawane

Govinda's start-up Agri Waste Pvt Ltd enables farmers to earn additional income from agri-waste; reduce air and soil pollution due to the burning of this waste.

Govinda Hari Sonawane, an entrepreneur from Nimbhora village of Raver tehsil in the Jalgaon district of Maharashtra has made a portable machine named BioChar. It converts agricultural waste and crop residues into products like bio-incense sticks, paper plates and vegan leather without electricity.

Govinda's start-up "Agri Waste Pvt Ltd" enables farmers to earn additional income from agri-waste; reduce air and soil pollution due to the burning of this waste. It also creates employment opportunities in rural areas for small-scale entrepreneurs.

He comes from a family with economic constraints. While his father did carpentry to run the family, Govinda completed his schooling and college in Jalgoan; completed MSc. Electronics and later movedto Pune for a job.

Govinda worked there till 2014 and returned to his village looking for entrepreneurial options. Hes tarted CFL bulb assembly and mobile charger circuit business. He lost money in the business as the bulb performance guarantee provisions were not sustainable. He took the tube/circuit from the faulty bulbs, repaired and resold them till 2019. While exploring options for business development, he researched and designed the machine (BioChar) this year.

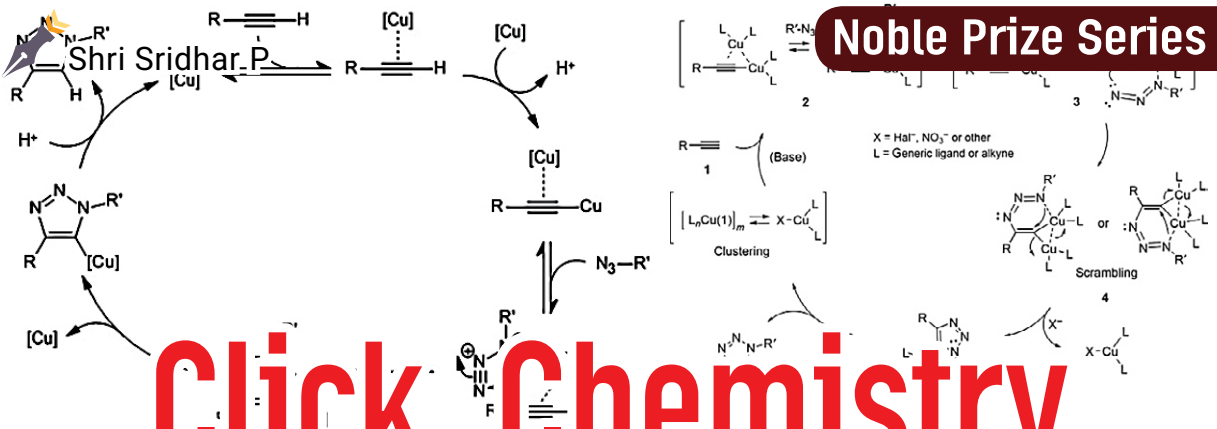
B2B2C - business-to-business-to-consumer, is an eCommerce model where businesses access customers through a third party but are unable to interact directly through their own brand.

Features

- A prototype with 200 litre-capacity drum.
- Operates without electricity.
- Works on a simple principle of feeding crop waste and converting it into charcoal.
- Corn cobs usually take 90 minutes to turn into charcoal while dry leaves of plants or cotton stalks take less time.
- Uses a filter to control the amount of smoke generated.
- The flame is reduced when the charcoal has been produced and extracted from the outlet.
- Eliminates more than 95% of smoke as against traditional burning of stubble.

Govinda also built a B2B2C model wherein the charcoal is converted to incense sticks and sold.

Shri Sridhar P



Click Chemistry

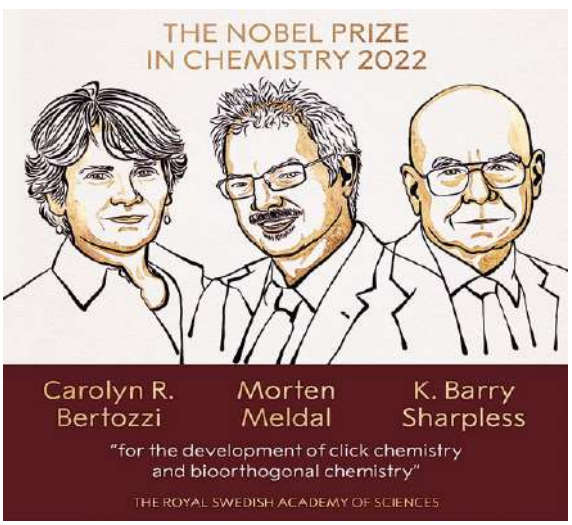
The Nobel Prize for chemistry for 2022 has been awarded to K. Barry Sharpless from Scripps Research Institute, Morten Meldal from the University of Copenhagen and Carolyn.R.Bertozzi of Stanford University, for developing independently this exciting field of "Click chemistry".

Synthetic chemistry

Synthetic chemistry is the synthetic creation of new chemicals or molecules or developing new techniques to synthesize existing inorganic or organic molecules. The bewildering array of chemicals, medicines, biological molecules we use today owe their existence to synthetic chemistry. Creating new molecules, especially complex organic molecules have been laborious, costly, time consuming with poor yields. The development of "Click chemistry" solves many of the problems of synthetic chemistry.

What is click chemistry?

Molecules often do not bond together easily while creating bigger ones. Sometimes inreaction molecules behave very differently in the presence of unique catalysts. That is what Nobel Laureates Sharpless and Meldal observed while using copper as catalyst, and the breakthrough came with copper catalysed azide-alkyne cycloaddition. They bonded like the "Click"of a seat belt as suggested by Sharpless. That is the origin of click chemistry.



How does it help

The beauty of their invention lies in its astonishing simplicity in practical application. Modern day chemists, thanks to this remarkable work of these Nobel Laureates can build big molecules easily. If modern chemists need to add two big molecules they just have to introduce azide in one and alkyne in another. In the presence of copper as a catalyst they just bond in a snap to creating bigger molecules. Sharpless and Meldal have revolutionized the process of building molecules like building with Lego blocks. The co-winner Bertozzi took it to a different level by introducing click chemistry in living organisms where copper is toxic, by using a different organic catalyst.

Applications

Limitless! Pharmaceutical chemistry will benefit for it is all about building target specific molecules of higher order. Bertozzi and her colleagues worked on mapping glycans(carbohydrate -based polymers produced by all living organisms). Her studies showed that Glycans appear to protect tumour cells from the body's immune system. Bertozzi and her colleagues built anew type of biological molecules using techniques of click chemistry that joined glycan specific antibodies to enzymes that break down glycans on the surface of tumour cells, allowing the immune system to act.

Kinnera musician
Darshanam Mogilaiah

He is the only person in Telangana to play this 12-fret instrument today.

Kinnera is a string instrument with a bamboo neck, dried and hollowed gourds as resonators.

- Made using bamboo, the dried outer shell of a round bottle gourd, honeycomb, bull-horn, beads, mirrors and peacock feathers.
- Originated in the 4th century, played by the nomadic tribes in Dakkali and Chenchu (Tribal villages in Deccan Plateau).
- Reinvented by Mogilaiah (fifth-generation artist) who upgraded it to 12 frets instead of the 7, 8 or 9 frets used by his forefathers.

A fret is any of the thin strips of material, inserted laterally at specific positions along the neck or fretboard of a stringed instrument.

Profile

Born in 1951 in a Madiga family in the Ausalikunta village in the Nagarkurnool district of Telangana along the stretches of Nallamala Hills. Without formal education, he faced many hardships in life. He also worked

as a daily wager on construction sites. Known for his unique voice, he sings dramatic ballads of popular folklore heroes, learning the art from his father, Yellaiah.

His ancestors are believed to have played the instrument in the court of the Wanapathy kings about 400 years ago. They used women's hair, horse-tail hair and animal nerves as strings. Mogilaiah replaced it with the metal sting. He decorated the instrument with a wooden turtle puppet attached to it. The puppet bows, jumps and salutes the audience. He is the only person in Telangana to play this 12-fret instrument today.

The reinvention by the artist kept the rare musical instrument alive. He was awarded the **Ugadi Puraskaram (2015), the highest state honour of Telangana.**

Dharashanam Mogilaiah received the Padma Shri award this year for his distinguished service in the field of art.

Shri Saravanan J

Migration

Bird migration is the regular seasonal movement, often north and south along a flyway, between breeding and wintering grounds; driven primarily by the availability of food and severe weather. Many species of bird migrate.

India has about 1350 birds of which 60-70% are migratory birds.

There are many types of migration:

Intercontinental migration: Many birds fly across oceans and seas, deserts, mountain ranges and other geographical blockages to reach a suitable area where they can stay for a few months totide over the inclement weather in their homes. Many cross over hundreds of miles, countries and sometimes continents to reach the suitable area. Some migrating birds in India are Demoiselle Cranes, Steppe Eagle, Imperial Eagle, Godwits, Harriers, Rubythroats, Bluethroats, Pochards, Ducks and Geese.

Altitudinal migration: During winter many birds fly from higher altitudes to lower altitude to escape the cold weather and scarcity of food. They do not migrate a long distance but from higher to lower altitudes like from peak to foothills. Some examples are Nutcrackers.

Passage migration: During the intercontinental migration, some birds take a small resting period in suitable location. This is to replenish their fat reserves and give rest to tired wings. After a few days, they are back on their migration route. India has a good number of passage migrants visiting its North West Borders like Greater Rann of Kutch, Rajasthan andLadakh. Well-known passage migrants in India are Lesser Kestrel, Red-Back Shrike, Read-tailed Shrike, Rufous-tailed Scrub Robin.

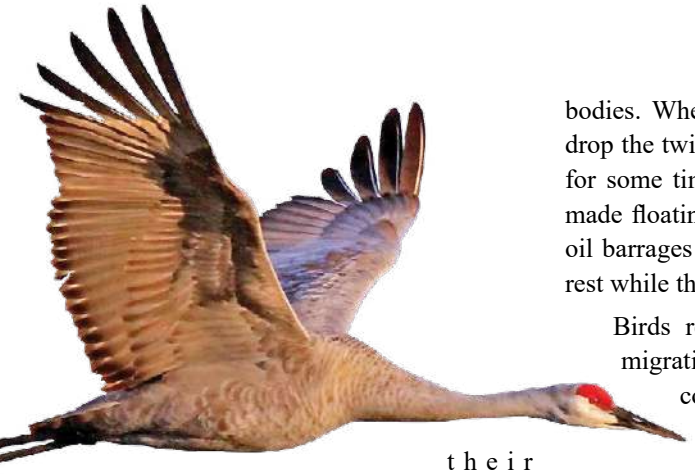
Reverse migration: Birds make a great guest as they know that they cannot overstay and enjoy the hospitality. They migrate back to their homes as soon as the weather becomes suitable (summer arrives).

Characteristics of migratory birds

- They are also called wintering or non-breeding birds as they do not have the beautiful breeding plumages during migration.
- They look thinner when they arrive and will look larger as they go back. This is because they arrive exhausted and before leaving, they eat and stock up fat in their body.
- The migratory birds look dull when they arrive and brighter and more colorful as they leave. This is because they arrive in non-breeding season and leave just as their breeding season approaches. The birds start getting more of breeding colors and shed their old feathers to get better and stronger feathers to help in reverse migration.

Astonishing facts

It is a wonder how these birds especially the small ones can fly such long distances, some even without a break. To understand this feat, we need to look at bird behavior. The birds will eat to their heart's content before migration and reverse migration. This over eating is called hyperphagia. They store the fat over organs like liver and stomach. This is called hyperlipogenesis. During the migration they utilize this fat in



their body. This is like consuming a part of their own body. This is called autophagy. The birds have to do a delicate balancing act to ensure that they store enough fat for the journey but are also light enough to fly. For this they shrink organs that they do not need, like their reproductive system.

The birds usually fly in large groups (example Cranes, Geese, Ducks, starlings). They fly in a "V" shape formation. This reduces the drag on the birds flying in the rear. The birds flying in front will have to do more work as they face the air currents. Hence, they will take turns and exchange their positions at regular intervals so that not one bird faces all the burden. This is an example of how they utilize the aeronautic principles without even knowing the basic physics but have mastered the art of flying in formation.

The small birds who fly solo also use a very innovative trick. They carry a small twig in their beak when crossing large water bodies. When they feel tired, they drop the twig on water and sit on it for some time. They also use man made floating structures like ships, oil barrages and even thermocol to rest while they migrate.

Birds remember the route of migration. This is through a combination of Astro alignment in sky, magnetic field of Earth and their own memory in terms of landscapes and sounds (they can hear subsonic sounds). The birds are known to have magnetite in their beaks; this sends signal to their brains to help them follow the right migration route using earth's magnetic field. This is also how homing pigeons know where their home is as they return post delivering messages. This knowledge is passed from one generation to other both genetically and though learning.

Record holders

Bar-headed Geese: Highest flying birds. They have been seen flying over Mount Everest. Their body and blood is suited for such high flights.

Artic Tern: 90,000 km flight from Arctic to Antarctic every year.

Bar-tailed Godwit: Longest non-stop migration. They have been recorded to fly over 12,000 km nonstop without food or rest.

Adélie Penguin: They are known to trek an average 13,000 km. This is longest for a flightless bird.

Advantages of migration to environment

- Pest control - eating large number of locusts, rats, snakes etc.
- Cross pollination and dispersal of seeds.
- Role in food chain – falling prey to local predators.

Danger to birds

Predation: Exposure to predators during the journey from breeding to wintering grounds.

Hunting: Humans are the biggest danger specially to fowls and pheasants. These are hunted for food or as just game. Some are captured to be reared as pets.

Buildings and lights: In last 100 year the skyline of many countries has seen rise of large buildings ; light pollution is very high in cities; electricity transmission wires have maimed many birds in migration.

Bond with humans in India

Demoiselle cranes: In Keechan village in Rajasthan, over lakhs of demoiselle cranes arrive on migration. The kind villagers feed them with seeds and millets; have made a large reservoir of water for them.

Amur Falcon: One of the world's longest migrations is that of Amur Falcon from Russia to South of Africa. They cross the state of Nagaland in India. They were earlier hunted and captured as pets. But with conservation efforts now the villagers in Nagaland are helping in protecting these. Hunting is banned and visitors can only see them from a distance so that they are not disturbed.

We should become a part of this fascinating natural phenomenon by watching and caring for these birds.

NOV 7
NATIONAL CANCER AWARENESS Day

Together we can beat Cancer!

Cancer is curable. Let's fight it!

Cancer is one of the most deadly diseases and every year National Cancer Day is observed with a theme that encourages its prevention. Almost one-third of all cancer can be cured if detected early.

National UNITY DAY

31st OCTOBER

Different languages, Different costumes,
Different religions, Different beliefs,
But...United we stand.

" Togetherness leads to harmony.
Harmony leads to peace."

Celebrates the birthday of
Sardar Vallabhbhai Patel
as

RASHTRIYA EKTA DIWAS