

Monthly Current Affairs

January 2024

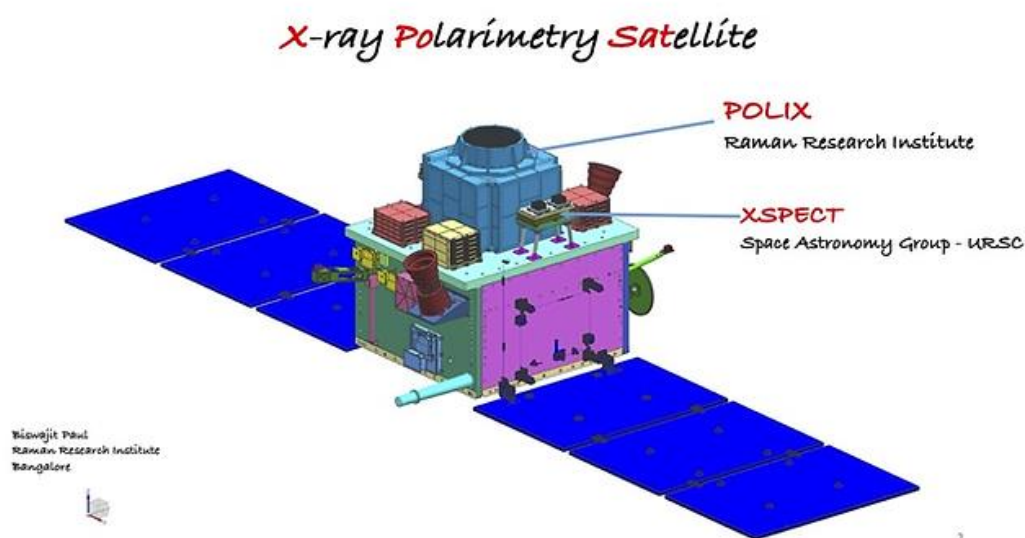
X-ray Polarimeter Satellite

- ISRO's PSLV-C58 has launched XPOSAT Satellite into an Eastward low inclination orbit on January 01, 2024 09:10 Hrs IST.
- The PSLV Orbital Experimental Module-3 (POEM-3) experiment will be executed meeting the objective of 10 identified payloads, supplied by ISRO and IN-SPACe.
- XPoSat (X-ray Polarimeter Satellite) is the first dedicated scientific satellite from ISRO to carry out research in space-based polarisation measurements of X-ray emission from celestial sources. The Satellite configuration is modified from the IMS-2 bus platform.



- The Configuration of the mainframe systems are derived based on the heritage of IRS satellites. It carries two payloads namely POLIX (Polarimeter Instrument in X-rays) and XSPECT (X-ray Spectroscopy and Timing).
- POLIX is realized by Raman Research Institute and XSPECT is by Space Astronomy Group of URSC.

- To measure polarisation of **X-rays in the energy band 8-30keV** emanating from **about 50 potential cosmic sources** through Thomson Scattering by POLIX payload.
- To carry out long term spectral and temporal studies of cosmic X-ray sources in the energy band **0.8-15keV** by **XSPECT** payload.



- To carry out polarisation and spectroscopic measurements of X-ray emissions from cosmic sources by POLIX and XSPECT payloads respectively in the common energy band.
- Following The Launch Of XPoSat, **India Has Become The Second Country** In The World After The United States To Send A Specialised Astronomy Observatory To Study Black Holes And Neutron Stars In Our Galaxy. The Mission Life Of The Primary Payload XPoSat Is About Five Years.
- The **10 Other Payloads** Are From Takeme2space, LBS Institute Technology For Women, K J Somaiya Institute Of Technology, Inspecity Space Labs Private Ltd, Dhruva Space Private Ltd, Bellatrix Aerospace Private Ltd (Two Payloads) And Three Payloads From The ISRO.

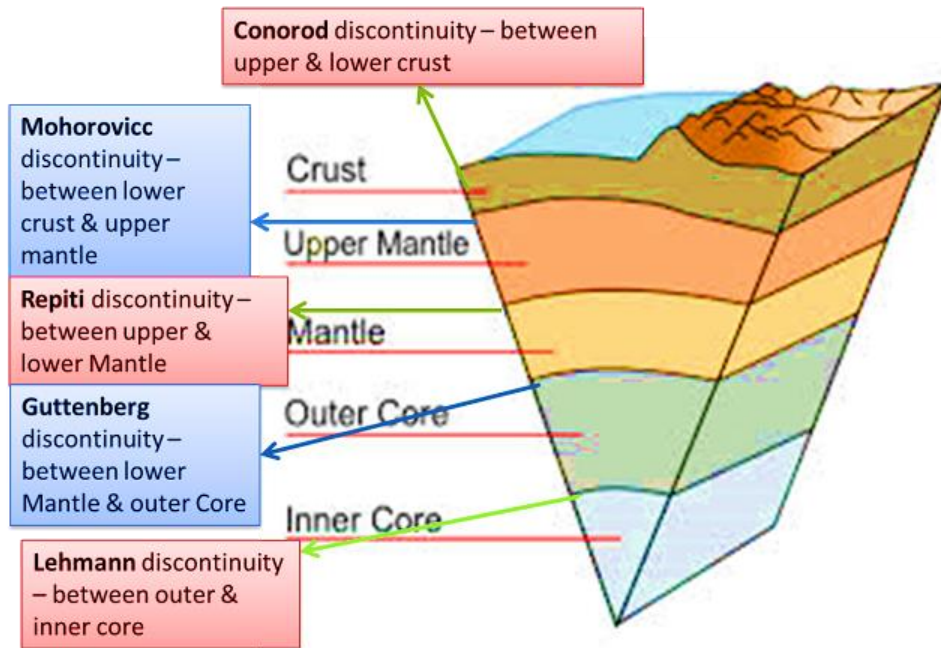
Mengxiang Sets Sail For Earth's Mantle Exploration

- China has introduced its **groundbreaking ocean drilling vessel, Mengxiang**, signifying a pivotal moment in scientific exploration. Developed by the China Geological Survey in collaboration with **150 research institutes and companies**, the **vessel is named "dream"** in Chinese, reflecting its ambitious mission.

- The **Mengxiang** aims to **penetrate Earth's crust** and delve into the mysteries of the mantle, marking humanity's inaugural foray into this uncharted territory.
- Weighing an impressive 33,000 tonnes and stretching 179 meters (590 feet), **Mengxiang is a colossal ship** with exceptional capabilities.



- It boasts a range of 15,000 nautical miles and can operate for 120 days per port call. Engineered to withstand powerful tropical cyclones, it stands as a testament to advancements in deep-sea drilling technology.
- The vessel's drilling prowess is unmatched, with the capacity to reach depths of **11,000 meters below the sea's surface**.
- Traditionally confined to the Earth's crust, scientific exploration now eyes the mantle, a crucial layer connecting the surface to the core.
- The **Mengxiang seeks to breach the Mohorovicic discontinuity**, or Moho, the final frontier for human exploration into the mantle. While American scientists have pursued this goal since the 1960s, **Mengxiang's cutting-edge technology** represents a new chapter in the quest for understanding Earth's structure.
- Mengxiang recently underwent trials, primarily focusing on its **propulsion system**.
- However, the details of its core drilling operations remain shrouded in mystery. Overcoming challenges, such as high temperatures and pressures beyond 7,000 meters, poses a significant hurdle, as acknowledged by experts like Wan Buyan, a leading figure in seabed engineering.



Vibrant Gujarat Summit

- The 10th edition of the **Vibrant Gujarat Global Investors Summit (VGGS)** is set to take place in Gandhinagar from January 10 to 12, 2024.
- The theme for this edition is “**Gateway to the Future.**” This biennial event serves as a crucial platform for global policymakers, diplomats, business leaders, and investors to foster collaborations, partnerships, and explore investment opportunities.
- The summit will witness the participation of several prominent global leaders, reinforcing India’s evolving diplomatic priorities.



- **Czech Republic's Prime Minister Petr Fiala**, Timor-Leste's President José Ramos-Horta, UAE's President Mohamed bin Zayed Al Nahyan, and Mozambique's President Filipe Nyusi are expected to attend.
- The arrest of Nikhil Gupta has added a diplomatic dimension to the summit, with India engaging in discussions with the Czech Republic regarding the matter.
- The Indian embassy in Prague has been granted diplomatic access to Mr. Gupta, and it is anticipated that the issue may find its way into discussions during PM Fiala's visit to India.
- **As many as 28 countries and 14 organizations** have confirmed their participation as partners in VGGGS 2024. These partners, including the UAE, Czech Republic, Australia, Japan, and the UK, play a pivotal role in strengthening bilateral relations and contribute significantly to the success of the summit.
- The theme for this edition is 'Gateway to the Future,' emphasizing the exploration of emerging sectors such as semiconductors, green hydrogen, e-mobility, renewable energy, and FinTech.



- The presence of key leaders like President Al Nahyan of the UAE reflects the growing commercial partnership between the two nations.
- Gujarat is slated to be the first state to benefit from this investment.
- The **participation of Timor-Leste's President** signifies India's diplomatic focus on Southeast Asia. This is evident from India's decision to open a diplomatic mission in Timor Leste, announced during the ASEAN-India summit in September 2023.

- Minister of State for External Affairs Rajkumar Ranjan Singh's subsequent visit to Timor Leste further underlines India's commitment to fostering relations with the island nation.

Indian Science Congress Postponed

- **Indian Science Congress**, the largest gathering of scientists and students of science in the country and a permanent annual fixture in the calendar of the participant group for more than a century, has been postponed.



- The postponement is unprecedented. With the exception of the two years following the outbreak of the **Covid-19 pandemic— 2021 and 2022** — the Indian Science Congress has been held every year since 1914.



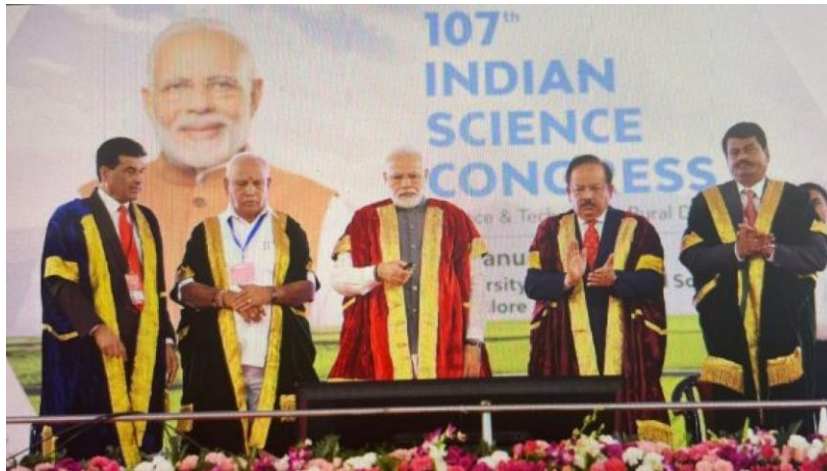
- The **108th edition of the Congress** was held in **Nagpur from January 3-7, 2023**.
- The crisis is the fallout of an **unresolved disagreement between the Indian Science Congress Association (ISCA)**, a registered society that organises the event, and the **Department of Science and Technology (DST)** in the Union Ministry of Science and Technology, the main funder of the congress.
- In September 2023, the **DST pulled funding support to the congress**, alleging “financial irregularities”. The ISCA denied the accusation, and challenged the

DST's directive that **government funds should not be spent** on anything related to the Science Congress, in court. This only deepened the rift. The lawsuit remains pending.

- The DST's contribution (which was raised to **Rs 5 crore in 2023 from Rs 3 crore** earlier) pays for most of the event's expenses.
- The ISCA had decided to move this year's congress **from the original venue, Lucknow University**, to the private **Lovely Professional University (LPU)** in Jalandhar in the hope of receiving some funding.



- While LPU had also hosted the **106th Science Congress in 2019**, the DST was said to be unhappy with the ISCA's choice for this year.
- The ISCA, however, argued that its **executive committee does not need** the DST's clearance for the venue, and that a DST representative was in any case present when LPU was chosen.
- The ISCA has now formed a five-member committee to scout for possible venues to host the event.
- **Ranjit Kumar Verma**, general secretary of ISCA, said it was unfortunate that the event was not being held on time, but said this was not the end of the Science Congress.



- “We will hopefully be able to organise the Science Congress before March 31 and we are hopeful that the Prime Minister will attend the event,” he said.

Green Fuels Alliance India

- At the **Global Investors Meet (GIM) 2024**, **Denmark unveiled the Green Fuels Alliance India (GFAI)**, a pivotal initiative under the Green Strategic Partnership (GSP) signed between India and Denmark in 2020.
- The GFAI aims to accelerate collaboration in the sustainable energy solutions sector, aligning with the joint global objective of carbon neutrality.



- Led by the **Danish Embassy and the Consulate-General of Denmark in India**, the GFAI focuses on advancing the green fuels sector, particularly green hydrogen. Nine leading Danish organizations, including Maersk, Novozymes, and Danfoss, commit as founding members, highlighting a strategic approach to fostering innovation and collaboration.

- The **primary goal of the GFAI** is to establish an ecosystem promoting collaboration among businesses, government entities, research institutions, and financial stakeholders. This initiative bolsters India's efforts to achieve net zero emissions by 2070, showcasing a commitment to sustainable energy growth.
- The **GFAI's advisory board includes** key entities such as the India Hydrogen Alliance and the Danish Energy Agency. This alliance underscores the commitment to sustainable energy solutions, further cementing the bond between India and Denmark in the pursuit of a greener future.

U.S. Launches Peregrine-1 Lander To Moon

- **Peregrine-1 lunar lander**, operated by private firm Astrobotic, successfully launched from Cape Canaveral, marking the first American lunar mission in 51 years.
- Scheduled to land on February 23, the mission, **conducted under NASA's Commercial Lunar Payload Services (CLPS)** initiative, aims to study the Moon's surface environment in preparation for upcoming human missions.



- The **Peregrine lander carries five NASA** payloads and 15 other components designed to measure radiation, surface and subsurface water ice, magnetic fields, and the exosphere.
- Notably, it includes the **first Latin American scientific instruments** destined for the lunar surface. Additionally, five miniature moon rovers, non-scientific

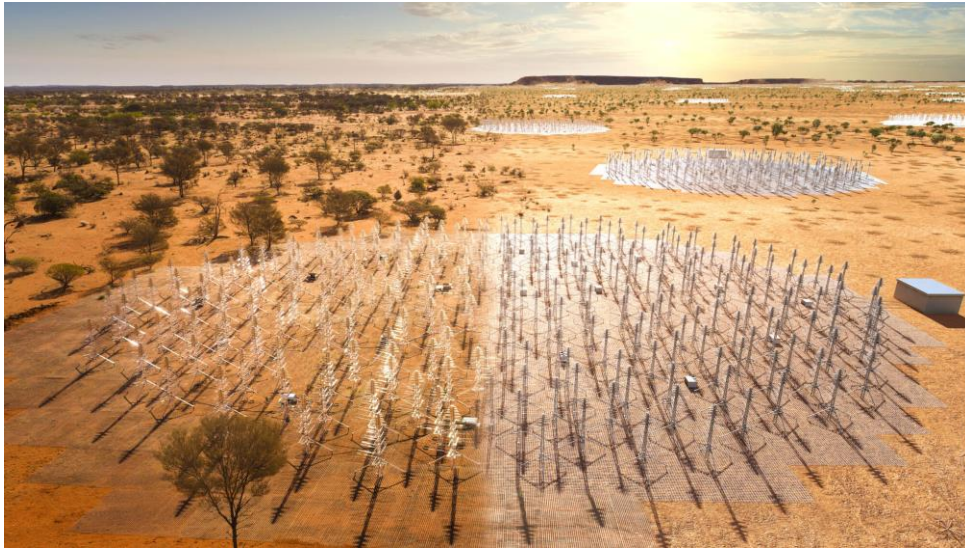
payloads like a Bitcoin-loaded coin, and a “lunar dream capsule” filled with messages from children worldwide are part of the mission.



- The launch utilizes the **Vulcan Centaur rocket**, a pivotal development for ULA, a joint venture between Boeing and Lockheed Martin, competing with SpaceX’s Falcon 9.
- This mission, with its **memorial payload** containing remains and DNA associated with Star Trek, holds emotional and historic weight.
- Astrobotic is the **first of three US companies** deploying landers through CLPS, with Intuitive Machines and Firefly to follow. NASA’s involvement as a customer, not operator, reflects a cost-effective approach, while the Vulcan rocket’s success is critical for ULA’s plans.

Square Kilometer Array

- **Square Kilometre Array Observatory (SKAO)** was founded in **2019** and has 16 consortium members: Australia, South Africa, Canada, China, India, Japan, South Korea, the UK, Spain, Portugal, Switzerland, France, Germany, the Netherlands, Sweden, and Italy.
- The SKA Observatory aims to build the **world’s largest and most sensitive radio telescope**, combining cutting-edge technology with a vast collecting area to address a wide range of scientific questions in astronomy, astrophysics, and cosmology.



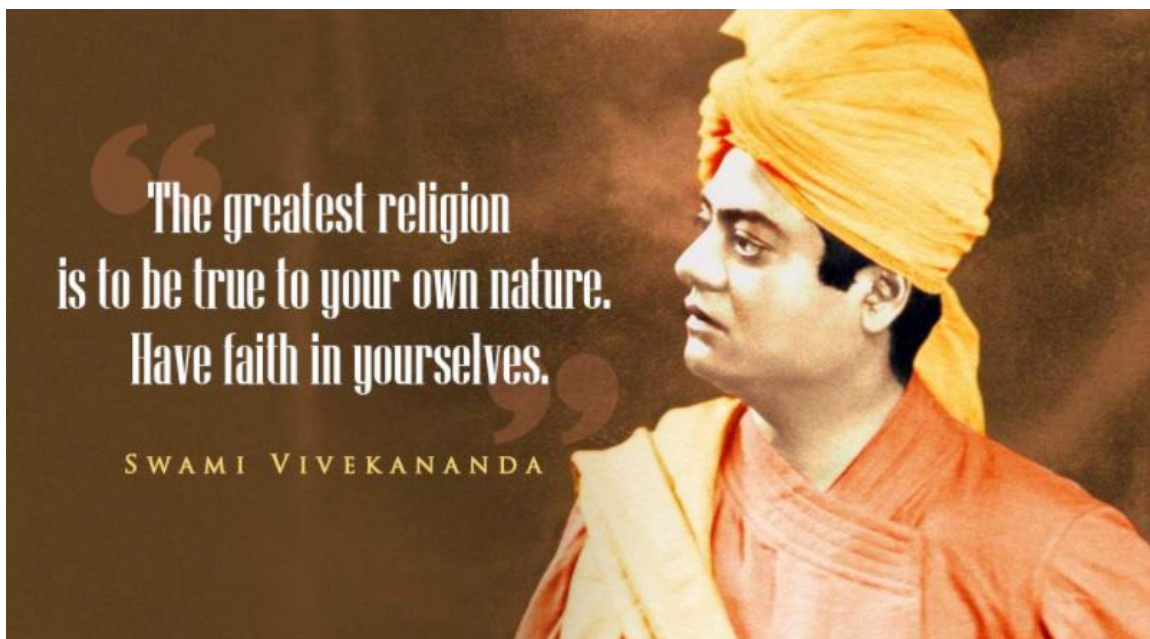
- The Square Kilometer Array will **not be a single large telescope**, but a collection of thousands of dish antennas operating as a single unit.
- The name, Square Kilometer Array, comes from the **original intention to create one square kilometre** (one million square metre) of effective area for collecting radio waves.
- This was meant to be achieved by installing thousands of smaller antennas in a specific array design that would make them function like a single radio telescope.
- As of now, it appears that the USD 2.4-billion project (2021 prices) would eventually have a lesser collecting area than one square kilometre, but the original name has been retained.
- The **antennas, about 200 of them in South Africa** and more than **130,000 in Australia**, are being installed in sparsely populated locations, chosen to ensure they are as far away from human activities as possible.



- This has been done in order to **minimise signal interference** from undesirable Earth-based sources. Construction at both the sites began in December 2022, and the first phase of the project is expected to be completed by next year.
- Once operational, **SKA would be between 5 to 60 times** more powerful than the most advanced existing radio telescopes functioning in comparable frequency ranges.

National Youth Festival

- **Prime Minister Narendra Modi** will inaugurate the **27th National Youth Festival** at Nashik in Maharashtra tomorrow. He will also address the youth of the nation.
- National Youth Day is celebrated every year to honour the **ideals and thoughts of Swami Vivekananda**.



- This year, National Youth Day will be celebrated by all field organisations of the Department of Youth Affairs in districts in collaboration with multiple government departments. Road safety awareness events will be conducted at major cities and 750 district headquarters of the country.
- The theme of the National Youth Festival this year is **"MYBharat-ViksitBharat@2047- By the Youth, For the Youth."** During the celebration, various states will showcase cultural programmes of their diverse cultural heritage.

- In **1984**, the **Indian Government** first declared to celebrate the birthday of **Swami Vivekananda** as **National Youth Day**. Since then the day has been celebrated as National Youth Day all over the country.
- The day is celebrated to highlight the youths who are the future of our country and to commemorate the birth anniversary of Swami Vivekananda who always motivated the youth of the country and spoke about the right use of the youth in the development of the country.



Divyakriti Singh

- In a historic moment for Indian sports, the **accomplished equestrian athlete, Divyakriti Singh**, has been conferred with the **prestigious Arjuna Award**, making her the **first woman** from Rajasthan to achieve this honour.
- The award was presented in a grand ceremony at **Rashtrapati Bhavan** by the President of India, Droupadi Murmu.



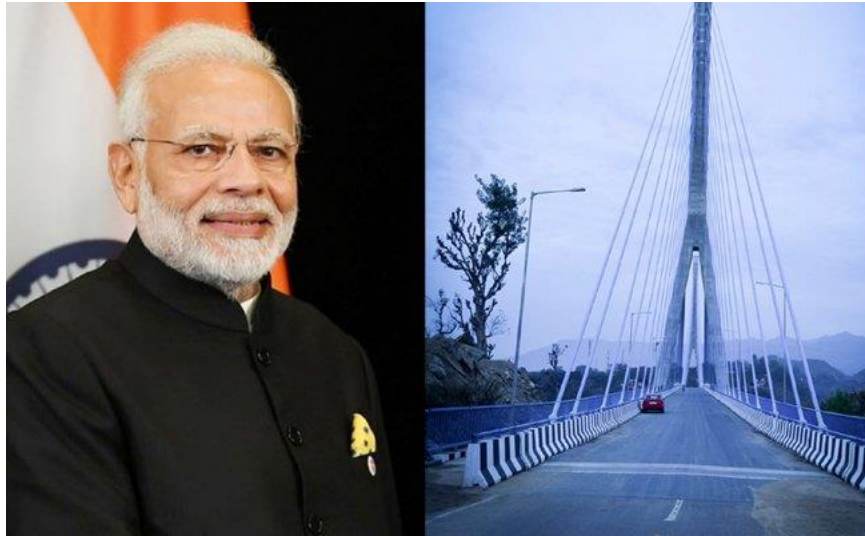
- Divyakriti Singh's remarkable journey in the equestrian world reached new heights with the Arjuna Award, recognizing her outstanding contribution to the sport. Her dedication and prowess were on full display when she played a pivotal role in securing the **Gold Medal for the Indian Dressage team at the Asian Games in Hangzhou, China.**
- The Arjuna Award for Divyakriti Singh holds special significance for her home state of Rajasthan, ending a five-year hiatus for the region in receiving this prestigious honour.
- As the sole representative from Rajasthan to be honoured this year, she not only brings glory to herself but also puts Rajasthan back on the map of sporting achievements.

Atal Setu

- Prime Minister Narendra Modi on 12 Jan 2024, inaugurated **Atal Bihari Vajpayee Sewri - Nhava Sheva Atal Setu**, India's longest bridge and a major infrastructure project for Mumbai.
- The **21.8 km long bridge** also holds the distinction of being the longest sea bridge in the country.
- PM Narendra Modi had laid the foundation stone of Atal Setu in December 2016. After the inauguration, the PM travelled from Atal Setu and reached Navi Mumbai Airport site at Panvel.



- Atal Setu aims to **improve connectivity in the Mumbai Metropolitan Region**, namely Mumbai, Thane, Palghar, and Raigad.
- The bridge aims to reduce travel time between Sewri and Nhava Sheva - from around **two hours to just 20 minutes**. It also shortens the route from Mumbai to Pune, Goa, and the rest of South India.
- It will provide a faster route from the **Mumbai International Airport** and Navi Mumbai International Airport and will also improve connectivity between the **Mumbai Port and the Jawaharlal Nehru Port**.
- The 6-lane bridge stretches for 16.5 km over the sea and about 5.5 km over land, making it the longest sea bridge, and the longest overall in India. The project was executed by the Mumbai Metropolitan Region Development Authority (MMRDA) on an Engineering Procurement Contract (EPC) basis with engineers and experts from across the globe.
- It has been constructed at a total cost of over **Rs 17,840 crore**, as per MMRDA. The Japan International Cooperation Agency also sanctioned a loan of approximately 30,755 million yen for the project.



- After the grand inauguration event of Atal Setu, the PM is now participating in a public programme at Navi Mumbai. Soon he will inaugurate, dedicate to the nation and lay the foundation stone of multiple development projects worth over 12,700 crore rupees.
- These include the foundation stone for the **underground road tunnel** connecting Eastern Freeway's Orange Gate to Marine Drive, the inauguration of the first phase of the **Surya regional bulk drinking water project**, Phase 2 of Uran-Kharkopar railway line and a new suburban station '**Digha Gaon**' on the Trans-harbour line.

Swachh Survekshan Awards

- The President of India, Smt. Droupadi Murmu conferred **Swachh Survekshan awards 2023 at Bharat Mandapam, New Delhi** hosted by the **Ministry of Housing and Urban Affairs (MoHUA)**.
- 13 awardees received felicitations under categories of Clean Cities, Cleanest Cantonment, SafaiMitra Suraksha, Ganga Towns and Best Performing State were given away. This year the cleanest city award showcased joint winners.



- **Port city Surat** bagged the top honours, alongside Indore, who had conquered the top spot alone for 6 consecutive years. In the category of cities with a population of less than 1 lakh, **Sasvad, Patan and Lonavala** secured the top three spots.
- **Mhow Cantonment Board** in Madhya Pradesh was adjudged the Cleanest Cantonment Board. Varanasi and Prayagraj won the top two awards amongst the Cleanest Ganga Towns.
- **Maharashtra, Madhya Pradesh and Chhattisgarh** won the top three awards for Best Performing State. Chandigarh walked away with the award for the Best Safaimitra Surakshit Sheher. 110 awards were bestowed during the ceremony.

Tenzing Norgay Award

- President Draupadi Murmu presented the **posthumous Tenzing Norgay National Adventure Award to Savita Kanswal**, a brave mountaineer from Lothru village in Uttarkashi district in a ceremony.
- Savita Kanswal made history by becoming the **first Indian woman mountaineer** to conquer both **Mount Everest (8848 m)** and **Mount Makalu (8485 m)** within an astonishing span of 16 days.



- The promising journey of Savita took a tragic turn when she met an untimely demise on October 4, 2022. While attempting to climb **Draupadi Ka Danda peak** as a member of the team sent by the Nehru Institute of Mountaineering, Savita was struck by an avalanche. Her passion for conquering peaks and pushing boundaries ultimately cost her life.
- Savita Kanswal, a courageous mountaineer **from Lothru village** in the Bhatwari block of Uttarkashi district, has left an indelible mark on the world of mountaineering and adventure sports despite the tragic end to her journey.
- Savita Kanswal's legacy goes beyond her remarkable achievements; it encapsulates her courage, determination, and resilience in the face of challenges. Her ability to overcome odds and push her limits serves as a beacon of inspiration for adventure lovers across the country.



Atpadi Conservation Reserve

- The **Government of Maharashtra** has recently declared the establishment of a new Conservation Reserve in the Atpadi region of Sangli district, named the '**Atpadi Conservation Reserve**'.
- This significant development is a step forward in the conservation of wildlife and biodiversity in the region. The Atpadi Conservation Reserve is situated in the forest land of Sangli district.
- It forms a crucial ecological bridge, connecting the **Maini Conservation Area** in the west with the **Maldhok Bird Sanctuary** in the northeast.

Government Of Maharashtra
Declares New Atpadi Conservation
Reserve In Sangli District



- This connectivity is vital for the movement and genetic diversity of wildlife in the region.
- The reserve hosts a diverse range of flora and fauna. It includes **three types of forest cover**: Semi-evergreen, moist deciduous, and dry deciduous.
- The area is home to 36 tree species, 116 herb species, 15 shrub species, 14 vine species, and 1 parasitic plant.
- A key objective of the Atpadi Conservation Reserve is to preserve the habitat of various mammals like wolves, jackals, deer, foxes, civets, rabbits, and other species. The establishment of the reserve will play a crucial role in the protection of these wildlife corridors.
- The reserve spans a significant area and is characterized by a rich ecological tapestry, contributing to the overall environmental health and biodiversity of Maharashtra.

International Camel Festival

- The **three-day International Camel Festival** kicked off with great fervor in the culturally rich district of **Bikaner, Rajasthan**. The festival commenced with an enthralling **Heritage Walk**, setting the stage for a celebration of folk culture that captivated both domestic and foreign tourists.
- On the inaugural day of the festival, the streets came alive with the vibrant hues of decorated camels, traditional robes, and women adorned in colorful costumes.



- The Heritage Walk, **starting from Rampuriya Haveli**, saw the enthusiastic participation of folk artists, adding a touch of authenticity to the cultural fiesta. Local folk artists mesmerized the onlookers with traditional songs, Rammats, and captivating dances, offering a glimpse into the rich local culture.
- As the Heritage Walk traversed through the main roads of the city, the residents warmly welcomed the participants. Flowers adorned the path, and rangolis decorated various places, creating an atmosphere of joy and festivity. The city park became a focal point of the celebration, attracting a large number of tourists and locals who eagerly gathered early in the morning to witness the cultural spectacle.

World Economic Forum

- The **54th annual meeting of the World Economic Forum** began in **Davos** amid growing concerns over global conflicts, climate change, and deepfake.
- The **theme of the conference** is Rebuilding Trust, emphasizing the focus on exploring the opportunities enabled by the new technologies and their implications on decision-making and global partnership.

WORLD ECONOMIC FORUM

- The opening concert was dedicated to the **Sahara desert and Amazon rainforest** amid growing concerns among world leaders over climate change, conflicts, and misinformation.
- **Annual Crystal Awards** were presented to three artists, architect Diebedo Francis Kere, actor Michelle Yeoh, and guitarist Nile Rodgers.
- The **WEF called them the bridge-builders** and said that they connect us, help us reflect on the human condition, and provide visions of the world that can cut through the limitations of short-term or linear thinking..

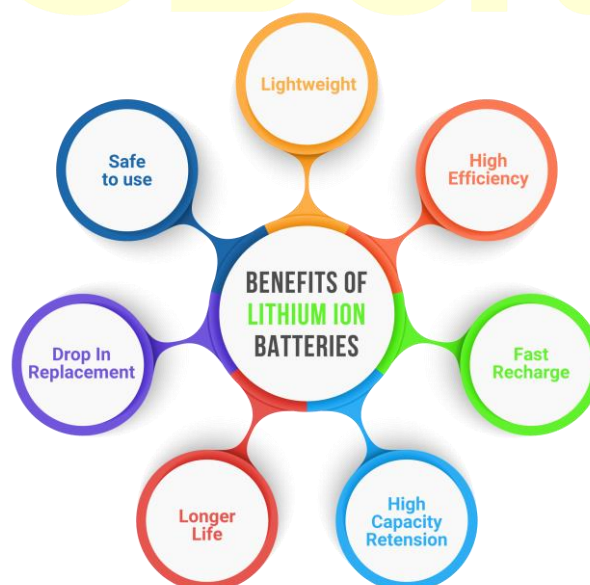
Lithium Exploration

- **Khanij Bidesh India Ltd. (KABIL)**, a joint venture between NALCO Ltd., Hindustan Copper Ltd., and Mineral Exploration Company Ltd. signed an agreement with Argentina-based CAMYEN SE for the first-ever Lithium exploration and mining project.
- The agreement gives **KABIL exclusive rights** to evaluate, prospect and explore and subsequent to discovery of Lithium, exploitation rights for commercial production for **five Lithium brine blocks** in the Catamarca Province of Argentina.



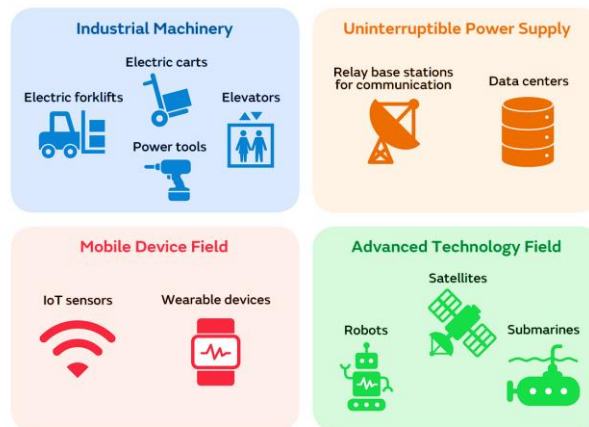
KABIL
खनिज बिदेश इंडिया लिमिटेड
KHANIJ BIDESH INDIA LTD.

- These five blocks, Cortadera-I, Cortadera-VII, Cortadera-VIII, Cateo-2022-01810132 and Cortadera-VI, will cover an area of 15,703 hectare and will cost ₹200 crore, NALCO said in an exchange filing.
- KABIL is also preparing to set up a **branch office at Catamarca, Argentina**. This is the first-ever lithium exploration and mining project undertaken by a government company in India.
- Lithium, often called **'white gold'**, forms the cornerstone of the country's transition to green energy options.



- It is used across various categories, including energy storage solutions, batteries for mobile phones, and in EVs.

- Lithium is used in **rechargeable batteries** for mobile phones, laptops, digital cameras, and electric vehicles. It's also used in some non-rechargeable batteries for things like heart pacemakers, toys, and clocks.
- **Lithium-ion batteries** are popular for electric automobiles, golf carts, and trolleys because they offer an extended run time, size customization, and fast charging.



Asian Buddhist Conference For Peace

- **Vice President Jagdeep Dhankhar** has said that the world today faces challenges like climate change, conflict, terrorism and poverty which are universal and it can be addressed by common resolve and **collaborative and collective approach**.
- He was speaking after **inaugurating the 12th General Assembly of the Asian Buddhist Conference for Peace in New Delhi**. Mr Dhankhar said, Buddha's timeless wisdom, his Four Noble Truths and Eightfold Path guide people towards inner peace, compassion, and non-violence. He said, it is a transformative roadmap for individuals and nations facing today's conflicts.



- The Vice President said, violence has never generated unity and peace has never led to divisions. He said, across the continent, **Buddhist Stupas** stand as silent testaments to Buddha's enduring wisdom. Mr Dhankhar said, the principles of Bhagwan Buddha are no less than a beacon of hope and light to catalyse convergence of all stakeholders on a common platform. He said, In a world yearning for harmony, Buddha's light shines brightest.
- The Vice President said, **Buddhism was born in India** and was spread to different parts of the world. He said, teachings of Buddha are guiding compass of the future. Mr Dhankhar said, **Buddha's teachings inspire India's service-driven governance**, prioritizing citizen **welfare and inclusivity**, from farmers and the vulnerable to the Divyangjans. He said, this commitment extends to environmental sustainability, where the interconnectedness of all life guides India's advocacy for a greener future.
- When we talk of Buddhism in Asia, it is a large part of area and population which is multicultural encompassing diverse customs and traditions, art, architecture, music, literature, lifestyle, philosophy, food, politics and religion.
- The Minister said, it has been practiced and maintained by various ethnic groups since pre-history. He said, Buddhism has undoubtedly been a critical factor in binding several nations in Asia together and also with India.

9th Indian International Science Festival

- **Minister of State for Science and Technology Dr. Jitendra Singh** will inaugurate the **9th Indian International Science Festival in Faridabad, Haryana.**

- The **primary objective** of this festival is to commemorate the world of science, making it accessible to all. It will continue till 20th January, which aims to engage the public with science and celebrate the joy of science.



9TH INDIA INTERNATIONAL SCIENCE FESTIVAL (IISF)

- **Department of Science and Technology** informed that during the festival, 17 different events are being organized keeping in mind different sections of the society like young students, women scientists, toy manufacturers, social organizations, science teachers and start-ups. School, College students and general public can visit the festival through registration.
- The department said that in the *era defined by technological leaps*, India emerges as a global frontrunner, showcasing its unparalleled prowess on the international stage.
- From the ground-breaking Mars Orbiter Mission to the awe-inspiring Chandrayaan expeditions, India is not just keeping pace with technological advancements, it is leading the charge.

Boeing India Engineering And Technology Center

- Prime Minister Narendra Modi inaugurated the **new state of the art Boeing India Engineering and Technology Center** and launched the Boeing Sukanya programme in Bengaluru.
- In his address during the inaugural ceremony, the Prime Minister pointed out that the Boeing facility in Bengaluru strengthens the '**Make in India-Make for the World**' resolution and reinforces the World's trust in India's talent.

- With Asia's largest helicopter manufacturing factory and the Boeing facility inaugurated today, the Prime Minister said that Karnataka is the new aviation hub in the country.



- He said that the center is encouraging state governments to reduce taxes related to aviation fuel and also working to make Aircraft Leasing easier.
- He also mentioned the **International Financial Services Centers Authority** established in Gift City to reduce India's offshore dependence on aircraft leasing and financing.
- **India is becoming one of the most well connected markets** due to the policy initiatives of the Central Government. He said, with just 70 operational airports in 2014, the country has today 150 operational airports, the efficiency of which is also being enhanced with increase in air cargo capacity.
- India has become the **world's third largest domestic aviation market**. The PM said, in a decade, the number of domestic passengers has doubled.
- The **schemes like UDAN** have played a big role in this. Indian airlines fleet size is increasing due to growing demand.
- He emphasised that the rapidly **growing aviation sector** is giving impetus to India's overall growth and employment generation.



- Prime Minister informed that 15 percent of India's pilots are women which is three times more than the global average.
- He expressed the Government commitment to create new opportunities for women in the aerospace sector.
- He acknowledged the **contribution of Boeing in giving a boost to women participation** in the aviation sector by helping the poor living in far flung areas to realise their dreams of becoming pilots through the Boeing Sukanya programme.

E SAKSHI App Under MPLADS

- Launch Of **e-Sakshi Mobile Application** Marks A Significant Advancement In Administration Of **Member Of Parliament Local Area Development Scheme** In India. Digital Initiative, Spearheaded By **Union Ministry Of Statistics And Programme** Implementation.
- Aims To Transform The Way MPs Engage In & Manage Development Projects Within Their Constituencies.



- **MPLADS, Established In 1993**, Is A **Central Sector Scheme** Fully Funded By The GOI. It Allows MPs To Recommend Developmental Projects With An Emphasis On Durable Community Assets, Based On Locally Felt Needs.
- Each MP Is Allocated **Rs. 5 Crores Annually** For These Projects, Which May Include Building Infrastructure Like Toilets And Bridges And Providing Essential Services Like Drinking Water And Electricity.
- **Before e-Sakshi**, The Process Was Predominantly Paper-based, Leading To Various Administrative Challenges. This Feature Prevents The Occurrence Of Ghost Projects By Providing Tangible Proof Of Progress.

Google Pay Partners With NPCI

- In a significant move towards **fostering international digital transactions**, **Google India Digital Services and NPCI** International Payments Ltd (NIPL) have joined hands to propel UPI payments beyond the borders of India.
- The recently signed Memorandum of Understanding (MoU) between the two entities is poised to revolutionize the way Indian travellers engage in financial transactions abroad.
- The **primary objective** of the MoU is to enhance the usage of UPI payments for Indian travellers outside their homeland.
- With this collaboration, Google Pay (GPay) becomes the conduit, enabling seamless and convenient transactions for Indian globetrotters. This marks a departure from the traditional reliance on cash or international payment gateways.



- The MoU outlines three pivotal objectives that aim to reshape the landscape of international digital payments.
- It seeks to broaden the scope of UPI payments, providing travellers the ease of conducting transactions in foreign countries.
- The collaboration aims to establish UPI-like digital payment systems globally, setting a precedent for frictionless financial exchanges.
- Lastly, it focuses on simplifying cross-border financial exchanges by leveraging the UPI infrastructure for remittances between countries. By utilizing the robust UPI infrastructure, the collaboration aims to simplify **cross-border financial exchanges**, reducing reliance on conventional money transfer channels. This not only benefits Indian travellers but also contributes to the global ease of financial transactions.

Nuclear Battery

- **A start-up in China** has created a new battery that it claims can **generate electricity for 50 years** without the need for charging or maintenance.
- A report in The Independent, it's a nuclear battery developed by **Beijing-based Betavolt**, And don't imagine a massive size after reading the **word "nuclear"**.
- Betavolt has managed to **squeeze 63 isotopes** into that module that's smaller than a coin, the outlet further said in its report.



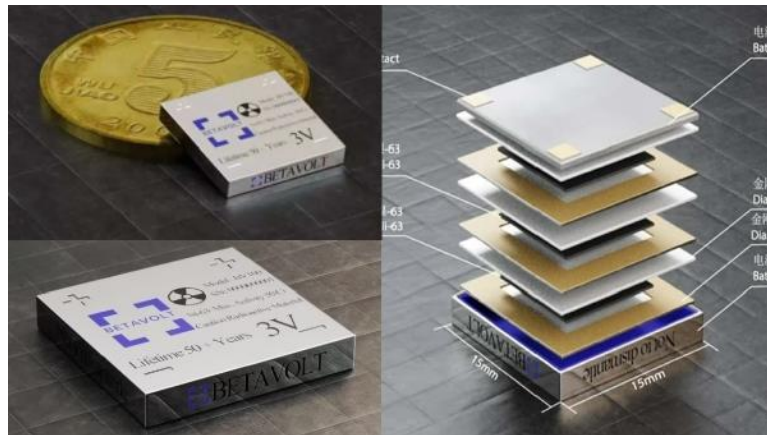
- The company said it is the first battery in the world to realise the **miniaturisation of atomic energy**.
- The next-generation battery is already being tested and will be mass produced for commercial applications like phones and drones.
- "**Betavolt atomic energy batteries** can meet the needs of long-lasting power supply in multiple scenarios, such as aerospace, AI equipment, medical equipment, microprocessors, advanced sensors, small drones and micro-robots,".
- "This new energy innovation will help **China gain a leading edge** in the new round of the AI technological revolution," it further said.
- A nuclear battery converts radioisotope energy into electrical energy, and has an advantage **over other types of batteries** due to its high energy density. Such batteries use energy from the decay of a radioactive isotope to generate electricity.



- Nevertheless, the **newly developed nuclear battery** has a layered structure which apparently makes it fire resistant and jerk proof — which means it is not

likely to explode when there's a sudden external force applied on the device running a nuclear applied on the device running a nuclear battery.

- The battery is also said to be capable of working in temperatures ranging from - **60 degrees Celsius to 120 degrees Celsius.**



- It measures **15 x 15 x 5 millimetres** and is made of wafer-thin layers of nuclear isotopes and diamond semiconductors, as per Futurism.
- The nuclear battery currently generates **100 microwatts of power at 3 volts.** However, the goal is to reach a **1-watt power output by 2025.**
- Betavolt said the radiation poses no danger to the human body, making it usable in medical devices such as pacemakers.
- The technology used in the battery taps into the energy from decaying isotopes, a concept that was **first explored in the 20th century.** It then converts this energy into electricity.

Ayodhya Ram Mandir

- The consecration ceremony of Ayodhya's Ram temple will be held on **January 22. Chandrakant B Sompura**, 81, and his son Ashish, 51, designed the temple complex in Nagara style architecture.
- **Sompura, the principal architect** of the Ayodhya Ram Mandir, was first approached to design and build the temple in 1989 by Ashok Singhal, President of VHP (Vishva Hindu Parishad).



- He was sent to Ayodhya to observe the site and take measurements of the space. Owing to heavy security, he had to measure the space with his feet and crafted three designs based on these dimensions.
- Decades later, his two sons, Nikhil and Ashish Sompura, have assisted him in the creation of the Ram Mandir. The temple, **constructed in the Nagara style**, stands on a solid stone foundation.
- Approximately two lakh bricks inscribed with Lord Ram's name in various languages, collected over 30 years, are integrated into the temple structure.
- The temple stands on a **12-foot jagati** and an upper plinth known as the mahapeeth. The stepped shikharas rise high over the five mandapas and the one over the **garba griha is the tallest at 161 feet**. The kuda mandapa is three stories high. There will be 300 pillars across the mandapas and 44 teak doors.

First Pilot Project To Make Jet Fuel From Alcohol

- **The first pilot technology project to make jet fuel from alcohol** was inaugurated by Union Petroleum and Natural Gas Minister **Hardeep Singh Puri** in Pune.
- This project will produce **sustainable biological aviation fuel or SAF**. This pilot project has been set up in the research and development department of **Praj Udyog Group in Pirangut Industrial Estate** near Pune.



- The Minister said, there is a huge **demand for this bio aviation fuel** in the global market, and it is a big challenge to provide the necessary raw materials for it.
- He added, that most of the **countries around the world** have great expectations from India for biofuel.
- He **congratulated the engineers of Praj Udyog Group** for setting up this project in India before Brazil and expressed confidence that this project will truly be a pioneer for the world.
- The flight from **Pune to Delhi** was completed last year using bioaviation fuel made from alcohol. At that time, Puri welcomed the flight at the Delhi airport.
- This **biofuel production industry** will have a huge scope in the future as even if at least one percent of the total aviation fuel used in India is blended with this sustainable bio aviation fuel, at least 14 crore litres of biofuel will be needed every year.

Padma Awards for year 2024

- The government has announced the **Padma Awards for the year 2024**.
- The list comprises **five Padma Vibhushan, 17 Padma Bhushan, and 110 Padma Shri Awards**.
- **Thirty of the awardees are women** and the list also includes eight persons from the category of Foreigners / NRI / PIO / OCI and nine Posthumous awardees.
- **Former Vice President Venkaiah Naidu**, actor K Chiranjeevi, actress Vyjayantimala Bali, and Bharat Natyam dancer Padma Subrahmanyam have been selected for Padma Vibhushan.
- **Social activist Bindeshwar Pathak** has been awarded Padma Vibhushan posthumously.

- The **first women Supreme Court Judge** M Fathima Beevi and Tamil actor Vijaykanth have been awarded Padma Bhushan posthumously. Bollywood actor Mithun Chakraborty, singer Usha Uthup, industrialist Sitaram Jindal, composer Pyarelal Sharma, and Foxconn Chairman Young Liu are among those who will be given Padma Bhushan. Among the Padma awardees, 34 are unsung heroes.
- They include **India's first woman elephant mahout Parbati Baruah**, tribal environmentalist Chami Murmu and social worker Sangthankima. Padma Awards - one of the highest civilian Awards of the country is conferred in three categories - Padma Vibhushan, Padma Bhushan, and Padma Shri.
- The Awards are given in various disciplines and fields of activities, including art, social work, public affairs, science and engineering, trade and industry, medicine, literature, and education. '**Padma Vibhushan**' is awarded for exceptional and distinguished service, '**Padma Bhushan**' for distinguished service of high order, and 'Padma Shri' for distinguished service in any field. The awards are announced on the occasion of Republic Day every year.



SSB Crack

EXAMS

Padma Bhushan Awards

S.No.	Awardee Name	Field	State/Country
1.	Ms. M Fathima Beevi	Public Affairs	Kerala
2.	Shri Hormusji N Cama	Literature & Education	Maharashtra
3.	Shri Mithun Chakraborty	Art	West Bengal
4.	Shri Sitaram Jindal	Trade & Industry	Karnataka
5.	Shri Young Liu	Trade & Industry	Taiwan
6.	Shri Ashwin Balachand Mehta	Medicine	Maharashtra
7.	Shri Satyabrata Mookherjee	Public Affairs	West Bengal
8.	Shri Ram Naik	Public Affairs	Maharashtra
9.	Shri Tejas Madhusudan Patel	Medicine	Gujarat
10.	Shri Olanchery Rajagopal	Public Affairs	Kerala
11.	Shri Dattatray Ambadas Mayaloo alias Rajdutt	Art	Maharashtra
12.	Shri Togdan Rinpoche	Others – Spiritualism	Ladakh
13.	Shri Pyarelal Sharma	Art	Maharashtra
14.	Shri Chandreshwar Prasad Thakur	Medicine	Bihar
15.	Ms. Usha Uthup	Art	West Bengal
16.	Shri Vijaykanth	Art	Tamil Nadu
17.	Shri Kundan Vyas	Literature & Education – Journalism	Maharashtra

Padma Vibhushan Awards

S.No.	Awardee Name	Field	State
1.	Ms. Vyjayantimala Bali	Art	Tamil Nadu
2.	Shri Konidela Chiranjeevi	Art	Andhra Pradesh
3.	Shri M Venkaiah Naidu	Public Affairs	Andhra Pradesh
4.	Shri Bindeshwar Pathak	Social Work	Bihar
5.	Ms. Padma Subrahmanyam	Art	Tamil Nadu

Republic Day 2024: Tableaux List

- **The Republic Day Parade** at Kartavya Path in 2024 promises to be a vibrant and eclectic celebration of India's unity in diversity.
- **With 25 captivating tableaux** from 16 states and Union Territories, the parade showcases a kaleidoscope of themes ranging from education and empowerment to traditional arts and sports achievements.
- Each tableau represents the unique cultural, social, and technological facets of the participating regions, contributing to the rich tapestry of India's national identity.
- **A total of 25 splendid tableaux**, representing 16 states and Union Territories, along with nine Ministries and Departments, will grace the Republic Day parade at Kartavya Path.



- **Each tableau vividly depicts themes** ranging from women empowerment to technological advancements, offering a glimpse into the multifaceted tapestry of India's identity.
- **The states and UTs set** to be represented in the parade include Maharashtra, Andhra Pradesh, Ladakh, Tamil Nadu, Gujarat, Meghalaya, Madhya Pradesh, Odisha, Chhattisgarh, Rajasthan, Arunachal Pradesh, Haryana, Manipur, Jharkhand, Uttar Pradesh, and Telangana.
- The **tableaux representing Ministries and Organizations in the Republic Day** parade are from the following entities:
- **Ministry of Home Affairs**, Ministry of External Affairs, Ministry of Electronics and Information Technology, Ministry of Ports, Shipping & Waterways, Ministry of Culture, Indian Space Research Organisation (ISRO), Centre for Scientific and Industrial Research (CSIR), Election Commission of India, and Central Public Works Department (CPWD).



- **The selection of tableaux for the Republic Day Parade follows** a rigorous process overseen by an expert committee comprising eminent individuals from various artistic and cultural fields.
- To ensure equitable representation, the Ministry of Defence introduced a unique **three-year roll-over plan**. This plan guarantees rotational participation for all states and Union Territories, addressing concerns of non-inclusion and fostering inclusivity on the grand stage of the Republic Day Parade.



25 States' Tableaux or 'Jhakiyaan' on Republic Day 2024

State/ Ministry	Theme	Highlights
Andhra Pradesh	Revolutionizing School Education	Focus on global competitiveness in education.
Rajasthan	Women's Handicraft Industries	Showcasing Ghoomar dance, Meera Bai's statue, and traditional handicrafts.
Odisha	Women in Handicrafts and Handlooms	Emphasizing women's role in preserving and promoting traditional arts.
Haryana	Empowerment of Women	Illustrating empowerment through the 'Mera Parivar – Meri Pehchan' program.
Madhya Pradesh	Women's Integration in Development	Featuring Avani Chaturvedi, the first woman fighter pilot, and women in various sectors.
Chhattisgarh	Muria Darbar Tradition in Bastar	Highlighting tribal community decision-making and equal involvement of men and women.
Ladakh	Indian Women's Ice Hockey Team	Showcasing achievements and contributions of Ladakhi women in sports.
Manipur	Women in Socio-Economic Activities	Featuring women working with lotus stems, Ima Keithel market, and lotus silk making.
Ministry of Electronics and Information Technology	AI in various sectors	Illustrating the role of artificial intelligence in diverse industries.
CRPF	Women Empowerment	Central Armed Police Forces' tableaux focusing on empowering women.
IAF	Power Beyond Boundaries	Showcasing major assets of the Indian Air Force, including recent inductions

REVIEW QUESTIONS

1. Chairman Of 16th Finance Commission

- A. Dr Arvind Panagariya
- B. Dr Sanjay Aggarwal
- C. Dr Ankit Panagariya
- D. Dr Sohail Hussain

ANSWER: A

2. Who Recently Rejects BRICS Membership

- A. Argentina
- B. Egypt
- C. Ethiopia
- D. Saudi Arabia

ANSWER: A

3. Murty Trust's 'Maitri' Initiative Aims To Address Challenges In Which Sector

- A. Education
- B. Healthcare
- C. Animal Welfare
- D. Agriculture

ANSWER: C

4. Queen Margrethe II Related To

- A. Denmark
- B. Spain
- C. Portugal
- D. Finland

ANSWER: A

5. What Is The 2023 Kuvempu Rashtriya Puraskar Awarded For

- A. Scientific Achievements
- B. Literary Contributions
- C. Artistic Excellence
- D. Music Achievements

ANSWER: B

6. First State To Map All Accident Prone Sites

- A. Punjab
- B. UP
- C. Gujrat
- D. Kerala

ANSWER: A

7. What Technology Did ISRO Test Aboard PSLV-C58's POEM3 Platform

- A. Solar panels
- B. Fuel cell power system
- C. Advanced sensors
- D. Robotic arms

ANSWER: B

8. Where Did The 58th DGSP/IGSP Conference 2023 Take Place

- A. Mumbai
- B. Delhi
- C. Chennai
- D. Kolkata

ANSWER: B

9. Where Did The 58th DGSP/IGSP Conference 2023 Take Place

- A. Mumbai
- B. Jaipur
- C. Delhi
- D. Kolkata

ANSWER: B

10. Objective Of 'Swachh Mandir' Campaign Launched By PM Modi

- A. To Promote Pilgrimage Tourism
- B. To Ensure Cleanliness At Pilgrimage Sites
- C. To Conduct Religious Ceremonies
- D. To Organize Cultural Events

ANSWER: B

11. What Is The Significance Of The 'Harit Nauka' Initiative

- A. Guidelines For Eco-friendly Vessel Production
- B. River Cleaning Campaign
- C. Promotion Of Maritime Tourism
- D. Green Transition Of Inland Vessels

ANSWER: D

12. Which District In Telangana Revealed An Unexpected Archaeological Discovery After Floods In 2023

- A. Mulugu
- B. Adilabad
- C. Jagtial
- D. Hyderabad

ANSWER: A

13. Yogyasree For SC/ST Students Was Launched By

- A. West Bengal
- B. Kerala
- C. Karnataka
- D. Tamil Nadu

ANSWER: A

14. When is India scheduled to chair the UNESCO World Heritage Committee

- A. January 2024
- B. July 2024
- C. December 2024
- D. April 2024

ANSWER: B

15. In Which Country Will A New Campus Of IIT Madras Be Established

- A. India
- B. France
- C. Sri Lanka
- D. United States

ANSWER: C

16. ANUBHAV Awards Scheme Launched In

- A. 2013
- B. 2014
- C. 2015
- D. 2016

ANSWER: C

17. Einstein Probe Is Launched By

- A. Japan
- B. China
- C. Russia
- D. South Korea

ANSWER: B

18. Primary Focus Of The India United States Trade Policy Forum

- A. Climate Change Agreements
- B. Customs And Trade Facilitation
- C. Human Rights Advocacy
- D. Space Exploration Collaboration

ANSWER: B

19. Which State Launched Operation Amrith

- A. Karnataka
- B. Jharkhand
- C. Kerala
- D. Odisha

ANSWER: C

20. Srimandir Parikrama Prakarpa Made In

- A. Odisha
- B. Kerala
- C. Tamil Nadu
- D. Gujarat

ANSWER: A

21. Who Releases Startup Ecosystem Development Ranking

- A. Niti Aayog
- B. DPIIT
- C. iCreate
- D. CauseKey Social

ANSWER: B

22. Rare Tibetan Brown Bear Is Spotted In

- A. Nepal
- B. India
- C. China
- D. Sikkim

ANSWER: D

23. Advanced Distress Alert Transmitter Is Made By

- A. NASA
- B. ISRO
- C. JAXA
- D. ESA

ANSWER: B

24. How Much Annual Allocation Does Each Member Of Parliament Receive For Developmental Projects Under MPLADS

- A. Rs. 1 Crore
- B. Rs. 2 Crore
- C. Rs. 3 Crore
- D. Rs. 5 Crore

ANSWER: D

25. Financial Assistance Scheme Recently Launched By Assam Government To Empower Rural Women Entrepreneurs

- A. Pradhan Mantri Mahila Vikas Yojana
- B. Mukhyamantri Mahila Udyamita Abhiyaan
- C. Nari Shakti Yojana
- D. Beti Bachao, Beti Padhao

ANSWER: B

26. What Is 'Andrographis Theniensis', Recently Seen In The News

- A. Plant
- B. Flower
- C. Bacteria
- D. Fungus

ANSWER: A

27. Jan Nayak Karpoori Thakur Seen In News Serves As Chief Minister

- A. Bihar
- B. Kerala
- C. UP
- D. Gujarat

ANSWER: A

28. Which Company Unveiled World's Largest Container Vessel Fueled By Green Methanol

- A. Maersk Group
- B. China State Shipbuilding Corporation
- C. Mitsubishi Heavy Industries
- D. Chowgule Shipyard

ANSWER: A

29. Where Did The 58th DGSP/IGSP Conference 2023 Take Place

- A. Mumbai
- B. Jaipur
- C. Delhi
- D. Kolkata

ANSWER: B

30. 'Defender Of The Fatherland Day' Is Predominantly Celebrated In Which Region

- A. North America
- B. Africa
- C. Central Asia
- D. Oceania

ANSWER: C