

MAHITHI MONTHLY SNIPPETS

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NEWS IN SHORT

- The Karnataka Administrative Reforms Commission (KARC) has formed a sub-committee, led by Additional Chief Secretary and Development Commissioner Uma Mahadevan, to review the eligibility criteria for Below Poverty Line ration cards and government welfare schemes, as announced by KARC Chairperson R V Deshpande.
- A multi-institutional study documented 102 amphibian species in Karnataka, with 31 species endemic to the state. Conducted by Mount Carmel College (MCC), Jain University, Yuvaraja's College, and the Zoological Survey of India, the study was published in the Journal Records of the Zoological Survey of India and offers an updated checklist of amphibians. The highest diversity was recorded in the Hilly Zone (89 species), followed by the Southern Transition Zone (24 species) and the Coastal Zone (18 species). Habitat fragmentation poses significant threats to amphibians, and the study emphasizes the need for conserving pond and wetland ecosystems. According to the IUCN Red List, four species are critically endangered, 14 are endangered, and two new species, *Sphaerotheca varshaabhu* and *Sphaerotheca Bengaluru*, were discovered. The findings provide a foundation for future research and conservation strategies.
- India's stranglehold on the SAFF U17 championship remained intact as it retained the title, defeating Bangladesh 2-0 in the final of the 2024 edition at the Changlimithang Stadium in Thimphu
- Researchers have recently discovered two new species namely *Garra zubzaensis* and *Psilorhynchus kosygini*, of torrent minnows in the pristine rivers of Nagaland.
- The Idagunji Mahaganapati Yakshagana Mela troupe in Honnavar taluk, Uttara Kannada district, has been recognized by UNESCO for its efforts in preserving and promoting cultural heritage. Established in 1934 by Keremane Shivarama Hegde, a master of the Badagathittu style of Yakshagana, the troupe is now managed by his son, Shivananda Hegde. It was one of 58 organizations worldwide honored during the UNESCO Convention for Safeguarding Intangible Cultural Heritage. This recognition is anticipated to aid in reviving and popularizing Yakshagana, an art form that integrates dance, music, dialogue, and elaborate costumes. The UNESCO Convention, adopted on October 17, 2003, and effective since 2006, aims to protect intangible cultural heritage, promote respect for community heritage, and foster international cooperation for its preservation. Intangible cultural heritage encompasses traditions, practices, rituals, and knowledge transmitted through generations, providing communities with a sense of identity and continuity.
- India has become the world's third-largest producer and consumer of ethanol, with sugarcane cultivation increasing by approximately 18% and production rising by 40% over the last decade. The introduction of Minimum Support Price (MSP) has resolved farmers' dues, transforming their roles from "Anna Dattas" (food providers) to "Urja Dattas" (energy providers). Ethanol, primarily derived from

sugarcane processing, is a clear, colorless liquid recognized as a renewable fuel. In India, it is mainly produced from sugarcane molasses through fermentation, and it is blended with petrol to reduce fossil fuel usage. The Government of India has authorized the procurement of first-generation ethanol (1G) and is also exploring second-generation sources, such as rice straw, wheat straw, and woody biomass. Ethanol serves vital industrial functions as a solvent and in synthesizing organic chemicals, and it is added to automotive gasoline to enhance performance and minimize fossil fuel consumption.

- Mithun Chakraborty, a national award-winning actor celebrated for his roles in films like Mrigayaa, Surakshaa, and Disco Dancer, has been selected for the prestigious Dadasaheb Phalke Award in recognition of his “artistic prowess” and “enduring legacy” as an actor-politician who positively impacted many lives. A three-member jury comprising Asha Parekh, Khushboo Sundar, and Vipul Shah made the selection, with the award presentation scheduled for the 70th National Film Awards on October 8. Born Gourang Chakraborty in Kolkata, Mithun made his acting debut in Mrigayaa (1976), earning his first National Award for Best Actor, followed by two more for Tahader Katha (1992) and Swami Vivekananda (1998). His iconic role in Disco Dancer (1982) established him as a dancing sensation, and he won the Filmfare Award for Best Supporting Actor for his performance in Agnipath (1990). Mithun served as a Rajya Sabha MP with the Trinamool Congress before joining the BJP in 2021 ahead of the West Bengal Assembly elections. The Dadasaheb Phalke Award, named after the pioneering filmmaker Dhundiraj Govind Phalke, was instituted in 1969 and includes a ‘Swarna Kamal’ (Golden Lotus), a cash prize of INR 10 lakh, a certificate, a silk roll, and a shawl. The first recipient was Devika Rani Roerich in 1969. Dhundiraj Govind Phalke, born in 1870 in Maharashtra, is regarded as the “Father of Indian Cinema,” having produced India's first feature film, Raja Harishchandra, in 1913, along with 95 other films and 26 short films over 19 years.
- The Indian Space Research Organisation (ISRO) is gearing up for its ambitious Venus Orbiter Mission (VOM), set to launch on March 29, 2028, aboard the Launch Vehicle Mark-3 (LVM-3). This mission, approved by the Union Cabinet on September 18, 2024, has a budget of Rs 1,236 crore and will take 112 days to reach its final orbit on July 19, 2028. The VOM aims to explore Venus' atmosphere, surface, and interaction with the Sun, with key objectives including high-resolution mapping of the Venusian surface and studying the solar X-ray spectrum. This mission will also test ISRO's aerobraking and thermal management techniques in the harsh Venusian environment. The spacecraft will carry 16 Indian payloads, two Indian-international collaborative payloads, and one international payload, including the Venus InfraRed Atmospheric gases Linker (VIRAL) developed by Russia's Space Research Institute. Collaborations also include Sweden's IRI for the Venus Ionospheric and Solar Wind particle AnalySer (VISWAS) and Germany for the Radio Anatomy of Venus Ionosphere (RAVI). Following the cruise phase, the

spacecraft will enter Venus' orbit at 500 km x 60,000 km and use aerobraking for six to eight months to achieve its desired orbit.

- The Karnataka government will launch the Providing Access to Telescopes (PAT) scheme by the end of this month, aiming to make telescopes accessible to schoolchildren. The scheme focuses on fostering scientific curiosity in students from rural and Kannada medium high schools, specifically targeting grades 8 to 10. The government has procured 836 telescopes, which will be distributed to residential schools in the first phase. This initiative, supported by Corporate Social Responsibility (CSR) funds, will later expand to all government-run high schools, encouraging early interest in astronomy and space sciences.
- Surgeon Vice-Admiral Arti Sarin became the first woman officer to assume charge as the Director-General of the Armed Forces Medical Services
- The Centre has appointed Ram Singh, Saugata Bhattacharya and Nagesh Kumar as new external members of the central bank's rate-setting monetary policy committee, it said in a statement. The three new members have been appointed for a four-year term with immediate effect, the statement said. The six-member MPC, which consists of three RBI and three external members
- An online portal to allow people to purchase tickets for all trekking paths across Karnataka will be launched
- Karnataka Rural Infrastructure Development Ltd. (KRIDL) has launched a new software application, Gandhi Sakshi Kayaka 2.0, or the work monitoring system, to improve fund management and project oversight. Unveiled by Rural Development and Panchayat Raj Minister Priyank Kharge on Gandhi Jayanti, the software aims to streamline the sanctioning and utilisation of funds, ensuring transparency and efficient monitoring of infrastructure projects across Karnataka. Developed by the Center for Smart Governance, the tool enhances efficiency and accountability in state projects. KRIDL, an undertaking of the Department of Rural Development and Panchayat Raj, has been instrumental in infrastructure development for 51 years. Additionally, the department will host a national Swaraj convention from November 13 to mark 30 years of the Gram Swaraj and Panchayat Raj Act. Experts from various fields will attend the convention, which will feature debates and workshops, culminating in the Karnataka Panchayat Raj Declaration, a charter for the future of the Gram Swaraj system based on Mahatma Gandhi's ideals of truth, non-violence, honesty, and brotherhood.
- Prime Minister Narendra Modi launched the Dharti Aaba Janjatiya Gram Utkarsh Abhiyan, a package for basic scheme saturation in tribal-majority villages across 550 districts, at an event in Jharkhand's Hazaribag district, where he also laid the foundation stones for a host of other projects intended to benefit tribal people across the country. The package, originally coined as the PM Janjatiya Unnat Gram Abhiyan (PM-JUGA), was cleared by the Union Cabinet last month as an umbrella package to implement existing schemes in 63,000 Scheduled Tribe-majority villages.

- A new study has found that overexploitation of 25 species of host plants valued for their medicinal properties has affected swallowtail butterflies in forests on the Brahmaputra's northern bank.
- China has initiated a second phase of construction to enhance the capabilities of the Five-Hundred Aperture Spherical Telescope (FAST), located in Guizhou Province. Recognized as the world's largest and most sensitive radio telescope, FAST features a receiving area equivalent to 30 football fields and measures 500 meters in diameter. Its scientific goals include detecting neutral hydrogen at the edge of the universe, reconstructing images of the early universe, discovering pulsars, establishing a pulsar timing array, and contributing to pulsar navigation and gravitational wave detection in the future. Additionally, FAST aims to join the International Very-Long-Baseline Interferometry Network to obtain hyperfine structures of celestial bodies, perform high-resolution radio spectral surveys, detect weak space signals, and participate in the search for extraterrestrial intelligence.
- The Food Corporation of India (FCI) has appointed Coforge Limited as the system integrator for its digital transformation project, Anna DARPAN, aimed at enhancing the efficiency of its supply chain management system. This new tech-driven initiative seeks to streamline operations at various levels and will feature an interactive, user-friendly design to boost productivity and facilitate data-driven decision-making through advanced analytics. Coforge will oversee the entire lifecycle of the Anna DARPAN system, including design, development, implementation, and maintenance, utilizing a cloud-based platform powered by a service mesh architecture for seamless communication among microservices. The project's initial phase involves thorough requirement gathering and analysis, allowing Coforge to gain deep insights into FCI's operations, existing processes, and integration opportunities, ensuring that the final solution effectively meets the organization's specific needs.
- The BharatGen initiative, recently launched by the Union Ministry of Science & Technology, aims to develop generative AI systems capable of producing high-quality text and multimodal content in various Indian languages. It represents the first Government-supported Multimodal Large Language Model Initiative and is implemented by IIT Bombay under the National Mission on Interdisciplinary Cyber-Physical Systems (NM-ICPS). BharatGen's features include its multilingual and multimodal foundation, a Bhartiya dataset for building and training, and the development of an open-source platform to foster a generative AI research ecosystem in India. The project is expected to be completed within two years and aims to benefit numerous government, private, educational, and research institutions. Multimodal Large Language Models, like those targeted by BharatGen, are designed to process and generate various modalities, including text, images, and sometimes audio and video. These models are trained on extensive datasets that encompass both text and image data, enabling them to learn relationships between different modalities and be utilized in applications such as image

captioning, visual question answering, and content recommendation systems that combine text and image data for personalized user experiences.

- Bengaluru has taken the top spot as India's most congested city, according to the Traffic Quality Index (TQI), with a score that's alarmingly high in the extreme congestion category. The city's traffic woes are legendary, and it's interesting to note that the best time to navigate Bengaluru is 8 am, while 6 pm is best avoided when congestion peaks.
- The National Commission for Protection of Child Rights (NCPCR) has launched the 'Baal Swaraj' portal, a comprehensive digital interface aimed at ensuring the holistic development and rehabilitation of children in conflict with the law. The portal enables real-time monitoring of Child Care Institutions (CCIs) and tracks each child's progress, providing necessary interventions. Its objectives include guaranteeing basic legal entitlements, access to education, vocational training, psychological support, and free legal aid, ultimately reducing recidivism by offering timely rehabilitation support
- Little Prespa Lake in Albania is facing severe environmental degradation, with approximately 95% (430 hectares) of its 450-hectare area transformed into swamps or dried up due to rising temperatures, mild winters, and scarce precipitation. As one of Europe's oldest tectonic lakes and the highest on the Balkan Peninsula, Lake Prespa's ecosystem is fragile, straddling Albania, Greece, and North Macedonia, with its unique geology and biodiversity now threatened by climate change, putting its very existence at risk.
- The Department of Social Justice and Empowerment and the National Legal Services Authority have recently launched SARTHIE 1.0, an initiative aimed at empowering disadvantaged communities, including Scheduled Castes, Other Backward Classes, Senior Citizens, Transgender Persons, and more. This initiative aligns with the United Nations 2030 Agenda for Sustainable Development, focusing on eradicating poverty, reducing inequality, and promoting social protection policies. By bridging the awareness gap and providing legal assistance, SARTHIE 1.0 ensures the effective implementation of social welfare programs, fostering synergy between the executive and judiciary to strengthen social justice. The initiative targets vulnerable sections of society, including victims of alcoholism and substance abuse, persons engaged in begging, and denotified and nomadic tribes, offering them a pathway to empowerment and equality
- Entomologists from Ashoka Trust for Research in Ecology and the Environment (ATREE) have discovered a new species of potter wasp, *Pseumenes siangensis*, in Arunachal Pradesh's Upper Siang region, marking a significant addition to India's wasp diversity. The 30.2mm-long wasp, named after the Siang Valley, boasts distinct morphological features and color patterns. As solitary wasps, they construct mud nests for their larvae, which feed on caterpillars and other insects, playing a crucial role in controlling pest populations. This finding highlights the

Eastern Himalayas' underexplored biodiversity, emphasizing the need for extensive taxonomic research in the region.

- The Science and Technology Department is planning to establish a mega regional science centre at Hampi in Vijayanagar district, modeled after the Pilikula Regional Science Centre in Mangaluru, which is one of the country's largest planetariums. The government has already identified 10 acres of land for this project and submitted a proposal to the National Council of Science Museums and the Union Ministry of Culture. This centre aims to provide an interactive learning experience for students through science exhibits and activities, catering to the large population of the region. Hampi was chosen as the location due to its status as a world-famous tourist destination, with many schools from the Kalyana-Karnataka region already visiting the area. The proposed centre will feature state-of-the-art technologies, three exhibition galleries, a planetarium, a science demonstration area, an auditorium, and a science park, similar to the Pilikula Regional Science Centre. This initiative is part of the department's efforts to promote science and technology, with nine sub-regional science centres already functioning in the state and 19 more in development.
- The Karnataka government has launched a groundbreaking initiative to mitigate human-animal conflicts and curb elephant menace in the Malnad region. An Elephant Soft Release Centre, or Elephant Vihar Dham, spanning 2,000 hectares, will be established in the Bhadra reserve forest region to provide a safe haven for captured elephants. This project aims to reduce conflicts between humans and elephants, which have been on the rise, causing loss of lives and crops. The centre will feature elephants' favorite plants, including bamboo, jackfruit, and grass, across 5,000 acres of barricaded land. This initiative is expected to benefit residents in Kodagu, Hassan, Shivamogga, and Chikkamagaluru districts, where elephants often stray into human habitats. Additionally, an elephant camp will be set up in Bhadra Wildlife Sanctuary to control the elephant menace in the region. This project builds upon the success of the Bhadra Rehabilitation Project, which relocated 736 families from 16 villages within the Bhadra Tiger Reserve, significantly reducing human-wildlife conflict and increasing the tiger population from eight to 40. The state government plans to replicate this success in other forest areas, promoting people's participation in wildlife conservation.
- The World Health Organization has taken a significant step in the fight against mpox by authorizing Abbott Laboratories' mpox diagnostic test for emergency use. This test, known as Alinity m MPXV assay, uses real-time PCR to detect mpox virus DNA from human skin lesion swabs and is designed for use by trained clinical laboratory personnel. According to Yukiko Nakatani, the WHO's assistant director-general for access to medicines and health products, this approval represents a major milestone in expanding testing availability in affected countries. The test will play a crucial role in bolstering testing capabilities in countries facing outbreaks of the disease, and its approval marks the first under the WHO's Emergency Use

Listing procedure. This development is expected to significantly enhance diagnostic capacity globally, particularly in areas where the disease is prevalent.

- Scientists have detected the gases carbon dioxide and hydrogen peroxide on Pluto's largest moon, 'Charon'.
- India has recently joined the International Medical Device Regulators Forum (IMDRF) as an affiliate member, marking a significant milestone in the country's efforts to harmonize medical device regulations globally. The IMDRF, established in 2011, is a voluntary group of medical device regulators from around the world that aims to accelerate international medical device regulatory harmonization and convergence
- The Union Cabinet recently declared Marathi, Bengali, Assamese, Pali, and Prakrit as classical languages, expanding the list that already includes Tamil, Sanskrit, Telugu, Kannada, Malayalam, and Odia. For a language to gain classical status, it must meet certain criteria, including having early texts or a history spanning 1,500–2,000 years, a rich body of literature, and evidence of distinctiveness from modern usage. Tamil was the first language to receive this status in 2004, followed by others in subsequent years. The 2024 recognition of these five languages followed revisions made by the Sahitya Akademi's Linguistic Experts Committee. The benefits of classical language status include international awards for scholars, the establishment of research centres, and academic support through professional chairs in universities.
- The Union Cabinet has approved several new schemes, including the Incentive Scheme for Domestic Production of Oilseeds, aimed at boosting oilseed cultivation and reducing dependence on edible oil imports. With a budget of ₹10,103 crore, the scheme, part of the National Mission on Edible Oils – Oilseeds, targets increasing production from 39 million tonnes in 2022-23 to 69.7 million tonnes by 2030-31. This complements a 2021 oil palm initiative, aiming to meet 72% of India's edible oil needs. Major agriculture schemes like PM Rashtriya Krishi Vikas Yojana (PM-RKVY) and Krishonnati Yojana, with a combined budget of over ₹1 lakh crore, have also been approved to promote sustainable agriculture and food security. Additionally, the Productivity-Linked Reward (PLR) Scheme for port employees has been revised, benefiting over 20,000 workers with performance-based rewards over the 2020-26 period, with a financial implication of ₹200 crore.
- The recently launched PM Internship Scheme, announced in the Union Budget by the Finance Minister, aims to enhance youth employability by providing structured internship opportunities and hands-on training in real-world business environments. The scheme targets one crore youth over five years, offering internships through an online portal managed by the Ministry of Corporate Affairs (MCA). Key features include a monthly stipend of ₹4,500 via DBT, a ₹500 CSR offset, a one-time grant of ₹6,000, and insurance coverage under PM Jeevan Jyoti Bima Yojana and PM Suraksha Bima Yojana. The internship duration is one year, open to candidates aged 21 to 24 who have completed at least class 10, with exclusions for

post-graduates, individuals from government job families, and those earning over ₹8 lakh in 2023-24. The scheme benefits youth by providing on-the-job training and industries, including MSMEs, with a pipeline of skilled, work-ready employees.

- The Union Cabinet, chaired by Prime Minister Narendra Modi, has approved India's participation in the International Energy Efficiency Hub (Hub) by signing a 'Letter of Intent,' reinforcing its commitment to sustainable energy practices. Established in 2020 as a successor to the International Partnership for Energy Efficiency Cooperation (IPEEC), the Hub fosters global collaboration in energy efficiency with 16 member nations, including the U.S., China, and France. India's participation will provide access to global expertise and knowledge sharing, enhancing domestic energy efficiency strategies. The Bureau of Energy Efficiency (BEE), under the Ministry of Power, will act as the implementing agency. This move strengthens India's role in combating climate change, promoting a low-carbon economy, and demonstrating leadership in global energy efficiency efforts.
- A team of history and archaeology scholars and students from the University of Mysore has initiated excavations at megalithic burial sites in Doddalathur village, located in the Chamarajanagar district, in collaboration with the Mythic Society, Bengaluru. It originally contained over 1,000 burials corresponding to the Iron Age (1200 BCE to 300 CE). The burials, characterized by circles of large boulders, reflect the megalithic culture of the time. While many burials have been lost due to agricultural expansion and land development, a significant number remain intact, offering potential for further research. The excavation aims to illuminate the megalithic-Iron Age culture of southern Karnataka and provide field training for archaeology students. The excavations began on October 3, 2024, and will continue for approximately two months, following earlier excavations at the Budipadaga site.
- Water conservationists warn that Bengaluru is on the brink of an unprecedented water crisis, potentially leading to "zero water days" in the near future. They advocate for "communitisation," emphasizing active community involvement in social welfare initiatives as a crucial strategy to address the city's water issues. Bengaluru once had around 400 lakes, many of which have vanished due to unchecked urban growth, leading to a heightened reliance on external water sources.
- The Madhya Pradesh cabinet recently approved the formation of a panel to develop a memorial and garden dedicated to Gond queen Rani Durgavati for Rs 100 crore. Rani Durgavati (1524-2024) was the descendant of the famous Chandela dynasty of Mahoba and the queen of the Gond kingdom of Garha-Katanga. In 1542, she was married to Dalpatshah, the eldest son of King Sangramshah of the Gond Dynasty. She is chiefly remembered for defending Gondwana against the Mughal Empire.
- Entomologists recently discovered a new species of potter wasp from Arunachal Pradesh, named *Pseumenes siangensis*.

- India has successfully conducted tests of the fourth-generation Very Short-Range Air Defence System (VSHORADS), a Man Portable Air Defence System (MANPAD) designed to neutralize low-altitude aerial threats at short ranges. Indigenously developed by DRDO's Research Centre Imarat in Hyderabad, in collaboration with other DRDO laboratories and industry partners, VSHORADS features a highly optimized design for easy portability, requiring minimal personnel for operation. The missile incorporates advanced technologies, including a miniaturized Reaction Control System (RCS) and integrated avionics, and is propelled by a dual-thrust solid motor, enabling a range of up to 6 km. Its lightweight and man-portable nature allows for rapid deployment, particularly in mountainous regions close to the Line of Actual Control with China in Ladakh and Arunachal Pradesh.
- Gururaj Karajagi to lead panel to improve education scenario in Kalyana Karnataka
- Ministry of Tourism has selected Kuthlur village in Belthangady taluk as 'Best Tourism Village' in adventure Tourism category. The ministry organises best tourism villages competition to acknowledge a village that best exemplifies a tourism destination which preserves cultural and natural assets, promotes community-based values and lifestyle and has a clear commitment to sustainability in all its aspects - economic, social, and environmental.
- The Union government has reinstated the recruitment of railway officers through the Civil Services Examination (CSE) and Engineering Services Examination (ESE) conducted by the UPSC, reversing the 2019 policy that exclusively recruited officers for the Indian Railway Management Service (IRMS) via CSE. This decision follows four years of confusion regarding railway officer appointments and challenges in sourcing suitable technical manpower, coming shortly after Satish Kumar assumed the role of Chairman and Chief Executive Officer of the Railway Board. Key changes include the removal of the previous cap on IRMS officer intake, which was limited to 150 per year, and the introduction of recruitment for various railway departments under the IRMS banner through both CSE and ESE. While two batches of railway officers trained through CSE are awaiting field postings, the previous discontinuation of ESE recruitment has led to increased vacancies in technical categories, filled by promotee or subordinate officers. The government had approved the unification of eight Group-A services into IRMS in December 2019, with various committees recommending this reform. The IRMS aims to allow recruitment of both engineers and non-engineers as needed, ensuring equal career progression. The Ministry of Telecommunications notified the ESE-2025 Rules on September 18, 2024, with the application submission deadline set for October 8, 2024, and has requested UPSC to include railway recruitment in the ESE-2025 notification.
- The Ministry of Statistics and Programme Implementation (MoSPI) has released the 7th issue of "EnviStats India 2024: Environment Accounts," compiled according to the System of Environmental-Economic Accounting (SEEA) Framework, which is an international standard for environmental economic accounts. This edition

introduces Ocean Accounts to compile ocean-related data and assess ocean condition parameters. It includes Physical Supply and Use Tables for Energy, utilizing data from various ministries and agencies, and presents updated Soil Nutrient Index values based on Soil Health Cards for 2023-24. Additionally, the report provides information on India's taxonomic faunal and floral diversity, the status of Leopard and Snow Leopard, and genetic conservation efforts, along with compiled species richness from the IUCN Red List of Threatened species. Notably, there has been a 72% increase in the number and a 16% increase in the area of total Protected Areas from 2000 to 2023, and an 8% increase in mangrove cover from 2013 to 2021. The Ministry encourages public input and suggestions for future improvements to the publication.

- The GRAMA (Game Theory, Random Processes, Artificial Intelligence, and Machine Learning for Agriculture) project aims to enhance crop planning and agri-input procurement, helping farmers make informed choices to increase their revenues. Supported by NABARD and led by Y Narahari, an honorary professor at IISc's Department of Computer Science and Automation, the project involves collaboration with experts from the University of Agricultural Sciences, GKVK. Its objectives include maximizing farmers' revenue through effective crop planning, procurement, and price prediction, utilizing existing data on soil types, crop varieties, demand, yield, historical pricing, and sociocultural factors. Researchers project a potential 60% increase in farmers' income with optimal crop combinations, though challenges such as farmers' resistance to change and the need for proper planning and crop diversification have been identified. GRAMA's revenue model indicates that even a 50% compliance with recommended practices could yield a 10% revenue increase. Pilot projects at Farmer Producer Organisations (FPOs) in Anekal and Rajaghatta have shown initial enthusiasm among farmers, though further convincing is required. A mobile app developed by Bharat Electronics Limited (BEL) aims to test the procurement mechanism, providing recommendations on seeds, fertilizers, and pesticides based on farmers' requirements, weather, soil conditions, and cost considerations.
- The World Health Organization (WHO) has unveiled the Global Strategic Preparedness, Readiness, and Response Plan (SPRP) to combat dengue and other Aedes-borne arboviruses, aiming to reduce the burden of disease and deaths from dengue, Zika, and chikungunya while fostering a coordinated global response. The plan includes key components such as establishing leadership for outbreak response, developing tools for early detection through collaborative surveillance, engaging local communities in prevention measures and mosquito control, ensuring effective clinical management with resilient health services, and promoting research for improved treatments and vaccines. Currently, approximately 4 billion people are at risk of arbovirus infections, a number expected to rise to 5 billion by 2050, with dengue cases surging to over 12.3 million reported by August 2024—nearly double the cases from 2023. Dengue is endemic in over 130 countries, severely affecting tropical and subtropical regions, and the

situation in Africa is exacerbated by conflicts and natural disasters that strain health systems. Contributing factors to the spread include unplanned urbanization, poor sanitation, climate change, and international travel. The plan, which requires \$55 million for health preparedness and response efforts, will be implemented over one year until September 2025. WHO calls on governments, healthcare providers, and communities to collaborate in innovative solutions and enhanced vector control strategies to combat dengue.

- The Indian Army has strengthened its air defence capabilities by acquiring 100 Akashteer air defence systems in response to increasing global security concerns. The Akashteer systems are Advanced Air Defence Control and Reporting Systems (ADCRS) designed to protect against various aerial threats, including missiles and rockets. These sophisticated, integrated systems enable rapid threat neutralization and manage all aspects of air defence by incorporating multiple radar systems, sensors, and communication technologies into a single operational framework. They provide real-time battlefield views for detecting, tracking, and engaging threats while facilitating precise coordination of air defence operations across diverse environments. The Akashteer systems have been developed by Bharat Electronics Limited (BEL).
- The union ministry of environment and forests has issued a draft notification identifying 322 sq km forest area in Kappatagudda wildlife sanctuary as ecologically sensitive zone (ESZ).
- India's academic freedom ranking has taken a significant hit over the past decade, plummeting from 0.6 points to 0.2 points between 2013 and 2023, according to the "Free to Think 2024" report by Scholars at Risk. This decline is largely attributed to the ruling Bharatiya Janata Party's efforts to exert political control and impose a Hindu nationalist agenda on universities, as well as policies limiting student protests. The Academic Freedom Index now classifies India as "completely restricted," its lowest score since the mid-1940s.
- Shardul Vihan and Sabeera Haris shot 138 and won the mixed trap bronze medal in the World junior shooting championship that concluded in Lima.
- The Indian Institute of Foreign Trade (IIFT) is set to open its first overseas campus at the iconic India Pavilion in Dubai's Expo City, marking a significant milestone in its expansion. As an autonomous body under the Ministry of Commerce since 1963, IIFT has established itself as a premier business institution focusing on foreign trade and international business research
- India participated in the 44th session of the Codex Committee on Nutrition and Foods for Special Dietary Uses (CCNFSDU) held in Dresden, Germany
- The National Anubhav Awards Scheme, 2025, is a groundbreaking initiative that encourages retiring and retired government employees to share their experiences and insights. Launched by Prime Minister Narendra Modi in 2015, the Anubhav portal has published 10,886 write-ups to date, with 78 outstanding entries receiving 59 Anubhav Awards and 19 Jury Certificates . For the first time,

employees of Central Public Sector Undertakings, including Public Sector Banks, are eligible to participate alongside Central Government employees

- The Karnataka State Board for Wildlife (SBWL), led by the Chief Minister, has approved the declaration of Hesaraghatta as a conservation reserve, officially naming it the 'Greater Hesaraghatta Conservation Reserve' (GHCRC), which encompasses 5,010 acres of land in and around Hesaraghatta. This proposal, initially made in 2013, gained momentum after local conservation activists filed a public interest litigation (PIL) seeking judicial intervention, prompting a re-evaluation of the initiative. The GHCRC includes significant areas such as Hesaraghatta Grassland (356 acres), Byrapura Lake (383 acres), Byatha Lake (165 acres), Hesaraghatta Lake (1,356 acres), and Veterinary Department Land (2,750 acres), and is legally declared under Section 36 (A) of the Wildlife Protection Act of 1972. Hesaraghatta is crucial for biodiversity and water security, as it harbors Bengaluru's last savannah ecosystem, recognized by a committee of experts in 2013 for its importance to the region's water supply. The area boasts diverse flora and fauna, including 39 native plant species, 10 mammal species, 133 bird species, and various other wildlife. A conservation reserve is a protected area aimed at preserving biodiversity while allowing traditional rights and community practices, managed by a Conservation Reserve Management Committee and serving as a buffer zone between wildlife sanctuaries.
- The Union Health Ministry has enhanced the Ni-Kshay Poshan Yojana (NPY) by increasing the monthly nutrition support for TB patients from ₹500 to ₹1,000, aiming to improve their nutritional intake during treatment. Household contacts of TB patients are now covered under the Pradhan Mantri TB Mukta Bharat Abhiyaan and eligible for social support from the community. Energy-dense nutrition supplementation has been introduced for patients with a Body Mass Index (BMI) below 18.5, providing essential nutrients to underweight patients. The Ni-kshay Mitra initiative has also been expanded to cover family members of TB patients, ensuring nutritional support of ₹3,000 to ₹6,000. Launched in 2018, the NPY has provided Direct Benefit Transfers (DBT) to over 5.73 million beneficiaries, distributing ₹1,488 crore since its inception.
- India and the Maldives have signed a \$750 million currency swap agreement to help the Maldives address its foreign exchange crunch. The arrangement includes \$400 million and ₹3,000 crore (\$357 million), signed under the SAARC Currency Swap Framework between the Reserve Bank of India (RBI) and the Maldives Monetary Authority, valid until 2027. This agreement allows payments between the two nations in different currencies. Additional agreements include the launch of the RuPay card in the Maldives, handover of 700 Indian-assisted houses, and MoUs for cooperation between the CBI and the Maldives' Anti-Corruption Commission, policing, judicial training, and sports cooperation. The two countries also discussed increasing trade using national currencies and initiated talks on a Free Trade Agreement (FTA), with other economic aid requests under consideration. A joint vision statement for economic and maritime security was

released, highlighting the inauguration of a runway at Hanimadhoo Island and India's agreement to refit a Maldivian Coast Guard ship, Huravee, at an Indian facility.

- Victor Ambros and Gary Ruvkun were awarded the 2024 Nobel Prize for Medicine for their groundbreaking discovery of microRNA and its pivotal role in post-transcriptional gene regulation. MicroRNA are molecules that help cells regulate protein production by binding with messenger RNA (mRNA) to control the timing of protein synthesis, impacting crucial biological processes. Ambros and Ruvkun's research on the roundworm *C. elegans* led to the discovery that lin-4 microRNA regulates the lin-14 gene by preventing protein production, revealing a new layer of gene regulation beyond roundworms. Their work has major implications for understanding gene regulation in normal cell development and diseases such as cancer, diabetes, and congenital disorders. The study of microRNA offers insights into treating conditions linked to gene regulation errors. Ambros, a professor at the University of Massachusetts Medical School, and Ruvkun, a professor at Harvard Medical School, have made lasting contributions to medicine by opening new pathways to understanding genetic diseases.
- The Indian Space Research Organisation (ISRO) reported that the upper stage of the PSLV-C37 rocket successfully re-entered the Earth's atmosphere on October 6, 2024, and impacted in the North Atlantic Ocean. This historic mission initially launched 104 satellites, including Cartosat-2D, with a single vehicle on February 15, 2017. Notably, the re-entry occurred within eight years of its launch, aligning with international debris mitigation guidelines that recommend limiting post-mission orbital life to 25 years. ISRO achieved this by designing a passivation sequence that lowered the orbit of the upper stage after payload injection. This accomplishment highlights ISRO's commitment to safe and sustainable space operations, with plans to further reduce residual orbital lifetime to five years or less in future missions.
- SELCO Foundation and Rotary Club of Bangalore are teaming up to bring solar energy to 100 primary health centers in Karnataka, improving healthcare access for over 2 million people in rural areas. This initiative is part of SELCO's Energy for Health program, which aims to power 25,000 healthcare facilities across 12 states by 2026. In Karnataka alone, SELCO has already installed solar energy systems in over 1,150 public health centers in partnership with the National Health Mission. By equipping these centers with reliable, renewable energy, the initiative will enhance essential services, particularly in maternal and child health, creating a scalable model for sustainable energy interventions that promote improved healthcare outcomes and climate resilience.
- The Major Atmospheric Cherenkov Experiment (MACE) Observatory has been inaugurated by Dr. Ajit Kumar Mohanty, Secretary DAE & Chairman of the Atomic Energy Commission, at Hanle, Ladakh, on 4th October 2024. MACE is the largest imaging Cherenkov telescope in Asia. Located at an altitude of ~4,300 m, it is also the highest of its kind in the world. The telescope is indigenously built by BARC with support from ECIL and other Indian industry partners.

- Indian Air Force Day, observed on October 8th, commemorates the establishment of the Indian Air Force (IAF) in 1932. The theme for Indian Air Force Day 2024 is "Bhartiya Vayu Sena – Saksham, Sashakt, Atmanirbhar".
- The Bruhat Bengaluru Mahanagara Palike (BBMP) has launched a pilot project, 'SaveMom,' developed by JioVio Healthcare, which uses artificial intelligence to provide continuous care for pregnant women, lactating mothers, and infants. The project covers a comprehensive 1,000-day monitoring period, tracking health indicators and identifying high-risk pregnancies through AI analysis. The centralized platform allows healthcare data to be accessed by ASHA workers and doctors, ensuring seamless care across locations. Wearable devices will monitor vital signs in high-risk pregnancies, while digital records ensure post-pregnancy support, including infant vaccinations. Privacy concerns are being addressed during the 6-9 month pilot phase.
- According to the 10th Wild Ass Population Estimation (WAPE) conducted in 2024, the population of wild asses in Gujarat has risen to 7,672, marking a 26.14% increase from the 2020 estimate of 6,082. Wild asses are listed as an "endangered species" by the International Union for Conservation of Nature (IUCN) and are protected under Schedule I of the Wildlife Protection Act in India. Once found in North-West India, Pakistan, and Central Asia, their current habitat is restricted to the Little Rann and Great Rann of Kutch in Gujarat. The survey, which covered a 15,510 sq. km area using the Direct Count Method, utilized both conventional and modern techniques, including drones, camera traps, and forest modules, to ensure accuracy. The population of wild asses has shown significant growth since 1976, when only 720 were recorded, due to ongoing conservation efforts by the Gujarat government. Additionally, the survey documented populations of other species, including 2,734 Asian antelope, 915 wild boars, 222 Indian hares, 214 Indian gazelles, and 153 Indian jackals.
- On September 30, 2023, delegates at the UN Conference in Bonn, Germany, adopted a new global framework aimed at reducing environmental risks from chemicals and waste during the 15th International Conference on Chemicals Management (ICCM5). This framework includes 28 targets that guide the responsible management of chemicals throughout their lifecycle and align with global agendas such as climate change, biodiversity, human rights, and health. National governments committed to formulating policies to reduce chemical pollution by 2030 and promote safer alternatives, while industries pledged to manage chemicals responsibly to minimize pollution and its adverse impacts. Notably, the framework seeks to phase out highly hazardous pesticides in agriculture by 2035 and includes the Bonn Declaration, which encourages preventing harmful chemical exposure and phasing out the most dangerous chemicals. The objectives of the Bonn Declaration focus on enhancing safe management of chemicals, supporting the transition to circular economies, and improving recycling efforts to safeguard health and the environment. To aid in the implementation of this new framework, a Global Framework on Chemicals Fund

was established at ICCM5, providing \$300,000 to \$800,000 USD for project implementation over three years, particularly to support developing nations, Small Island Developing States, and transitioning economies. The framework emphasizes the sound management of chemicals and waste, aiming to prevent illegal trade, strengthen national legal frameworks, and eliminate hazardous pesticides by 2035.

- The World Health Organization (WHO) has recognized India's significant achievement in eliminating trachoma as a public health problem, marking a crucial milestone in the fight against this eye infection that affects millions worldwide. Trachoma is a bacterial infection caused by *Chlamydia trachomatis*, recognized as the leading infectious cause of blindness globally, impacting approximately 1.9 million individuals and rendering blindness irreversible once it occurs. The infection spreads through personal contact, such as via hands, clothes, or bedding contaminated with the discharge from an infected person's eyes or nose, as well as through flies that have come into contact with the discharge. Continuous infections can lead to painful complications, including trichiasis, where the eyelashes turn inward and damage the cornea. To combat this, the WHO recommends the SAFE strategy, which includes surgical interventions to correct trichiasis, administering antibiotics like azithromycin to clear infections, promoting facial cleanliness to reduce transmission, and improving access to clean water and sanitation. Besides India, 17 other countries have successfully eliminated trachoma as a public health issue, including several in Africa, Asia, the Americas, and Oceania, showcasing a global effort to combat this neglected tropical disease
- The 2024 Nobel Prize in Physics was awarded to John Hopfield and Geoffrey Hinton for their groundbreaking contributions to artificial intelligence (AI), marking a significant recognition of their influence on modern technology. Hopfield, an American scientist known for his work in biological physics, developed a network of nodes that mimics human associative memory, allowing the system to recreate stored patterns from partial or distorted information; this "Hopfield network," initially created in the 1980s, has been continually refined. On the other hand, Geoffrey Hinton, a British-Canadian regarded as the 'godfather of AI,' built upon Hopfield's ideas to create the Boltzmann machine, which learns from examples and recognizes familiar patterns in new data, similar to how humans can identify faces or objects they haven't seen before. Both researchers have laid the foundation for modern machine learning and neural networks, enabling AI to perform complex tasks, such as detecting cancer-affected cells by recognizing patterns akin to how children learn to identify cats they have never encountered. However, Hinton has also raised concerns regarding AI, particularly the proliferation of misinformation and potential job displacement, cautioning that these technologies may blur the lines between truth and fabricated content.
- The World Meteorological Organization (WMO) has released its State of Global Water Resources Report, highlighting alarming trends in water availability and climate change impacts. Notably, 2023 was recorded as the driest year for global

rivers in over three decades, reflecting a critical shift amidst increasing global demand for water. Additionally, glaciers faced the largest mass loss in the past 50 years, marking the second consecutive year of global ice loss across all regions. The report emphasizes that human-induced climate change has made the hydrological cycle more erratic, leading to extreme weather patterns characterized by both prolonged droughts and floods. The transition from La Niña to El Niño further exacerbated these conditions, with 2023 also being the hottest year on record. In response to these challenges, the WMO calls for improved monitoring and forecasting of water-related hazards, urging the implementation of early warning systems globally by 2027 through its Early Warnings for All initiative

- The Indian government will continue providing free fortified rice under various welfare schemes until 2028, allocating Rs 17,082 crore. The Union Cabinet approved the extension, maintaining the current format under schemes like Pradhan Mantri Garib Kalyan Anna Yojana (PMGKAY) from July 2024 to December 2028. Fortified rice will contain added micro-nutrients like iron, folic acid, and Vitamin B12 to combat anaemia and malnutrition, benefiting 65% of India's population who consume rice as a staple.
- The Opening Ceremony of MALABAR 2024 under the aegis of Eastern Naval Command was held onboard Indian Naval Ship Satpura at Visakhapatnam on 09 Oct 24. The 28th edition of the multi-national maritime exercise that commenced on 08 Oct 24, would extend till 18 Oct 24. MALABAR, which was initiated in 1992 as a bilateral exercise between India and the US, gained further traction as a significant maritime engagement, with Japan and Australia joining in subsequently.
- A group of researchers recently discovered a new species of damselfly, Agasthyamalai Bambootail, from Manjadinnavila in Thiruvananthapuram district, Kerala.
- The Bruhat Bengaluru Mahanagara Palike (BBMP) is launching an AI-powered system to monitor and address municipal and infrastructure issues across Bengaluru, utilizing smart devices installed on 250 vehicles to collect data on daily ground realities. This three-year initiative, contracted to Nayan Science and Technology Ltd at Rs 1 crore per year, aims to enhance the city's infrastructure management. Interestingly, the Electronics City Township Authority (ELCITA) has already implemented similar technology to maintain its roads, showcasing its effectiveness. However, some citizen groups have raised concerns about the initiative's impact.
- The National Commission for the Protection of Child Rights (NCPCR) reported a decline in child marriages across India, with cases dropping from 1,050 in 2021 to 1,002 in 2022. Karnataka recorded the highest cases (215), followed by Assam (163) and Tamil Nadu (155). Despite progress, out of 784 districts, only 596 held meetings on child marriages, and many failed to involve key stakeholders such as gram pradhans and priests. NCPCR urged states to map school dropouts and

missing children as per Child Labour Amendment Rules, 2017. Although awareness has improved, further actions are needed to tackle child marriages effectively.

- The Union Ministry of Earth Sciences has approved the installation of an X-band radar in Wayanad, Kerala, following the devastating floods and landslides in July 2024. This radar will enhance disaster warning capabilities by monitoring particle movements for early landslide detection. X-band radar operates in the 8-12 GHz range, providing high-resolution images effective for tracking small particles. Its rapid sampling abilities will allow for timely warnings, which are crucial in the region prone to landslides. India's radar infrastructure, initiated by the IMD in the 1950s, includes various radar types, and under the 'Mission Mausam,' 56 new Doppler radars are set to be installed by 2026. Future plans also include additional X-band radars in Mangaluru and other regions like the Northeast and Himachal Pradesh. Furthermore, the upcoming NISAR project, a collaboration between NASA and ISRO launching in 2025, will utilize advanced radar technology to map Earth's landmasses and monitor natural processes.
- Murine Typhus is an infectious disease caused by the flea-borne bacteria *Rickettsia typhi*, recently highlighted by a reported case of infection in Kerala. The disease spreads when flea feces contact cuts or mucous membranes and is not transmitted from person to person. It is commonly found in coastal tropical and subtropical regions with a prevalence of rodents, including areas in Northeast India, Madhya Pradesh, and Kashmir. Symptoms typically appear 7 to 14 days after exposure, including fever, headaches, body and joint aches, nausea, vomiting, and stomach aches, often followed by rashes. The illness lasts up to two weeks, and untreated cases can lead to complications lasting for months. Currently, no vaccine exists for Murine Typhus, but the antibiotic doxycycline is the recommended treatment, emphasizing the importance of early diagnosis to prevent severe outcomes. Prevention strategies include regular washing of pets to eliminate fleas and administering flea treatments as necessary.
- The Indian Army has unveiled its first overhauled T-90 Bhishma tank to enhance operational readiness. The T-90 Bhishma, which has been the main battle tank of the Indian Army since 2003, is renowned for its firepower, speed, and protection. Weighing 47 tonnes and measuring 9.6 meters in length and 2.8 meters in width, it can maneuver at speeds of up to 60 km/h across diverse terrains, including forests, mountains, and marshy areas. The overhaul was carried out at the 505 Army Base Workshop in Delhi Cantonment, involving disassembly and replacement of damaged parts, showcasing India's indigenous technical skills and commitment to self-reliance in defense. The tank is armed with a 125 mm smoothbore gun, capable of firing various shells, along with an anti-aircraft gun that can target objects within a two-kilometer range, firing up to 800 shells per minute. It is operated by a three-member crew consisting of a commander, gunner, and driver, ensuring efficient operation.

- The 2024 Nobel Peace Prize has been awarded to Nihon Hidankyo, an organization representing survivors of the Hiroshima and Nagasaki bombings, known as "Hibakusha." Founded on August 10, 1956, Nihon Hidankyo advocates for the welfare of Hibakusha, seeks the elimination of nuclear weapons, and demands compensation for victims. Their testimonies have heightened global awareness of the humanitarian consequences of nuclear warfare. The Norwegian Nobel Committee emphasized the significance of upholding the "nuclear taboo" amid increasing global conflicts, a norm established by the efforts of Nihon Hidankyo since 1945. This recognition follows the legacy of other Nobel laureates advocating for nuclear disarmament, underscoring the ongoing threat to this global standard. Notably, the committee acknowledged past laureates, including ICAN in 2017, and highlighted the historical context of the bombings in Hiroshima and Nagasaki, which left devastating impacts on human life and ethics regarding nuclear weapon use.
- SpaceX achieved a historic milestone by successfully "catching" the first-stage booster of its Starship megarocket after a test flight, marking a world first in the pursuit of rapid reusability. The Super Heavy booster launched with the Starship rocket and returned to the Texas launch pad, where mechanical "chopsticks" from the tower safely halted its descent.
- Researchers at Bengaluru's NIMHANS are developing a precision treatment for neuropsychiatric disorders using a tailored dose of electric current to stimulate specific brain regions through a software they created. This method, described as a synergy of AI and medicine by Dr. Sagarika Bhattacharjee, is being funded by the Centre's Department of Biotechnology. Dr. Bhattacharjee and Dr. P. T. Sivakumar are conducting clinical trials on personalised transcranial direct current stimulation (tDCS), a noninvasive technique using low electrical current, for patients with the language variant subtype of dementia.
- World number one Jannik Sinner defeated 24-time Grand Slam champion Novak Djokovic 7-6 (7/4), 6-3 to win the Shanghai Masters.
- Ruth Chepngetich of Kenya demolished the women's world record by almost two minutes as she won the Chicago Marathon in 2 hours 9 minutes 56 seconds, inspired by the late Kelvin Kiptum.
- Justice Shameem Akhtar (retd), former High Court judge, has been appointed the one-man commission to study and suggest ways to implement the sub-categorisation of Scheduled Castes for various purposes, including education and employment, in Telangana.
- Ladakh recently witnessed aurora sightings, marked by reddish and greenish light, a rare event outside far-northern regions. The Indian Institute of Astrophysics captured these occurrences on October 10-11, following similar sightings in May and November 2023. Astrophysicists from CESSI had predicted the event 48-72 hours prior, attributing it to heightened solar activity from coronal mass ejections (CMEs). These aurorae, caused by solar storms, highlight increased solar activity,

which CESSI predicted would peak in 2024, and underline the potential risks of space weather on satellite-based systems.

- India's Surya Aditya and Avik Bhatia secured the silver and bronze respectively while Iran's Yazdan Mollaafzal won the gold at the Asian Equestrian Federation Cup (AEF Cup CSIY-B) in Bengaluru
- P. Sivakumar, member-secretary of Central Silk Board, Ministry of Textiles, was elected secretary-general of International Sericulture Commission (ISC) for the period 2025-2027. The election was held during the 27th Conference of the International Sericulture Commission in Bucharest, Romania, from October 10 to 12. The ISC, an UN-affiliated inter-governmental organisation, is committed to the global development of the silk industry.
- An archaeology enthusiast, Reddy Rathnakar Reddy, discovered a 9th-century Kannada inscription in Pedaramcharla village, Jangaon Mandal,. The inscription, engraved on a stone beside a Lord Ganesha statue on Venkanna rock, was deciphered with the help of Muniratnam, Director of Epigraphy at the Archaeological Survey of India, and reads: 'Sri Sambeya samsara-Bhitam madisidom', indicating the sculpture was commissioned by Sambaiah. Characteristic of 9th-century Kannada language and script, this finding highlights the region's Kannada influence. Reddy, known as the 'Discovery Man', has uncovered over 50 inscriptions in Jangaon district, which he believes hold crucial information about the region's history, and advocates for a detailed analysis by the Archaeology Department to uncover Jangaon's past.
- A new species of spider, discovered at the origin of Jayamangali river at Devarayanadurga reserve forest of Karnataka has now been recognised as a new genus by arachnologists.
- The Karnataka Electricity Regulatory Commission (KERC) has introduced draft regulations for the installation of Rooftop Aero Turbines (RAT) in various building types, allowing consumers to generate renewable wind energy and reduce power bills. RATs are small-scale wind energy plants that can be installed on rooftops, harnessing wind power for electricity generation and can be used independently or alongside solar panels. The draft regulations outline guidelines for installation and operation, specifically designed for urban and suburban areas where wind speeds are lower and more turbulent. One of the key benefits of RATs is their ability to generate power day and night, complementing solar energy. KERC plans to encourage adoption by offering higher promotional rates for RAT-generated electricity. Installation requirements stipulate that if installed with solar, the minimum solar capacity should be 1 kW, and the combined capacity of solar and RAT must not exceed 1.25 times the sanctioned load. For RAT-only installations, the capacity should range between 1 kW and the sanctioned load. Consumers are required to commission the RAT within 180 days of signing a Power Purchase Agreement (PPA) with the distribution company, with delays resulting in reduced tariffs. The draft regulations were published on October 9, 2024, and will be finalized within 30 days after stakeholder suggestions are received.

- Karnataka Renewable Energy Development Ltd. (KREDL) is launching a battery energy storage system (BESS) initiative to enhance solar energy utilization by storing excess solar energy for sale to electricity supply companies (escoms) and eventually in the open market. A pilot project in Pavagada Solar Park, Tumakuru district, features a 2 MW solar photovoltaic (PV) plant paired with a 2MW/4.5 MW/h battery storage system, costing ₹36 crore, with major equipment delivered and civil work ongoing for expected commissioning next month. The solar BESS will store 30-50% of daytime-generated energy, releasing it during peak demand times, in compliance with the Union Government's mandate for renewable energy storage. A larger Kalaburagi project is in the tender process, featuring a 100 MW solar PV plant and a 100/130 MW/h BESS, estimated at ₹500 crore. Additionally, a proposed project in Ryapte Village aims for a 250 MW solar plant with a corresponding BESS, currently in the detailed project report phase. As of August 2024, Karnataka's solar capacity stands at 8,904.14 MW, along with 34.70 MW of solar-wind hybrid energy
- The National Electricity Plan (Transmission) was recently launched with the goal of achieving 500 GW of Renewable Energy installed capacity by 2030 and 600 GW by 2032. Prepared by the Central Electricity Authority (CEA) in consultation with stakeholders, the plan integrates 47 GW of Battery Energy Storage Systems (BESS) and 31 GW of Pumped Storage Plants (PSP). It outlines a significant expansion of transmission infrastructure, including 1,91,000 circuit kilometers of transmission lines and a transformation capacity of 1270 GVA from 2022-23 to 2031-32. Cross-border links with Nepal, Bhutan, and others, as well as potential interconnections with Saudi Arabia and UAE, are planned. Technological advancements such as hybrid substations and dynamic line rating will enhance the grid, with an investment opportunity of INR 9,15,000 crore by 2032.
- The Anusandhan National Research Foundation (ANRF), operationalized under the ANRF Act 2023, aims to bridge the gap between academic research and industrial application, aligning with India's National Education Policy (NEP). Its first two initiatives, the Prime Minister Early Career Research Grant (PMECRG) and the Mission for Advancement in High-Impact Areas – Electric Vehicle (MAHA-EV), target key sectors of research and innovation. The PMECRG supports early-career researchers to drive scientific excellence and technological progress, fostering a vibrant research ecosystem. Meanwhile, the MAHA-EV mission focuses on developing critical Electric Vehicle (EV) technologies like batteries, power electronics, and charging infrastructure, promoting domestic innovation and reducing reliance on imports. Both initiatives align with the vision of Atmanirbhar Bharat and aim to strengthen India's global leadership in Science and Technology by 2047. With a funding target of ₹50,000 crore for 2023-2028, ANRF is poised to foster a culture of innovation across India, having absorbed the Science and Engineering Research Board (SERB).
- Daron Acemoglu, Simon Johnson, and James A. Robinson have been awarded the Nobel Memorial Prize in Economics for their research on why nations differ in

prosperity. Their work highlights the critical role of societal institutions in fostering or hindering economic growth, showing that nations with weak rule of law and exploitative institutions struggle to achieve development. Acemoglu and Johnson are affiliated with MIT, while Robinson is associated with the University of Chicago. The prize, formally called the Bank of Sweden Prize in Economic Sciences in Memory of Alfred Nobel, was established in 1968 and is awarded alongside other Nobel Prizes on December 10, the anniversary of Nobel's death

- India is taking a significant leap forward in artificial intelligence with the establishment of three centres of excellence (CoE) in healthcare, agriculture, and sustainable cities. The All India Institute of Medical Sciences and Indian Institute of Technology in Delhi will lead the healthcare CoE, while IIT Ropar, Punjab will spearhead agriculture and IIT-Kanpur will focus on sustainable cities. These CoEs will collaborate with industries and startups to drive innovation. Union Education Minister Dharmendra Pradhan envisions these centres as solution providers, creating a new generation of employment and wealth opportunities, with a proposed financial outlay of ₹990 crore from 2023-24 to 2027-28. An industry-led apex committee, co-chaired by Zoho founder-CEO Sridhar Vembu, will oversee implementation. This initiative aims to bolster India's global AI credentials, promote multidisciplinary research, and foster a thriving startup ecosystem, ultimately benefiting villages, cities, and people alike
- Mount Adams, Washington's largest volcano, has awakened from its millennia-long slumber, exhibiting a significant surge in seismic activity. Standing tall at 12,277 feet and 18 miles wide, this stratovolcano surpasses Mount Rainier in volume, dominating the 1,250 sq. km Mount Adams volcanic field, which encompasses over 120 basaltic volcanoes, spatter cones, shield volcanoes, and expansive lava flows. With over 10 active glaciers supplying water to surrounding forests, streams, and meadows, Mount Adams' renewed activity raises attention, especially given its dormant status since its last eruption between 3,800 and 7,600 years ago, a time when humanity was still in the Stone Age.
- India's first Demonstration Facility for Biopolymers inaugurated in Pune.
- The BWSSB is set to launch the Cauvery Stage V Project, which aims to supply water to 110 newly added villages in the Bruhat Bengaluru Mahanagara Palike (BBMP) by drawing 775 million litres per day (MLD) from the Cauvery, equating to approximately 10 thousand million cubic feet (tmcft) annually. Currently, Bengaluru receives around 1,450 MLD from the Cauvery, while the demand for drinking water has surged to 2,200 MLD due to population growth. To enhance infrastructure, three advanced booster pumping stations have been constructed at T.K. Halli, Harohalli, and Tataguni, capable of pumping water to an elevation of 450 metres (equivalent to a 50-storey building) using steel pipes with diameters ranging from 500 mm to 2,200 mm over a distance of 110 kilometres. This project is also expected to increase the number of water connections in Bengaluru, currently at 10.64 lakh, by an additional 5 lakh connections.

- The Indian Navy recently launched INS Samarthak, the first indigenously designed multi-purpose vessel, as part of a two-vessel project built by L&T Shipyard at Kattupalli. This launch reflects India's commitment to the vision of Aatmanirbhar Bharat and the Make in India initiative. INS Samarthak is designed for multi-purpose roles, including towing ships, launching and recovering various targets, operating uncrewed autonomous vehicles, and serving as a trial platform for indigenous weapons and sensors. The vessel measures 106 meters in length, 16.8 meters in width, and can achieve a maximum speed of 15 knots.
- The 149th Assembly of the Inter-Parliamentary Union (IPU) was held in Geneva, highlighting its long-standing mission since its establishment in 1889 in Paris to promote representative democracy and world peace as the first multilateral political organization that encourages cooperation and dialogue among nations. The IPU comprises 180 member parliaments and 15 associate members, with goals aimed at strengthening parliaments and promoting younger, gender-balanced, and diverse representation. It advocates for the human rights of parliamentarians through a dedicated committee made up of MPs from around the world. The IPU moved its headquarters to Geneva in 1921 and is primarily funded by contributions from its member parliaments. Its structure includes the IPU Assembly, which serves as the principal statutory body responsible for expressing views on political issues and studying international problems; the Governing Council, composed of three representatives from each member parliament, which establishes the annual program and budget; the Executive Committees, a 17-member body that oversees the administration of the IPU and advises the Governing Council; and three Standing Committees that assist the Assembly in its work.
- The Karnataka government has doubled the lock-up contingency fund for detainees in police stations from ₹75 to ₹150 per detainee, aiming to address rising costs of essentials like food and reduce the financial burden on station house officers, although some police officials feel the revised amount remains insufficient to provide two square meals.
- The Union Cabinet has approved construction of a rail-cum-road bridge across the Ganga in Varanasi at an estimated cost of ₹2,642 crore. The proposed multi-tracking project will ease operations, reduce congestion and provide infrastructure development on the busiest sections across Indian Railways, said an official release by the Union Railways. Apart from relief in congestion on the stretch, freight amounting to 27.83 million tonnes per annum (MTPA) is anticipated on the proposed stretch. The project traverses through Varanasi and Chandauli districts of Uttar Pradesh. The construction is estimated to be completed in four years.
- India to procure 170 AGM-114R Hellfire missiles from the US, boosting its military capabilities. The Hellfire missile, developed in 1972, is a short-range air-to-ground laser-guided tactical missile targeting armored vehicles, tanks, bunkers, and soft targets, with a range of 7-11 km, maximum velocity of 950 mph, and weighing 45.4-49 kg including an 8-9 kg multipurpose warhead, making it a versatile asset for India's combat operations.

- The e-Migrate Portal is an online platform launched by the Government of India to facilitate and manage the migration of Indian workers seeking employment abroad. It aims to provide a safe and transparent framework for migrant workers by offering various services, including access to information, documentation, helpline support, and awareness campaigns, promoting safe and legal mobility channels for Indian migrants. The enhanced portal aligns with the United Nations' Sustainable Development Goal 10, which advocates for orderly and responsible migration. Key features include 24/7 multilingual helpline support, a feedback mechanism for timely issue resolution, and integration with Digilocker for secure, paperless document submission. Additionally, partnerships with Common Service Centres (CSCs) will extend immigration services to rural areas in local languages, enhancing accessibility. The platform also serves as a one-stop marketplace for overseas employment opportunities, supporting job-seekers in their migration efforts.
- In a significant step towards providing affordable and accessible healthcare, South Eastern Coalfields Limited (SECL), Chhattisgarh-based subsidiary of Coal India, inaugurated the country's 216th AMRIT (Affordable Medicines and Reliable Implants for Treatment) Pharmacy. Located at the Health Centre in SECL's Indira Vihar Colony, Bilaspur, this new facility makes SECL the first coal company to operate four AMRIT pharmacies. The AMRIT pharmacies, part of a flagship initiative launched by the Ministry of Health and Family Welfare in 2015, provide a wide range of generic and life-saving branded drugs, implants, and surgical consumables at highly subsidized rates.
- The Karnataka government has officially designated 1,495 acres of reserve forest in Mamadapur, Vijayapura district, as the "Shri Siddeshwara Swami Biodiversity Heritage Site," honoring a spiritual leader renowned for his conservation efforts. This site, characterized by dry deciduous and scrub forests, is ecologically significant as it provides habitats for diverse flora and fauna while contributing to water conservation and soil stabilization, thereby supporting local livelihoods. The designation was based on four key criteria: unique ecological features, the vulnerability of the ecosystem, cultural significance to local communities, and community support for conservation efforts. Biodiversity Heritage Sites (BHS) are defined as areas of high ecological and cultural importance that showcase species richness and often include sacred groves and community-conserved areas. The legal framework under the Biological Diversity Act, 2002 empowers state governments to declare such sites in consultation with local bodies and allows for the development of management plans that engage communities in the preservation process. The designation aims to enhance residents' quality of life through conservation initiatives while ensuring that local practices are respected. Notably, India's first BHS, the Nallur Tamarind Grove in Bengaluru, was established in 2007.
- The IndiaAI Mission has announced the selection of eight Responsible AI Projects under its Expression of Interest (Eoi), emphasizing the development of ethical,

transparent, and trustworthy AI technologies with proper guardrails for responsible deployment. With over 2000 proposals submitted from academic institutions, startups, research organizations, and civil society, these projects aim to tackle unique challenges using Indian datasets. A multi-stakeholder committee provided technical expertise for evaluating the proposals. The selected projects include initiatives from IIT Jodhpur on machine unlearning, IIT Roorkee on synthetic data generation, and IIIT Delhi on AI ethical certification, among others. This initiative aligns with the Government of India's vision for inclusive growth and aims to enhance India's global leadership in AI, foster technological self-reliance, and ensure the ethical use of AI through the IndiaAI mission, operating under the Digital India Corporation (DIC).

- The Government has extended the "Samarth" Scheme for Capacity Building in the Textiles Sector until March 2026, which is implemented by the Ministry of Textiles. This initiative aims to provide demand-driven, placement-oriented National Skills Qualifications Framework (NSQF) compliant skilling programs, targeting the training of 10 lakh individuals—9 lakh in the organized sector and 1 lakh in the traditional sector, excluding spinning and weaving. Key features of the scheme include Training of Trainers (ToT), an Aadhar Enabled Biometric Attendance System (AEBAS), CCTV recording of training programs, and a dedicated call center with a helpline number. The scheme will be executed by various agencies, including the textile industry, state governments, and reputable training institutions and NGOs that have established placement ties with the textile sector.
- The Cabinet Committee on Economic Affairs (CCEA) has announced an increase in the minimum support price (MSP) for rabi crops for the 2025-26 marketing season, with wheat's MSP rising by ₹150 per quintal. MSP, established based on recommendations from the Commission for Agricultural Costs and Prices (CACP), serves as a guaranteed price to farmers, ensuring remunerative prices and encouraging crop diversification. CACP, part of the Ministry of Agriculture and Farmers Welfare since 1965, evaluates factors like production cost and market trends before recommending MSP for 22 crops, including 14 kharif crops and 6 rabi crops. The MSP is determined using various cost classifications, primarily A2+FL and C2, to ensure it adequately covers the production costs in major producing states. The need for MSP has become increasingly vital due to economic challenges faced by farmers, including declining commodity prices, rising input costs, and rural distress exacerbated by past events like demonetization and the GST rollout.
- SpaceX has achieved a groundbreaking milestone by successfully landing its Starship rocket using an innovative structure called "Mechazilla." Located at SpaceX's Starbase in South Texas, Mechazilla is a 400-ft tall tower equipped with massive mechanical arms, designed to catch the Super Heavy booster midair during its return. This advancement significantly reduces wear and tear, turnaround time, and costs, making space missions more efficient. Described by Elon Musk as capable of catching the heaviest flying object, this leap in reusable rocket

technology could revolutionize aerospace engineering and increase the frequency of space exploration missions.

- The Indian Army is commemorating the 62nd anniversary of the Battle of Walong from the 1962 Sino-Indian War with a series of events, including the inauguration of the renovated Walong War Memorial and Shaurya Sthal. The Battle of Walong saw Indian troops, including the 11 Infantry Brigade with regiments like Kumaon, Sikh, and Gorkha Rifles, successfully halt the advance of 4,000 Chinese soldiers for 27 days, forcing the Chinese to commit more troops. Despite being heavily outnumbered, Indian forces showcased extraordinary bravery, a feat recognized internationally, including by Time magazine in 1963.
- The ICC inducted Alastair Cook, Neetu David, and AB de Villiers into the Hall of Fame. Neetu David, India's second-highest wicket-taker in women's ODIs with 141 wickets, is the first Indian woman to take 100 ODI wickets. Alastair Cook amassed 12,472 Test runs and played key roles in England's Ashes and India series victories. AB de Villiers, known for his innovative batting, holds the record for the fastest ODI century and has over 20,000 international runs. The ICC Hall of Fame, established in 2009, honors cricket legends.
- The Supreme Court has upheld the constitutional validity of Section 6A of the Citizenship Act, 1955, confirming the 1971 cut-off date for Bangladeshi immigrants in Assam. The court ruled that those who entered Assam from Bangladesh before March 25, 1971, are eligible for citizenship. This section was introduced as part of the 1985 Assam Accord to address the issue of growing migration from Bangladesh. The court emphasized that the Assam Accord was a political solution, while Section 6A provided a legislative solution to balance humanitarian needs and migration impact. The court also clarified that Parliament has the power to lay down conditions under Section 6A, and the presence of different ethnic groups in a state does not infringe on Article 29(1)
- The Bruhat Bengaluru Mahanagara Palike (BBMP) has launched a pilot feeding program for stray dogs across eight locations in Bengaluru, coinciding with the 'Festival of Dogs' (Kukur Tihar). This initiative aims to promote coexistence and create bite-free neighborhoods, addressing the growing stray dog population of approximately 270,000, which has led to increased dog-bite cases. Pourakarmikas will oversee regular feeding, collaborating with local hotels and caretakers for food supplies. Additionally, NGOs and animal welfare volunteers will conduct awareness sessions in schools, tech parks, residential areas, and apartment complexes. The pilot phase will monitor logistics for a month, followed by stakeholder feedback to refine and scale up the initiative. Community dog feeders and volunteers praise the initiative as a potential model for other cities, emphasizing compassion in addressing urban stray animal issues and citizen responsibility in holding authorities accountable. With around 1,500 organizations interested in partnering, this program may set a precedent for humane stray dog management.
- Karnataka Govt to rename Raichur varsity after Maharshi Valmiki

- Chief Justice of India D Y Chandrachud has written to the Union government's Law Ministry, naming Justice Sanjiv Khanna, the second-most senior judge of the Supreme Court, as his successor.
- SPARSH Hospitals launched an advanced on-site 3D printing lab at its Infantry Road facility. The lab introduces 3D printing technology that offers solutions under one roof — from scanning to the creation of final customised models.
- Saudi Arabia introduced the Global Harmony initiative aimed at promoting cultural understanding. It seeks to strengthen bonds between the local society and expatriates, including the Indian community.
- Saudi Arabia is launching a digital platform called Musaned to ensure a secure working environment for foreign workers, including those from India. This initiative is part of the country's Vision 2030 plan, aiming to protect workers' rights and reduce illegal immigration. The Musaned platform will provide easy access to employment contracts and updates for domestic workers through a dedicated app, and can be linked to contract insurance and health benefits. This development will benefit workers from at least 19 countries, including India, Bangladesh, Pakistan, and Sri Lanka, promoting a stable working environment for both employees and employers. The platform's features align with Saudi Arabia's Labour Law, which governs employer-employee relations, outlining provisions such as employment contracts, working hours, overtime allowance, and medical insurance
- More than 446 butterfly species have been recorded in Assam's Kaziranga National Park (KNP), making it a habitat with the second highest concentration in the country after the Namdapha National Park in Arunachal Pradesh.
- Researchers recently discovered pockets of living microbes in a 2-billion-year-old rock from the Bushveld Igneous Complex in South Africa, providing insights into early life on Earth and potentially aiding the search for life on Mars.
- Union Ministry of Information & Broadcasting and Meta join forces for "Scam se Bacho" Campaign to tackle rising online scams
- Researchers have developed a groundbreaking method to deliver tuberculosis (TB) medicines directly to the brain, effectively bypassing the blood-brain barrier (BBB) that often limits the efficacy of treatments for Central Nervous System Tuberculosis (CNS-TB), a severe form of TB with high mortality rates. Traditional treatments typically require high doses of oral anti-TB drugs, which struggle to reach effective concentrations in the cerebrospinal fluid due to the BBB. To address this challenge, a team at the Institute of Nano Science and Technology (INST), Mohali, led by Rahul Kumar Verma, utilized chitosan, a biocompatible and biodegradable material, to create chitosan nano-aggregates. These nanoparticles, designed for nasal delivery, can effectively carry TB drugs such as isoniazid (INH) and rifampicin (RIF). Employing a nose-to-brain (N2B) delivery system, this innovative approach leverages the olfactory and trigeminal nerve pathways in the nasal cavity, allowing for direct transport of medications into the brain. The mucoadhesive properties of chitosan help the nano-aggregates adhere to the nasal mucosa, prolonging drug release and enhancing therapeutic effectiveness. In

laboratory tests, this method significantly reduced bacterial counts in the brains of TB-infected mice compared to untreated subjects, showcasing its potential as a targeted treatment for CNS-TB. Published in the journal *Nanoscale*, this research not only promises improved outcomes for brain TB patients but also opens avenues for treating other neurological conditions, including neurodegenerative diseases, brain tumors, and epilepsy through efficient drug delivery to the brain.

- Union Minister of State for Science and Technology (Independent Charge) Dr Jitendra Singh unveiled Pavana Chitra, India's first Airport based self-powered indoor air quality monitoring facility at Thiruvananthapuram International Airport . The off-grid air quality monitor is powered by indigenous indoor solar cells developed by CSIR-NIIST, crafted from locally available materials.
- Miss India 2024 is Nikita Porwal of Madhya Pradesh
- The Maharshi Valmiki Award 2024 was announced, recognizing five individuals for their significant contributions to the upliftment of Scheduled Castes and various other sectors. Each awardee will receive a 20-gram gold medal and ₹5 lakh in cash. The recipients include Kilari Jogayya from Bengaluru Division, known for preserving tribal culture and cattle lineage; Dr. Ratnamma S. from Mysuru Division, an advocate for tribal children's education and health; Rajashekhar Talawar from Belagavi Division, who works to improve tribal communities' access to education and healthcare; K. S. Mrutyunjaya from Bengaluru Central, who promotes education and economic development for Scheduled Castes; and Ratnamma B. Sogi from Kalaburagi Division, a theatre artist raising awareness on social issues through rural theatre performances
- The Supreme Court of India has unveiled a redesigned 'Lady Justice' statue, marking a symbolic shift from colonial representations. Notably, the traditional blindfold symbolizing impartiality has been removed, with Chief Justice DY Chandrachud emphasizing that "the law is not blind; it sees everyone equally." The sword, traditionally held in her left hand, has been replaced with the Constitution, underscoring the importance of constitutional rights over punitive measures. The scales of justice remain intact, representing fairness. This redesign reflects the evolving identity of India's judiciary, aligning with broader reforms aimed at breaking away from colonial legacies and modernizing the legal system.
- The Drugs Technical Advisory Board (DTAB) has proposed significant recommendations to the Drugs Consultative Committee (DCC) regarding antibiotics and the growing threat of antimicrobial resistance (AMR). One key recommendation is to include all antibiotics in the definition of new drugs under the New Drugs and Clinical Trial (NDCT) Rules, 2019, to enhance regulatory oversight. DTAB also suggested amending labelling requirements to include a blue strip or box on antimicrobial products, aimed at raising awareness about AMR. Furthermore, the Board supported restrictions on the sale of antimicrobials to non-pharmaceutical industries without appropriate licenses, emphasizing that AMR is a global health priority. This recognition aligns with international declarations from

organizations like the UNGA, G7, and G20, which highlight the dangers posed by the misuse of antimicrobials. To facilitate responsible use, the DTAB proposed changes to existing drug rules, including amendments to specific forms to explicitly exclude antimicrobials from exemptions allowed for non-pharmaceutical sales. If approved, these recommendations would necessitate comprehensive documentation for the manufacturing and marketing of antibiotics, require regulatory clearance from the central government, and enforce prescription requirements for patients purchasing these medications

- The Karnataka government has taken a significant step towards revolutionizing education by launching the Shiksha Copilot program, an AI-powered initiative aimed at enhancing learning outcomes in government schools. Backed by Microsoft, this program will train 1,000 teachers from 750 schools across all educational districts, focusing on four subjects initially - Social Science, Science, and two others. The AI-powered digital assistant will provide personalized teaching resources, hands-on activities, assessments, and real-world examples, making learning more engaging and effective.
- Engine manufacturer General Electric announced that its LM2500 marine engines have been chosen to power Indian Navy's Next Generation Missile Vessels (NGMV) being built by Cochin Shipyard Limited. Six LM2500 marine gas turbine engine kits will be delivered by GE Aerospace for assembly and test by Hindustan Aeronautics Limited (HAL) Industrial and Marine Gas Turbine Division in Bengaluru, India. Additionally, GE Aerospace will be supplying its composite base and enclosure, and full complement of gas turbine auxiliary systems
- Farmers in Idukki, Kerala, are struggling with an infestation of the spotted locust (*Aularches miliaris*), a colorful grasshopper native to South and Southeast Asia. Characterized by its distinctive dark blue and yellow head and thorax, red and black abdomen, and green-brown wings with yellow spots, this herbivore feeds on leaves of host trees. Found in agricultural and forest areas, the spotted locust defends itself with toxic foam ejection and a sharp rasping voice. Its slow movement makes it easily catchable, and it jumps low without flying. Experts attribute the infestation to changes in climate patterns, posing a significant threat to local agriculture, following the recent snail infestation in the region.
- The Mera Hou Chongba festival, a symbol of unity among Manipur's indigenous people, was recently celebrated to strengthen bonds between hill and valley communities. This annual festival, observed since the 1st century CE during the reign of Nongda Lairen Pakhangba, brings together village chiefs (Khullakpas) and people from surrounding hill areas in September/October. Notably, royal palace officials share the dias with multiple village chiefs from communities like Mao, Kabui, Zeme, Kom, and Liangmei. The festival's highlight is the exchange of gifts between the King and village Chiefs, accompanied by vibrant cultural performances and sports, fostering harmony and unity among Manipur's diverse indigenous groups.

- Scientists have finally discovered a Trojan asteroid for Saturn, thereby establishing the presence of these celestial bodies alongside all giant planets in our solar system.
- The Food and Agricultural Organisation (FAO) has recently launched the third Hand-in-Hand Investment Forum, a key initiative aimed at eradicating poverty, hunger, and malnutrition, while reducing inequalities. Launched in 2019, this flagship program targets countries with high poverty and hunger rates, limited national capacities, and significant operational challenges due to natural or man-made crises. The Hand-in-Hand Initiative employs geospatial, biophysical, and socio-economic data to identify areas for agricultural transformation, sustainable forest and fisheries management, and value chain development . Its goals align with the United Nations' Sustainable Development Goals (SDGs), specifically SDG 1, 2, and 10, focusing on poverty reduction, hunger eradication, and inequality reduction. The FAO, established in 1945, leads international efforts to combat hunger, improve nutrition, increase agricultural productivity, and contribute to global economic growth, with 194 member states and the European Union as a member organization
- Northern Coalfields Limited (NCL), a subsidiary of Coal India Limited, has launched a series of sustainable initiatives under Special Campaign 4.0, focusing on renewable energy, health and hygiene, and eco-friendly waste management to contribute to a greener future. NCL has installed a 480 kW rooftop solar plant at its Jayant project and is expanding solar capacity with an additional 1.3 MW at various locations, aligning with India's renewable energy targets. To enhance health and hygiene among young women in the Singrauli region, the company has installed sanitary napkin vending and disposal machines in four schools, benefiting around 1,850 female students. The "Waste to Wealth" initiative promotes organic waste recycling by creating vermicompost beds, producing nutrient-rich compost to support sustainable agriculture. NCL has identified 69 sites for cleanliness and beautification, successfully completing 23, while also making progress in scrap disposal, having disposed of 1,661 MT out of a targeted 2,180 MT. In office management, NCL has transferred 400 old files to record rooms and reviewed 3,729 e-files to optimize space and operations. The company has resolved 30 out of 37 public grievances received during the campaign, demonstrating its commitment to public service. Through these initiatives, NCL is actively contributing to a cleaner, greener, and more sustainable future in line with national development goals.
- Smt. Vijaya Kishore Rahatkar appointed as Chairperson of the National Commission for Women. Smt. Rahatkar has demonstrated leadership skills across various political and social responsibilities. During her tenure as Chairperson of the Maharashtra State Commission for Women (2016-2021), she spearheaded initiatives like "Sakshama" (support for acid attack survivors), "Prajwala" (linking self-help groups to central government schemes), and "Suhita" (24x7 helpline service for women). She also worked on legal reforms focusing on issues like

POCSO, anti-triple talaq cells, and anti-human trafficking units. She introduced digital literacy programs and launched a publication named “Saad” dedicated to women's issues.

- Union Minister of State for Ports, Shipping & Waterways Shantanu Thakur announced that historic lighthouses across the country are evolving into centers of tourism, culture, and learning. Inaugurating the second edition of the Ministry’s Lighthouse Tourism Conclave-2024 at Puri, he highlighted a transformative journey to revitalize these lighthouses. So far, 75 iconic lighthouses, including five in Odisha, have been developed at a cost of ₹60 crore, aiming to create vibrant spaces for recreation and community engagement. This initiative is part of the ‘Lighthouse Heritage Tourism’ campaign, designed to promote these historic sites as tourist destinations, aligning with Prime Minister Narendra Modi’s vision to showcase their cultural significance and economic potential. In parallel, NCL has addressed 30 out of 37 grievances during Special Campaign 4.0, demonstrating its commitment to public service and contributing to a cleaner, greener, and more sustainable future.
- Karnataka has launched Shiksha Co-pilot, an AI-powered digital assistant aimed at enhancing teacher training, in partnership with Sikshana Foundation and Microsoft Research India. The initiative focuses on empowering teachers by enabling them to create comprehensive and personalized teaching resources tailored to the local curriculum, language, and context. It offers personalized teaching tools that include hands-on activities, assessments, real-world examples, short videos, and lesson plans, along with an integrated chatbot for self-learning and interactive content generation. In line with the Chief Minister's directive to improve education in government schools through advanced technology, the AI-powered assistant seeks to boost teaching efficiency and student learning outcomes. The project will begin with initial training for 1,000 teachers across Karnataka, followed by a gradual roll-out to all teachers statewide.
- Prime Minister Shri Narendra Modi launched the 'Karmayogi Saptah,' an initiative under Mission Karmayogi, which was launched in September 2020 to create a future-ready civil service rooted in Indian ethos and with a global perspective. This year's National Learning Week (NLW) is the largest event aimed at capacity development for civil servants, promoting a renewed commitment to learning and development while fostering the “One Government” message and aligning participants with national goals. NLW encourages lifelong learning and focuses on both individual and organizational engagement, with each Karmayogi committing to four hours of competency-linked learning. Learning opportunities include role-based modules on the iGOT platform, webinars led by eminent speakers, and talks designed to enhance citizen-centric services.
- The National Institute of Food Technology Entrepreneurship and Management, Kundli (NIFTEM-K), recently introduced the Solar Assisted Reefer Transportation with Hybrid Controls and Intelligence (SARTHI) system, an innovative solution aimed at reducing post-harvest losses in perishable food transportation. The

SARTHI system features dual compartments designed to store fruits and vegetables at different temperatures, addressing the unique storage needs of various produce types. It integrates IoT technology for real-time monitoring, where data from sensors is sent to the cloud. Users can access real-time information on quality parameters through a mobile app, which monitors physiological changes during transportation. The system employs sensors to measure temperature, humidity, ethylene, and CO₂ levels, sending data to the app for quality assessment. Additionally, a solar-powered air handling unit ensures temperature control during transport halts. This system extends the shelf life of produce by minimizing losses due to chilling injury or moisture loss, enabling informed decision-making for transporters who can reroute produce to closer markets if spoilage is detected, thereby cutting energy waste and reducing carbon footprints.

- The International Energy Agency (IEA) published its World Energy Outlook 2024 report, highlighting a significant shift in the global energy landscape characterized by ongoing geopolitical risks and an abundance of fuels and technologies. Projections indicate a surplus of oil and liquefied natural gas (LNG) in the latter half of the 2020s, along with a substantial increase in clean energy technology manufacturing. By 2030, low-emissions energy sources are expected to generate over half of the world's electricity, while global electricity demand is projected to grow at a rate equivalent to Japan's annual consumption each year. Focusing on India, the report anticipates the highest increase in energy demand over the next decade due to its large population and rising sectoral demands. India is projected to add over 12,000 cars daily by 2035, with built-up space expanding by over 1 billion square meters annually. Iron and steel production is expected to grow by 70% by 2035, while cement output is projected to rise by nearly 55%. The demand for air conditioning will see the stock grow more than 4.5 times, resulting in electricity demand surpassing Mexico's total expected consumption by 2035. Overall, India's total energy demand is anticipated to increase by nearly 35%, with electricity generation capacity expected to nearly triple to 1,400 GW. Coal will maintain a strong position in India's energy mix, with approximately 60 gigawatts of new coal-fired power capacity projected by 2030, and coal-based electricity generation expected to rise by over 15%. In 2023, coal accounted for 40% of energy used in industries such as steel, cement, and manufacturing, with an anticipated growth of coal use in these sectors by 50% by 2035.
- The Multidimensional Poverty Index (MPI) was released by the United Nations Development Programme (UNDP) and the Oxford Poverty and Human Development Initiative (OPHI), revealing that India has 234 million people living in poverty, ranking it among the top five countries globally. The nations with the largest poverty populations include India, Pakistan (93 million), Ethiopia (86 million), Nigeria (74 million), and the Democratic Republic of Congo (66 million), which together account for 48.1% of the world's 1.1 billion people living in acute poverty. Notably, over half of these individuals are minors, and 40% reside in

countries affected by war, conflict, and fragility. Furthermore, a staggering 455 million people in poverty live in areas exposed to violent conflict, where ongoing strife has caused mass casualties, displacement, and disruptions to livelihoods, significantly hindering poverty reduction efforts.

- Odisha has started preparing for a possible impact from Cyclone Dana in the coastal areas, with the India Meteorological Department forecasting wind speeds to reach 100 to 120 kmph. Qatar has given the name Dana, meaning a beautiful, precious pearl in Arabic.
- Dilraj Singh and Sharda Nand Tiwari scored a brace each as the Indian junior men's hockey team continued its winning run, defeating Great Britain 6-4 in a high-scoring game at the Sultan of Johor Cup in Johor
- McLaren's Lando Norris edged Red Bull's Max Verstappen for the pole position at the United States Grand Prix. The latter won the sprint race earlier in the day to stretch his lead over Norris to 54 points with six Grands Prix and two more sprint races left in the season. Verstappen is chasing his fourth consecutive championship, Norris his first.
- The 15th ITU Kaleidoscope Academic Conference, themed "Innovation and Digital Transformation for a Sustainable World", will begin from tomorrow (October 21, 2024) at Bharat Mandapam, New Delhi, marking a significant milestone in global telecommunications research and standards development. Organized by the International Telecommunication Union (ITU), this prestigious event runs from October 21 to 23, 2024, and brings together the brightest minds in academia, industry, and government to discuss cutting-edge developments in 5G, AI, IoT, quantum communications, and other transformative technologies. Kaleidoscope 2024 stands out as a key platform for fostering innovation and collaboration in digital transformation and telecommunications.
- INS Trikand and Dornier Maritime Patrol Aircraft, participated in the Indo-Oman bilateral naval exercise Naseem-Al-Bahr with the Royal Navy of Oman Vessel Al Seeb off Goa from 13 to 18 October 24.
- Dr Jitendra Singh releases first of its kind, largest ICMR-India Diabetes 'INDIAB' Study, all-India survey's Jammu related data on prevalence of Diabetes in Jammu region
- On October 21, 2024, the Union Minister of Labour & Employment and Youth Affairs & Sports will launch the **eShram-One Stop Solution** in New Delhi, aligning with the recent Budget Announcement aimed at developing eShram as a comprehensive resource for unorganized labor. This initiative will serve as a mediator, providing unorganized workers with easy access to various government schemes and enhancing their awareness of available social sector programs. The eShram-One Stop Solution seeks to integrate beneficiary information across all social security and welfare schemes through a single platform, facilitating the effective identification and implementation of these programs while ensuring maximum saturation. Since its launch on August 26, 2021, eShram has successfully enrolled over **30 crore** unorganized workers, reflecting its widespread appeal and

demonstrating the government's commitment to supporting the nation's unorganized labor force.

- The Madhya Pradesh government has conferred the Kalidas Samman award for 2023 to city-based artist Raghupathi Bhat, recognizing his significant contributions to painting, especially in reviving the traditional Ganjifa miniature painting. The award, which includes a cash prize of ₹5 lakh and a citation, will be presented at a ceremony in Ujjain on November 12. Ganjifa cards, historically popular in Medieval India, are traditionally hand-painted and primarily circular, with regional varieties such as Sawantwadi Ganjifa from Maharashtra and Mysooru Ganjifa, favored by the Mysore royal family. Bhat, originally from Udupi District in Karnataka, has dedicated his efforts to restoring and promoting Ganjifa art, which holds cultural significance, as seen in the Mysooru Ganjifa style that narrates Hindu scriptures through games. The Kalidas Samman, an annual arts award established in 1980, honors excellence in various artistic fields, having transitioned to recognizing one individual per year after 2008-09.
- The National Centre for Good Governance (NCGG) has initiated its inaugural Mid-Career Training Programme for civil servants from BIMSTEC nations, running from October 14 to October 25, 2024, in Mussoorie and New Delhi. This two-week program includes 36 civil servants from Sri Lanka, Myanmar, Nepal, Bhutan, and 35 from the Maldives, aiming to enhance governance standards and promote regional cooperation. Key objectives focus on citizen-centric governance models, with training components that emphasize skill development to address modern governance challenges, particularly in digital transformation. Participants will gain practical exposure through field visits to prominent institutions such as the Indira Gandhi National Forest Academy and the All India Institute of Medical Sciences (AIIMS), along with a cultural excursion to the Taj Mahal. Additionally, a 34th Capacity Building Programme continues for Maldivian civil servants, reinforcing India's administrative practices and strengthening ties between India and the Maldives.
- The "Industry 5.0 and AI Report" released by BML Munjal University highlights significant insights into the impact of AI on productivity and innovation. Around 44% of organizations report substantial productivity gains, while 21% view AI as a driver of innovation, especially in sectors like finance, healthcare, manufacturing, and marketing. AI is primarily applied in product development (33%), customer service (29%), and trend analysis (19%). However, challenges such as a 34% skills gap hinder AI integration, prompting 31% of organizations to adopt mentorship programs. Additionally, AI has influenced mergers and acquisitions, with 28% benefiting from personalized campaigns, though data privacy remains a concern for 22% of organizations.
- The rapid expansion of sugarcane and maize cultivation in north Karnataka has unexpectedly created a conduit and shelter for leopards, leading to increased human-leopard conflicts. As their natural habitats shrink due to human activities like mining, stone quarrying, and dwindling prey bases, leopards are adapting by

migrating to newer areas. Data from 2019-2024 shows 82 human-leopard conflict incidents in Kalaburagi, Belagavi, Bidar, and Bagalkot districts, with 57 livestock killed in Koppal district alone since April 2022. Forest officials have paid Rs 6 lakh in compensation over two years. Sugarcane fields in the Krishna river basin have become a haven for leopards, providing easy prey, water, and breeding grounds. The area under sugarcane cultivation has increased from 7.65 lakh hectares in 2019-20 to 10 lakh hectares in 2023-24, while maize cultivation has risen from 15 lakh hectares to 20.13 lakh hectares. Experts note that these fields' dense vegetation makes them ideal hiding spots for leopards, which prey on cattle, sheep, stray dogs, and wild boars, highlighting the complex interplay between human activities, habitat loss, and wildlife adaptation.

- Karnataka's Health Minister, Dinesh Gundu Rao, announced the launch of the Gruha Arogya scheme on October 24 at an event organized by the Kidney Warriors Foundation in Bengaluru. This initiative aims to screen the entire state population for various health conditions, including diabetes and hypertension, and ensure the regular delivery of medicines to patients across Karnataka. By doing so, the Gruha Arogya scheme seeks to improve the overall health and wellbeing of Karnataka's residents, addressing two major health concerns that often require ongoing medical attention. The program's focus on preventive care and timely medication delivery is expected to have a significant impact on public health in the state.
- Union Minister Pralhad Joshi has announced that the Department of Posts will release a commemorative postage stamp honoring Kittur Rani Chennamma on October 23. This historic move marks the 200th anniversary of Rani Chennamma's courageous victory against the British East India Company in 1824, cementing her legacy as a warrior queen and India's first woman independence activist
- India's premier recurve archer Deepika Kumari won her fifth silver medal at the World Cup Final at Mexico
- Well-known Yakshagana comedy actor Bantwal Jayaram Acharya passed away in Bengaluru.
- Minister for Agriculture N. Cheluvaryaswamy announced plans to establish Assistant Directors of Agriculture offices in all Mandya district taluks, urging local MLAs to identify suitable land. He spoke during the foundation stone laying ceremony for Mandya's Centre of Excellence, a ₹2 crore project handling various departmental tasks. Cheluvaryaswamy also pledged government grants for permanent Raitha Samparka Kendras buildings, currently operating from rented premises, and directed tahsildars and Agriculture Department officers to coordinate land identification for the new offices.
- SC gives Radhakrishnan-led committee two weeks more to file NEET overhaul report
- Wikipedia has taken down the article "Asian News International vs. Wikimedia Foundation" following an order from the Delhi High Court, marking the first time an English Wikipedia article has been removed in the platform's history. The court ruled that the article's criticism of the lawsuit "amounts to interference in Court

proceedings" and violates the "sub judice principle" . This decision comes after ANI, an Indian news agency, sued Wikimedia Foundation for defamation over a description stating that ANI spreads pro-government propaganda and disinformation. Justice Manmohan noted that being called a "puppet of an intelligence agency" or "stooge of the government" can severely damage a news agency's credibility . Wikimedia Foundation has complied with fewer than half-a-dozen takedown or alteration requests since 2012, primarily from Germany, France, and Ukraine. Although the removed article is no longer accessible, the Wikipedia page on ANI remains available, and information about the court case can still be found within that article. ANI is seeking ₹2 crore in damages and edits to the page.

- Laura Wolvaardt was named skipper of the Team of the Tournament in the T20 World Cup.
- India's Prime Minister recently addressed a ceremony celebrating International Abhidhamma Divas and recognizing Pali as a classical language in New Delhi. Abhidhamma Divas commemorates Lord Buddha's descent from Tāvātimsa-devaloka to Sankassiya, now Sankisa Basantapur in Uttar Pradesh, marked by the historic Asokan Elephant Pillar . This event honors Lord Buddha's three-month teaching of Abhidhamma to deities in Tāvātimsa, including his mother, as described in Theravāda Buddhist texts. The celebration coincides with the end of the first Rainy Retreat and Pavāraṇā festival, where monks and nuns conclude their retreat with a ceremony. Hosted by the Ministry of Culture and International Buddhist Confederation, International Abhidhamma Divas promotes the analytical approach of Abhidhamma, exploring reality and understanding existence through concepts like "citta" (consciousness), "cetasika" (mental factors), "rūpa" (materiality), and "nibbāna" (final liberation). The Prime Minister emphasized the significance of Pali language, noting that Abhidhamma is contained within Dhamma, and understanding Dhamma requires knowledge of Pali
- A new species of orchid named *Coelogyne tripurensis* was recently discovered in Jampui Hills, in Tripura's North District. 2014
- On 21st October 2024, the Indian Air Force (IAF) and Republic of Singapore Air Force (RSAF) commenced the 12th edition of the Joint Military Training (JMT) exercise at Air Force Station Kalaikunda, West Bengal. The RSAF is participating with its largest contingent till date, comprising of aircrew and support personnel from F-16, F-15 squadrons alongwith G-550 Airborne Early Warning and Control (AEW&C) and C-130 aircraft. The IAF will be participating with Rafale, Mirage 2000 ITI, Su-30 MKI, Tejas, MiG-29 and Jaguar aircraft.
- Researchers at the Institute of Advanced Study in Science and Technology in Guwahati have made a groundbreaking discovery about *Stevia rebaudiana*, commonly known as Candy Leaf, revealing its potential to combat endocrine, metabolic, immune, and cardiovascular diseases. This natural sweetener, exported worldwide from Assam, has been found to have therapeutic properties due to its impact on cellular signaling systems. The research team, led by Dr. Asis Bala, Prof.

Ashis K. Mukherjee, and Ms. Piyali Devroy, employed a multimodal strategy integrating network pharmacology with in vitro and in vivo techniques to demonstrate Stevia's ability to inhibit a crucial cellular signaling route connected to inflammatory and autoimmune illnesses

- Karnataka's economic performance is currently outpacing the national economy, with the state recording a Gross State Domestic Product (GSDP) growth rate of 10.2% for the 2023-24 fiscal year, significantly above the national average of 8.2%. This growth has been fueled by strategic investments, innovative policies, and a business-friendly environment. The National Stock Exchange (NSE) recently revised its initial growth projection for Karnataka from 4% to an impressive 13.1%, indicating an earlier underestimation of the state's economic performance. For 2024-25, the NSE forecasts a 9.4% GSDP growth rate, while the Ministry of Finance predicts an even higher 14%. Notably, strong economic indicators include a 10% year-on-year increase in GST collections and a remarkable 24% growth in stamp duty revenue as of September 2024. Karnataka also boasts one of the highest GSDP per capita figures in India, aligning closely with Telangana, supported by state policies aimed at equitable growth. However, challenges persist, such as the worst drought in a decade adversely affecting agricultural output, a heavy reliance on the IT and hardware sectors for 28% of its Gross State Value Added (GSVA), and the impact of the global economic slowdown. Recognizing the importance of law and order in fostering investment and economic growth, the government has announced plans for significant law enforcement improvements, including the construction of 100 new police stations and 10,000 residential quarters for police personnel by 2025, alongside crime prevention measures like deploying 6,000 CCTV cameras.
- The Government of Karnataka has launched its first Centre of Excellence (CoE) in financial technology (fintech) through the Department of Electronics, Information Technology, Biotechnology, and Science & Technology, in collaboration with the Nadathur S Raghavan Centre for Entrepreneurial Learning (NSRCEL) at IIM Bangalore, which will implement the initiative. Financial backing will be provided by the Karnataka Innovation and Technology Society (KITS), with a total budget of ₹13.24 crore allocated for operations over five years, including ₹8.19 crore for incubation and acceleration programs and ₹5.04 crore for skilling and training programs. The CoE aims to accelerate fintech growth in Karnataka, leverage the state's entrepreneurial ecosystem, facilitate innovation in the fintech sector, and support startups within the industry.
- The Supreme Court (SC) has reaffirmed that "secularism" is an integral part of the Constitution's basic structure, emphasizing its unamendable nature in various rulings. This declaration arose during hearings concerning the inclusion of "socialist" and "secular" in the Constitution's Preamble, where Justices Sanjiv Khanna and Sanjay Kumar highlighted that secularism is fundamental to the Constitution, reflected in the principles of equality and fraternity. The Court noted India's unique approach to secularism, which differs from the French model, and

emphasized the need to balance rights within its framework. While discussing socialism, the Court acknowledged the term's Western connotations but expressed satisfaction with India's economic growth despite debates about its inclusion. Petitioners raised concerns about the 42nd Amendment, arguing it lacked proper parliamentary debate and could limit personal liberty, citing Dr. B.R. Ambedkar's warnings. The SC, however, pointed out that socialism could foster equality and fair wealth distribution. Broader implications of the ruling include concerns about future amendments potentially undermining foundational principles like democracy.

- India has recently announced a breakthrough agreement on patrolling arrangements along the Line of Actual Control (LAC) in eastern Ladakh, marking a significant development in the prolonged border negotiations with China. Foreign Secretary Vikram Misri confirmed that both nations have reverted to the pre-conflict situation of 2020, following the completion of the troop disengagement process. This announcement aligns with Prime Minister Narendra Modi's upcoming trip to Kazan, Russia, for the 16th BRICS summit. The stand-off along the disputed boundary has persisted since 2020, and the new agreement permits Indian and Chinese soldiers to resume patrolling as they did prior to the conflict. Despite this progress, India will maintain a vigilant stance along the LAC due to lingering trust issues with China, especially since the Chinese People's Liberation Army (PLA) has not fully withdrawn the additional troops deployed since April-May 2020. The Indian Army will also retain its presence in 'rear areas,' apart from standard winter repositioning. A research paper highlighted that India has lost access to 26 of the 65 patrolling points along the LAC since the stand-off began, emphasizing the importance of this new agreement.
- A new snake species discovered by researchers in the Himalayas has been named after Hollywood actor Leonardo DiCaprio in recognition of his efforts to raise awareness on global climate change, biodiversity loss and pollution. The snake was discovered near Thanei Kothi village in the Chamba district of Himachal Pradesh by a team of researchers including H T Lalremsanga.
- India signed an agreement with Pakistan to extend the validity of a 2019 agreement, which had opened a corridor allowing pilgrims from India to cross over to the neighbouring country to visit Gurdwara Kartarpur Sahib, one of the holiest shrines for Sikhs.
- The International Monetary Fund (IMF) has maintained its growth rate projections for India in its latest World Economic Outlook report, predicting a 7% growth rate for the current fiscal year ending March 31, 2025, and 6.5% for the next fiscal year. The World Bank has also revised its growth forecast for India to 7% for the current financial year, up from its earlier projection of 6.6%. This growth is driven by factors such as private consumption and investment.
- A team of arachnologists has discovered a new genus of jumping spiders, 'Tenkana', found across southern India, encompassing two previously known species. It also introduced a new species, Tenkana jayamangali, from Karnataka.

The name Tenkana comes from the Kannada word for south, reflecting that all the known species are from southern India and northern Sri Lanka. This new group belongs to the Plexippina subtribe of jumping spiders and is different from related groups such as Hyllus and Telamonia. Two species that were previously in Colopsus — Tenkana manu (found in south India and Sri Lanka) and Tenkana arkavathi (from Karnataka) — have now been moved to the new genus. Interestingly, the former was named after a retired professor, Dr. Manu Thomas, in 2014. The team also described Tenkana jayamangali for the first time, named after the Jayamangali river in Karnataka, where it was first seen.

- The degradation of natural ecosystems is an urgent global issue, and India, with its vast geographical and ecological diversity, is no exception. With almost 30% of its total geographical area having land degradation, the need for India to adopt a comprehensive nature restoration law is more acute. The Nature Restoration Law (NRL), which was enacted by the European Union (EU), is an inspiring model from which India can draw points to tackle its growing environmental crises.
- The NRL, adopted by the EU's Environmental Council on June 17, 2024, is a groundbreaking piece of legislation that aims to restore the health of Europe's ecosystems.
- Steel Authority of India Limited (SAIL) has been awarded with SHRM - HR Excellence Awards for 'Excellence in Inclusion, Equity & Diversity' and 'Excellence in Managing the Distributed Workforce' categories at the prestigious SHRM India Annual Conference 2024 held in New Delhi, recently.
- National Education Society for Tribal Students (NESTS) today launched the Third Phase of the 'Amazon Future Engineer Program' in 50 Eklavya Model Residential Schools (EMRS) spread across Andhra Pradesh, Gujarat, Karnataka, Madhya Pradesh, Odisha, Telangana and Tripura. The third phase would include an orientation on blockchain, artificial intelligence, coding, block programming and AI sessions. The third phase of the Amazon Future Engineer Program will be rolled out across 410 proposed EMRSs in India. The Amazon Future Engineer Program has been running for two years, has already introduced over 7,000 students in grades 6 to 8 to the fundamentals of computer science and block programming, with over 50 teachers trained in the previous phases. The third phase will expand the curriculum to include blockchain, artificial intelligence, and coding for students in grades 6 to 9. Additionally, project-based virtual sessions will be provided for class 10 students, further aligning with the CBSE AI Skills Curriculum.
- The Sharavathy Pumped Storage Project, proposed by the Karnataka Power Corporation Limited (KPCL), is a 2,000-MW facility situated on 133.8 acres within the Sharavathy Lion Tailed Macaque sanctuary. Recent research has highlighted the project area's rich biodiversity, revealing a diverse array of flora and fauna, including several endangered species. A biodiversity assessment conducted over three months in 2019 documented 362 species of flora, with a notable increase during the monsoon season. Key mammals identified include the critically endangered Lion Tailed Macaque, while 130 bird species were also recorded,

including vulnerable species such as the Tawny Eagle. Despite these findings, experts express concerns about the study's limitations, emphasizing that the full biodiversity of the area may not be fully documented and that the long-term environmental impact of the project remains uncertain.

- On October 20, 2024, Egypt was officially declared 'malaria-free' by the World Health Organization (WHO), marking it as the second country in 2024, after Cabo Verde, to achieve this status. The WHO's malaria-free certification is awarded to nations that have successfully interrupted the transmission of malaria for at least three consecutive years, highlighting nearly a century of persistent efforts in Egypt to eradicate the disease. This achievement places Egypt as the third nation in the WHO Eastern Mediterranean Region to be certified malaria-free, following the United Arab Emirates and Morocco. With this certification, the total number of countries and territories recognized by the WHO as malaria-free has reached 44, underscoring a global commitment to eliminating malaria, particularly in regions historically burdened by the illness. The efforts leading to this milestone included extensive public health campaigns, insecticide spraying, and vector control initiatives, demonstrating the government's and the public's dedication to public health. Egypt's success also serves as an inspirational model for other African countries still grappling with malaria.
- On October 22, 2024, India launched its fourth nuclear-powered ballistic missile submarine (SSBN) at the Ship Building Center (SBC) in Visakhapatnam, codenamed S4*. This new SSBN features approximately 75% indigenous content, highlighting India's commitment to self-reliance in defense manufacturing. Equipped with K-4 ballistic missiles, which have a range of 3,500 km, the submarine represents a significant advancement over its predecessor, the K-15 missiles carried by INS Arihant, which have a range of only 750 km. The development of SSBNs is crucial for India's strategic nuclear deterrence, providing a reliable second-strike capability under the principle of mutual assured destruction. With the recent launch, India joins an elite group of six countries operating SSBNs, which are essential for ensuring the survivability of nuclear weapons in the event of a first strike.
- India and China recently signed a deal to resolve the ongoing military stand-off in the Depsang and Demchok regions of Ladakh. Under this agreement, the Indian Army will resume patrolling, and local farmers will regain access to grazing lands in these areas. However, the deal does not cover regions such as the Galwan Valley, Pangong Tso, and Gogra-Hot Springs, where patrolling remains restricted due to a moratorium. The stand-off, which began in April-May 2020, saw disengagement in other areas, but Depsang and Demchok had remained unresolved until now. This agreement comes ahead of Prime Minister Modi's meeting with Chinese President Xi Jinping.
- BSNL (Bharat Sanchar Nigam Limited) has introduced a new corporate identity with a fresh tagline, changing from "Connecting India" to "Connecting Bharat," reflecting the government's increasing use of the term 'Bharat.' BSNL has also

updated its logo, changing the globe-like structure's color from grey to orange, a move that may attract political criticism for "safronisation."

Along with these changes, BSNL unveiled new services, including a spam-blocking solution to filter out malicious SMS, Wi-Fi roaming services allowing users to connect to any BSNL FTTH Wi-Fi network while traveling, and access to over 500 premium TV channels for FTTH users.

- GAIL Gas Limited has initiated discussions with private bus fleet and school bus operators in Bengaluru to explore the adoption of compressed natural gas (CNG) for commercial operations.
- India's hockey team, Olympic bronze medalists, squandered numerous chances and suffered a 0-2 defeat to reigning world champions Germany in the first hockey Test of their two-match series. Germany, Olympic silver medalists, fielded a young team that delivered, with Henrik Mertgens scoring in the 4th minute and captain Lukas Windfeder in the 30th
- The Department of School Education and Literacy of Karnataka signed an agreement with the British Council, the United Kingdom's international organisation for educational opportunities and cultural exchange for a programme called 'Premier League Primary Stars' in India. This programme aims to support primary school teachers and coaches in improving learning outcomes in physical education (PE) and personal, social, health, and economic education.
- Researchers are developing the first successful vaccine against *Clostridioides difficile* (*C. difficile*), a highly contagious bacterium causing colon infections, utilizing mRNA technology from COVID-19 vaccines. *C. difficile* affects older adults in hospitals and long-term care, and can also infect individuals outside these settings. Symptoms range from watery diarrhea and mild cramping to life-threatening colon damage. Transmission occurs through healthcare workers' hands, and roughly one-third of infected individuals experience recurrent infections. Current treatments include lengthy antibiotic courses, which harm beneficial gut bacteria, and fecal transplants to introduce healthy bacteria. The vaccine aims to combat this bacterium, which causes dehydration, toxic megacolon, and severe inflammation, offering hope for improved treatment options.
- Union Minister of Consumer Affairs, Food and Public Distribution, Shri Pralhad Joshi, launched the retail of Bharat Chana Dal Phase II in Delhi-NCR, making 3 lakh tons of Chana stock available at Rs. 70 per kg and Rs. 58 per kg for Chana Dal and Chana Whole, respectively. This initiative aims to ensure essential food availability at affordable prices, particularly during the festive season. Bharat brand has also been expanded to Moong and Masur Dals, priced at Rs. 107, Rs. 93, and Rs. 89 per kg. The government has taken measures to encourage domestic production, including raising MSP for pulses and duty-free imports till March 2025. This has led to declining pulse prices since July 2024, with Tur dal, Urad dal, Moong dal, and Masur dal prices either declining or remaining stable

- The Karnataka government has launched the Gruha Arogya program, a door-to-door non-communicable disease screening initiative to address rising health concerns. ASHA workers and local health officers will visit homes to screen for diseases like diabetes, hypertension, oral, cervical, and breast cancer. The program will also provide free medicines for diabetes and high blood pressure, with patients referred to government health facilities if needed. Health statistics show 26.9% of the population suffers from hypertension, 15.6% from diabetes, and significant percentages from various cancers.
- The Central Pollution Control Board (CPCB) has proposed a high-level committee to investigate heavy metal contamination in Bengaluru's vegetables after a study by the Environment Management Policy Research Institute (EMPRI) found elevated levels of iron, cadmium, lead, and nickel in 97% of leafy vegetables, with 39% exceeding safe limits. A five-member committee, including experts from FSSAI, the Indian Institute of Soil Science, and other key institutions, will conduct a comprehensive study over four months, with samples tested in FSSAI-approved labs. The findings will be compared to FSSAI standards and submitted to the National Green Tribunal (NGT).
- The PM Young Achievers' Scholarship Award Scheme for Vibrant India (PM YASASVI) has been launched by the Ministry of Social Justice and Empowerment to uplift students from Other Backward Classes (OBC), Economically Backward Classes (EBC), and Denotified Tribes (DNT) by providing access to quality education. The scheme includes a pre-matric scholarship for students in classes IX and X, offering an annual allowance of Rs. 4,000 for families earning below Rs. 2.5 lakh, as well as post-matric scholarships with allowances ranging from Rs. 5,000 to Rs. 20,000 for higher education. Additionally, it provides funding for meritorious students, hostel construction, and aims to address systemic barriers in education, thereby promoting upward mobility and enhancing inclusivity.
- On October 24, 2024, the Ministry of Panchayati Raj, in collaboration with the India Meteorological Department (IMD) and the Ministry of Earth Sciences, launched a Gram Panchayat-Level Weather Forecasting program aimed at improving rural preparedness for climate change and natural disasters. The initiative provides weather forecasts via platforms like e-GramSwaraj and Meri Panchayat, offering hourly updates and five-day forecasts to help farmers plan their agricultural activities and mitigate crop risks. Localized forecasts will enhance responsiveness to sudden weather changes, and training will be provided to over 200 local officials to effectively use these tools for informed decision-making.
- On October 21, 2024, Bihar inaugurated its first dry port in Bihta, near Patna, to enhance the state's export potential. Developed in partnership with Pristine Magadh Infrastructure Private Limited and the state industry department, this dry port, also known as an Inland Container Depot (ICD), will serve as a logistics hub offering cargo handling, storage, and customs clearance services. It addresses the need for efficient consolidation and processing of Bihar's agricultural, garment, and leather exports while reducing transportation costs. With rail connectivity to major

ports, the Bihta dry port is expected to boost exports not only for Bihar but also for neighboring states.

- The Hon'ble President of India recently conferred the 5th National Water Awards, recognizing outstanding contributions to water conservation and management. Odisha was awarded the title of Best State for establishing 53,000 water conservation and rainwater harvesting structures, alongside significant investments in wastewater treatment. Uttar Pradesh secured second place by connecting 1.91 crore households to tap water and developing 14,679 Amrit Sarovars. District winners included Banda (UP) for rejuvenating ponds, Indore (MP) for sapling planting, Visakhapatnam (AP) for water body restoration, and Ganderbal (J&K) for canal maintenance. Other notable winners included Surat (Best Urban Local Body) and Pullampara (Best Village Panchayat). The awards, initiated in 2007 by the Ministry of Jal Shakti, aim to encourage water conservation efforts and promote best practices in water usage.
- The Union Cabinet has approved a ₹1,000-crore venture capital fund to support firms in the space tech domain. The fund, to be set up under the Indian National Space Promotion and Authorisation Centre, will select approximately 40 firms on the basis of commercialisation potential. It will deploy the amount over a period of five years, with a planned deployment of ₹150 crore in the financial year 2025-26, followed ₹250 crore each in the next three financial years and ₹100 crore in 2029–30.
- Former World No. 1 Maria Sharapova and the US doubles team of Bob and Mike Bryan were announced as 2025 inductees to the International Tennis Hall of Fame. Sharapova, a five-time Grand Slam champion, is among only 10 women to have achieved a career singles Grand Slam. She was atop the world rankings five times in a WTA career that spanned from 2001-2020. The Bryan brothers teamed to win 16 Major doubles titles and became the ATP's most successful duo, with a record 438 weeks atop the ATP doubles rankings.
- The Mekong River's Giant Salmon Carp, thought to be extinct, has been spotted three times in recent years, offering hope for its survival. This critically endangered species, also known as Aaptosyax, is a freshwater fish that grows up to 4 feet long, characterized by a distinctive knob on its lower jaw and striking yellow patches around its large eyes. Native to the Mekong River's middle reaches in Cambodia, Laos, and Thailand, its population had declined by over 90% due to overfishing and habitat degradation, prompting its classification as Critically Endangered on the IUCN list.
- Indian Navy's Destroyer INS Delhi, German Navy's Frigate Baden-Württemberg and Tanker Frankfurt Am Main undertook a Maritime Partnership Exercise (MPX) in the Indian Ocean. The exercises conducted include cross deck flying operations, underway replenishment, weapon firing and tactical manoeuvres.
- The 31st edition of the Singapore India Maritime Bilateral Exercise (SIMBEX) is scheduled from 23 to 29 Oct 2024, in the Eastern Naval Command at Visakhapatnam. Republic of Singapore Navy Ship RSS Tenacious with embarked

helicopter, arrived at Visakhapatnam on 23 October 24 for participating in SIMBEX2024. SIMBEX, which began as 'Exercise Lion King' in 1994, has since evolved into one of the most significant bilateral maritime collaborations between the Indian Navy and the Republic of Singapore Navy (RSN).

- A study by the National Institute of Advanced Studies has identified 80 hotspots in Bengaluru Urban District where PM2.5 pollution exceeds critical thresholds, with industrial zones, traffic junctions, construction sites, and solid waste management facilities being the dominant sources. Using drone-based technology and Artificial Intelligence-based Machine Learning, the study found that the top ten hotspots include areas like Baganipura Municipal Solid Waste processing plant and Sankey Road, with six being transport-related, one industrial, and three solid waste processing plants. The transport sector accounts for 39% of PM2.5 emissions in the region, with two-wheelers making up 70% of vehicles but contributing 11% of emissions, while textile plants contribute 44% of emissions despite making up only 22% of industries. The study recommends measures such as separate lanes for slow-speed vehicles, affordable metro fares, and mechanical sweeping of roads to mitigate pollution, with findings indicating that 61% of emissions in Bengaluru Urban District come from the BBMP region, which has annual particulate emissions of 41.7Gg/year for PM2.5.
- The European Investment Bank (EIB) has announced a €300-million loan to build a new suburban railway network covering four dedicated rail corridors in Bengaluru.
- The Indian government is reviving and relaunching the National Mission for Manuscripts (NMM), a project established in 2003 to preserve India's vast manuscript wealth. The NMM has made significant progress, with metadata prepared for 5.2 million manuscripts and over 300,000 titles digitized, although only a third of these have been uploaded. To further boost conservation efforts, the government is considering forming an autonomous body, tentatively named the National Manuscripts Authority, under the Ministry of Culture. This new entity aims to enhance the preservation of ancient texts in India.
- The Mormugao Port Authority has gained global recognition by being listed as an incentive provider on the Environment Ship Index (ESI) portal, as acknowledged by the International Association of Ports and Harbours (IAPH), a non-governmental organization established in 1955. With 185 ports and 160 port-related businesses in 88 countries, IAPH represents over 60% of global sea-borne trade and container traffic. The Mormugao Port Authority's 'Harit Shrey' initiative, launched in October 2023, offers discounts on port charges based on ESI scores, rewarding ships with higher environmental performance in reducing air emissions, including Nitrogen Oxide, Sulphur Oxide, and greenhouse gas emissions. This initiative supports long-term emission reductions in maritime operations, aligning with IAPH's goal of promoting sustainable port practices, and solidifying Mormugao Port Authority's commitment to environmental stewardship on the global stage, recognized by IAPH, headquartered in Tokyo, Japan.

- Bengaluru recently saw the inauguration of 10 food testing kiosks in major malls by the Food Safety and Standards Department. These kiosks, featuring advanced testing tools approved by the Food Safety and Standards Authority of India (FSSAI), are equipped with "magic boxes" and rapid testing kits to detect adulterants in commonly consumed food items, including pulses, sugar, cooking oil, tea powder, salt, milk, ghee, paneer, butter, vegetables, coriander powder, and drinking water. Each kiosk is manned by an FSSAI-trained worker who can conduct on-the-spot testing of samples brought in by the public. If samples are found to be substandard, FSSAI will take appropriate action to halt the sale and distribution of the product. This initiative primarily aims to tackle pollutants in food, air, and water to prevent food adulteration and protect public health. During a recent inspection in September, food stalls at 142 railway stations, 35 Karnataka State Tourism Development Corporation (KSTDC) units, and various food samples were checked, with some found substandard or unsafe. Of 184 mutton and goat samples, 5 were found substandard, while 1 of 81 egg samples, 10 of 246 chicken samples, and 5 of 230 ghee samples were also found substandard, though none contained animal fat.
- Bangalore International Airport Limited (BIAL) has partnered with Sarla Aviation, a Bengaluru-based startup named after Sarla Thakral, India's first licensed female pilot, to introduce electric air taxi services between Electronics City and Kempegowda International Airport at a fare of ₹1,700 per trip. The 19-minute commute is facilitated by electric Vertical Take-Off and Landing (eVTOL) aircraft designed for urban journeys of up to 40 kilometers and offering a range of up to 160 kilometers. These aircraft feature enhanced safety systems, including seven propellers for balance and multiple layers of redundancy, making them "100 times safer than helicopters." BIAL and Sarla Aviation are developing the necessary airport infrastructure, aligned with Karnataka's building regulations that require helipads on buildings over 60 meters. The air taxi service is expected to be operational within two to three years, with anticipated cost efficiencies due to advances in battery and powertrain technologies.
- The Pradhan Mantri Mudra Yojana (PMMY), launched in April 2015, aims to refinance collateral-free loans to support small borrowers in non-agricultural sectors and allied agricultural activities like dairy, poultry, and beekeeping. The recent update doubles the loan limit under PMMY to ₹20 lakh, introducing a new "Tarun Plus" category for loans ranging between ₹10 lakh and ₹20 lakh, specifically for entrepreneurs who have successfully repaid loans under the Tarun category. The objective is to promote entrepreneurship and align with government efforts to foster a robust entrepreneurial ecosystem. Additionally, loans up to ₹20 lakh under PMMY will now be covered by the Credit Guarantee Fund for Micro Units (CGFMU). Distinct features of the scheme include the Mudra Card, which provides access to working capital through ATMs and card machines.
- The Indian Space Research Organisation (ISRO) has entered into a partnership with the Department of Biotechnology (DBT) to design and conduct experiments that

will be integrated into the forthcoming Bharatiya Antariksh Station (BAS), India's proposed indigenous space station, expected to be established between 2028 and 2035. This collaboration aims to facilitate various experiments in biotechnology and other fields within a space environment, exploring key areas such as the impact of weightlessness on muscle loss in astronauts, identifying algae species suitable for nutritional supplements or food preservation, examining methods to process certain algae for use as jet fuel, and studying the effects of space radiation on astronaut health. Additionally, the DBT's BIOE3 Policy promotes biotechnology in India with a goal for the bio-economy to reach a value of \$300 billion by 2030, while fostering innovations in human health, novel pharmaceuticals, regenerative medicine, bio-based waste management technologies, and support for biotechnology startups.

- The Chanakya Defence Dialogue is an important international seminar organized by the Indian Army, taking place on October 24 and 25, 2024. This year's theme is "Drivers in Nation Building: Fuelling Growth Through Comprehensive Security," with six expert-led sessions covering critical aspects of comprehensive security. The sessions focus on geopolitical dynamics, economic development strategies, environmental sustainability, social cohesion, technology and security, and the future of land warfare. The dialogue serves as a regular forum for global defense and strategic experts to exchange insights and integrate intelligence and strategy. Participants include representatives from Australia, France, Japan, and the United States, highlighting the dialogue's international collaboration and emphasis on addressing a broad spectrum of security challenges, particularly in South Asia and the Indo-Pacific region.
- Guruvayur temple prohibits pesticide-laden tulsi
- The Ministry of Home Affairs (MHA) is urging states and Union Territories to fully utilize the 'Support to Poor Prisoners' scheme, which was launched last year to provide financial assistance to poor prisoners who are unable to pay fines or bail sureties. Despite repeated persuasion, many states and Union Territories have not taken full advantage of this scheme, which aims to provide relief to socially disadvantaged or low-income prisoners. The National Crime Records Bureau (NCRB) has been designated as the Central Nodal Agency to implement the scheme, with an annual provision of Rs 20 crore. Convicted persons can receive up to Rs 25,000 if cleared by the District Empowered Committee, with higher amounts decided by the state-level Oversight Committee. Undertrial prisoners can receive up to Rs 40,000 from the District Level Empowered Committee, with higher amounts cleared by the state-level oversight panel.
- Liz Young of England won the Hero Women's Indian Open tournament with a score of 2-under 286. Mannat Brar finished as the top amateur and best-placed Indian, tied for 11th with a score of 4-over 292.
- The Bengaluru Metropolitan Transport Corporation (BMTC) has been awarded the "Award of Excellence in Urban Transport" under the category "City with Best Record of Public Involvement in Transport" by the Union Ministry of Housing and

Urban Affairs. The award was presented at the Mahatma Gandhi Mandir Convention Center in Gandhinagar, Gujarat. Ramachandran R., BMTC's managing director, accepted the award from Minister of Housing and Urban Affairs, Manohar Lal.

- The new rules for Aadhaar enrolment, introduced last December, have made it more challenging for Overseas Citizens of India (OCIs) seeking to register. This change has led to increased pendency and rejection of applications. All individuals over 18 years wishing to enroll for Aadhaar must demonstrate they have stayed in India for at least 182 days in the previous 12 months. Verification of stay will be conducted by Revenue officials. The enrolment process for OCIs and foreign nationals with valid long-term visas has been standardized.
- In a groundbreaking feat, a baby great Indian bustard was born via Artificial Insemination (AI) at the Sudasari Great Indian Bustard Breeding Centre in Jaisalmer district of Rajasthan.
- Prime Minister Narendra Modi and Spanish Prime Minister Pedro Sanchez inaugurated the TATA Aircraft Complex in Vadodara. This facility marks India's first private military transport aircraft production plant, aimed at enhancing defense manufacturing. The C295 will replace the older Avro-748 fleet, enabling tactical transport of up to 71 troops or 50 paratroopers. Airbus will deliver the first 16 aircraft from its Seville facility, with TASL responsible for assembling the remaining 40 units at the Vadodara plant.
- Union Minister for Power and New Renewable Energy, R.K. Singh, recently led a meeting to review the impact of Flue Gas Desulphurisation (FGD) technology on SO₂ emissions in various cities, based on a study by IIT-Delhi. FGD technology eliminates sulphur compounds from exhaust emissions produced by burning fossil fuels like coal, oil, natural gas, or wood. This process uses absorbents like ammonia, sodium sulphite, or lime/limestone slurry to remove up to 95% of sulphur dioxide from flue gas. The uncleaned flue gas is sprayed with a water-limestone mixture in a scrubber tower, bonding sulphur dioxide through chemical reaction. Singh's conference emphasized ensuring 24/7 quality electricity supply, maintaining adequate coal stocks, and reducing connection times, while discussing energy transition, e-mobility, and renewable energy.
- The Union Minister of Fisheries, Animal Husbandry and Dairying recently launched the Pandemic Fund Project, a \$25 million initiative funded by the G20 Pandemic Fund. This project aims to enhance India's animal health security by upgrading and expanding laboratories and developing networks. In partnership with the Asian Development Bank, World Bank, and Food and Agriculture Organization, the fund will support disease surveillance, laboratory infrastructure, cross-border collaboration, and human capacity-building. It also aims to upgrade data management and analytics for better risk assessment and decision-making, ultimately strengthening institutional capacity for disaster management in the livestock sector by August 2026.

- Ninety-five bird species and 22 butterfly species were sighted during the 8th Uttarakhand Bird Festival at Benog Wildlife Sanctuary.
- In a first, the Kadar tribe of Vazhachal, Kerala, has taken on active restoration of natural forests degraded by invasive alien species.
- IndiaAI and Meta have established the Center for Generative AI, Shrijan, at IIT Jodhpur, to empower the next generation of AI innovators and entrepreneurs. Shrijan will utilize open-source AI and Large Language Models (LLM) to conduct research, shared with students through AICTE and direct college connections. The center will engage young developers through hackathons, master training workshops, and support student-led startups. Its goals include nurturing 1 lakh youth developers and entrepreneurs in AI skills over three years, fostering indigenous research, and developing innovative AI solutions in areas like healthcare, education, and sustainability. Meta has committed INR 750 Lakhs over three years, while IndiaAI will support researchers at the center, collaborating with academic, government, and industry stakeholders to advance GenAI research and technology, including open science innovation, technology transfer, education, capacity building, policy advisory, and governance.
- Recently, the Chief Justice of India shed light on nemaline myopathy, a rare genetic muscle disorder affecting his foster daughters, during a national consultation on children's rights. Nemaline myopathy, also known as rod myopathy, is a congenital disorder characterized by thread-like structures in muscle fibers, weakening skeletal muscles and impacting mobility and functionality. Affecting approximately 1 in 50,000 births, this hereditary condition stems from genetic mutations and varies in severity, ranging from mild to severe cases requiring significant medical intervention. Symptoms include muscle weakness in the face, neck, and trunk, feeding and breathing difficulties, foot deformities, scoliosis, and contractures. While there is no cure, treatment focuses on supportive care, including physiotherapy and muscle strengthening exercises to manage symptoms and improve quality of life for those affected.
- An innovative IT solution developed by the University of Agricultural Sciences, Raichur (UASR), known as the Electronic Solution against Agricultural Pests (e-SAP), has made a significant impact on farmers across the state, delivering over 53,000 services in just two months since its launch. Originally piloted 12 years ago in the Kalyana Karnataka region, e-SAP was recently reintroduced by the agriculture department following extensive research and development efforts. The primary purpose of this app-based solution is to accurately identify pests, diseases, and nutritional disorders in crops while quickly recommending effective and authentic solutions. Field staff utilize the app during farm visits to upload photographs of the issues, details about the farmer, and information regarding the affected plant parts, allowing the app to process this data and suggest interventions based on integrated pest management practices. Currently, e-SAP covers 44 different crops and provides real-time guidance, offering farmers solutions such as cultural, physical, or chemical interventions directly to their phones. Complex cases are

escalated to experts for immediate assistance through the app. In its first two months, 1,748 field staff have provided services to 36,897 farmers, with the highest usage recorded in Raichur district, where 6,356 services were delivered. The app demonstrated a remarkable efficiency rate, offering on-the-spot suggestions in 97.62% of cases, while 1,273 queries were escalated to experts at Krishi Vigyan Kendras (KVKs) to address over 900 different types of problems. Content for e-SAP is developed with input from a range of experts, including entomologists, plant pathologists, soil scientists, and agronomists. Future enhancements will see the app operating offline in field conditions, the addition of 10 more crops to its database, and full integration with horticulture and sericulture departments. Overall, e-SAP provides vital data on the area, extent, and intensity of pest attacks, facilitating quick decision-making for pest management and reducing unnecessary pesticide use

- India has been ranked 176th out of 180 countries in the 2024 Global Nature Conservation Index (NCI), highlighting critical gaps in the nation's conservation efforts. Launched in October 2024 by the Goldman Sonnenfeldt School of Sustainability and Climate Change at Ben-Gurion University in collaboration with BioDB.com, the NCI evaluates countries based on land management, biodiversity threats, governance, and future trends. India's low ranking is attributed to issues like ineffective land management, where 53% of land is converted for urban, industrial, or agricultural purposes, and significant soil health concerns marked by a low sustainable nitrogen index score of 0.77. Marine conservation also lags, with only 0.2% of waterways protected and no protected areas in the Exclusive Economic Zone. Habitat loss due to deforestation, urbanization, and climate change has exacerbated biodiversity threats, with 40% of marine and 65% of terrestrial species within Protected Areas showing population declines. These findings align with global Sustainable Development Goals (SDGs) on life below water (SDG 14) and life on land (SDG 15). India faces the additional challenge of being the world's fourth-largest illegal wildlife trader, with annual sales reaching £15 billion. Moving forward, the report emphasizes the need for stronger political commitment, enhanced legal frameworks, funding for conservation efforts, and international collaboration to curb illegal wildlife trade and promote sustainable development.
- The UN Environment Programme's Emissions Gap Report 2024 warns that current climate policies are projected to result in a global temperature increase of 3.1°C above pre-industrial levels, with high risks of missing the Paris Agreement targets. The report reveals that the six largest greenhouse gas emitters produce 63% of global emissions, while least developed countries contribute just 3%. Despite national pledges (NDCs), emission reductions by 2030 would likely cap warming at 2.6°C to 2.8°C. Greenhouse gas emissions rose by 1.3% since 2022, surpassing the 2010–2019 average growth rate. The report stresses a need for urgent emissions cuts of 42% by 2030 and 57% by 2035 to achieve the 1.5°C goal, with UNEP's Inger Andersen calling for immediate mobilization ahead of COP29. G20 countries were

responsible for 77% of global emissions in 2023, with significant per capita emissions disparities. Bridging the emissions gap requires intensified actions, particularly through expanded use of renewable energy, forest conservation, and strategies like energy efficiency, electrification, and fuel switching across key sectors.

- The Lord's Resistance Army (LRA), a Ugandan rebel group founded by Joseph Kony in 1988, was established under the pretense of restoring honor to the Acholi people and installing a government based on Kony's interpretation of the Ten Commandments. Notorious for extreme violence, the LRA has operated for over 30 years across central Africa, particularly in the Democratic Republic of the Congo (DRC), the Central African Republic (CAR), and South Sudan. The group has abducted more than 67,000 people, including 30,000 children, using them as child soldiers, sex slaves, and porters. Designated a terrorist organization by the United States, the LRA also prompted the first International Criminal Court (ICC) arrest warrants against Kony and top commanders. Funded through illicit activities like ivory, gold, and diamond smuggling, the LRA has received backing from the Sudanese government since 1994. Recently, a Ugandan court sentenced LRA commander Thomas Kwoyelo to 40 years in prison, marking a historic moment in accountability for the group's war crimes.
- Justice K.S. Puttaswamy, a pioneering figure in Indian law, passed away at 98. He famously petitioned against the Aadhaar scheme, leading to a landmark 2017 Supreme Court judgment recognizing the right to privacy as a fundamental right under Article 21. A distinguished jurist, Puttaswamy served as Karnataka High Court judge, chairman of the AP Administrative Tribunal and AP Commission for Backward Classes. His commitment to upholding constitutional rights and civil liberties has left a lasting impact on Indian law and citizens' lives.
- India's demand for critical minerals, including lithium, cobalt, nickel, copper, and graphite, is expected to more than double by 2030, but domestic production lags behind, with 100% import reliance on some minerals. A report by the Institute for Energy Economics and Financial Analysis (IEEFA) highlights India's import dependence and vulnerability to global price fluctuations. To mitigate risks, the report suggests expediting domestic production, diversifying international sources, and exploring cooperation with countries like Mozambique, Madagascar, Brazil, and Tanzania. Critical minerals are essential for clean energy technologies, defense, and electronics, and the Indian government is taking steps to boost domestic production through auctions and the planned Critical Minerals Mission.
- Carlos Sainz secured an emotional victory for Ferrari at the Mexico City Grand Prix, with Lando Norris finishing second for McLaren. Max Verstappen, the series leader, finished sixth after receiving two 10-second penalties for aggressive driving, twice forcing Norris off the track.
- Salima Tete was named captain of the 18-member Indian women's hockey team announced for the Asian Champions Trophy scheduled to be held from November 11 to 20 at the newly-developed Rajgir Hockey Stadium in Bihar.

- On the 200th anniversary of Kittur Vijayotsava, a commemorative postage stamp was released at the historic Kittur Rani Chennamma Stage in Kittur Fort premises. Rani Chennamma, born on October 23, 1778, in Kagati (present-day Belagavi district, Karnataka), married Raja Mallasarja of Kittur at the age of 15. After Mallasarja's death in 1816, their son Shivalingarudra Sarja ascended the throne but soon fell ill and had no natural heir. Rani Chennamma lost her own son, and upon Shivalingarudra's death in 1824, he adopted a child named Shivalingappa as his successor. However, the British East India Company refused to recognize Shivalingappa under the "doctrine of lapse," which led to the annexation of princely states without natural heirs. In October 1824, British official John Thackeray launched an attack on Kittur, but Rani Chennamma led her forces and initially defeated him, resulting in Thackeray's death. Unfortunately, this victory was short-lived, as the British army attacked the Kittur Fort on December 3, 1824, capturing it and imprisoning Rani Chennamma and her family. She died in prison on February 21, 1829.
- The Karnataka cabinet recently approved the New Tourism Policy for 2024-29, aiming to create a high-quality, tourist-centric ecosystem. The policy sets ambitious investment goals of ₹1,500 crore, expected to generate 47,000 direct jobs and over 1 lakh indirect jobs. Key focus areas include promoting 24 tourism themes such as cuisines, golf, and weddings, with special emphasis on cuisine tourism through gastronomy trails. The state aims to attract 20 lakh foreign tourists annually and increase domestic footfalls from 23 crore to 48 crore. Collaborations with the Karnataka Wine Board and the Coffee Board of India will enhance wine and coffee tourism. An advisory group will guide and monitor these initiatives. Marketing strategies include launching campaigns like 'Ullasa Pravasa' to encourage short trips, and developing facilities to enhance visitor experiences, such as night markets and cultural performances. Infrastructure plans involve developing 30 tourist destinations under the one district-one project scheme and creating 50 adventure tourism destinations by 2029. The policy also includes land monetization initiatives to attract projects worth ₹7,800 crore under public-private partnerships over the next five years. Furthermore, the Global Tourism Investors' Meet will showcase Karnataka's tourism potential, and a Tourism Development Fund will support hospitality infrastructure. Financial incentives include capital investment subsidies, exemptions on stamp duty and registration charges for new projects, and support for tourism service providers through tax reimbursements and utility subsidies.
- Karnataka is making history with more women general voters than men for the first time, according to the state's Chief Electoral Officer's integrated draft electoral rolls. Women take the lead with 2.72 crore voters, closely followed by men at 2.71 crore, and 5,022 transgender electors also making their mark ¹. This shift is significant, especially since women voters have traditionally outnumbered men in specific districts, mainly in the coastal regions. The draft rolls, however, exclude Channapatna, Shiggaon, and Sandur due to upcoming bypolls on November 13.

Even with these exclusions, women voters surpass men by 36,462. Political analysts note that while this doesn't directly alter electoral dynamics, the gender factor plays a crucial role in electoral considerations, reflecting the trend of greater women's participation and men's migration for jobs.

- Bengaluru has crossed a major milestone with over 1.02 crore registered voters, according to the draft electoral rolls published by the BBMP. This update adds 1.98 lakh new voters and removes 85,321 names since the last revision in January. The voter breakdown consists of 52.69 lakh men, 49.70 lakh women, and 1,831 third-gender voters. Citizens have until November 28 to raise objections to the draft electoral rolls. To ensure accuracy, four special campaign days will be conducted to enroll new voters and update existing records. The final electoral rolls will be published on January 6, 2025. This development is part of a larger trend in India, where voter registration has seen significant growth, with over 96.88 crore electors registered across the country, marking an 8% increase since 2019.
- Prime Minister Narendra Modi has digitally launched a Centre of Excellence (CoE) in Ayurveda for Diabetes and Metabolic Disorders at the Indian Institute of Science (IISc) in Bengaluru. This launch coincides with the 9th National Ayurveda Day, observed on October 29, 2024, under the theme "Ayurveda Innovations for Global Health".
- Manchester City's Rodri was surprisingly awarded the men's Ballon d'Or, beating favored Real Madrid's Vinicius Junior, who was expected to win after leading his team to a Liga and Champions League double. Real Madrid boycotted the ceremony, citing a snub of Vinicius, but Rodri remained diplomatic, focusing on his club and teammates. Barcelona's Aitana Bonmati won her second consecutive women's Ballon d'Or. Other winners included Carlo Ancelotti (best men's coach), Emma Hayes (best women's coach), Kylian Mbappe and Harry Kane (top scorers), Lamine Yamal (best young player), Emiliano Martinez (best goalkeeper), and Jenifer Hermoso (Socrates Prize for charity work), with Real Madrid and Barcelona taking home best team awards in their respective categories.
- The Bengaluru Metropolitan Transport Corporation (BMTC) has just introduced a game-changer for commuters - the option to manually enter the bus registration number in the Tummoc app if the QR code scan fails. This update aims to reduce delays and discomfort, especially during peak hours in crowded buses, caused by connectivity issues or QR code problems. Previously, passengers were stuck if the QR code wouldn't scan, but now they can breathe a sigh of relief with this alternative. The digital pass system, launched to promote a paperless and cashless travel experience, has been enhanced to provide a hassle-free experience for Bengaluru's daily commuters.
- The State-run Karnataka Soaps and Detergents Ltd. (KSDL), in expansion mode, has launched a variety of agarbattis (incense sticks) and lamp oil, ahead of Deepavali. The 108-year-old PSU has readied to launch more than two dozen new products, including personal care and cosmetic, catering to the demand of the customers.

- The Karnataka government announced the launch of two flagship programmes - ELEVATE 2024 and Karnataka Acceleration Network (KAN) to help early and growth-stage start-ups fuel their growth by solving funding woes. ELEVATE 2024 is a grant-in-aid seed funding scheme designed to empower early stage start-ups in the State, while KAN is an acceleration network that provides mentorship, market access, and funding opportunities for growth stage start-ups across Karnataka.
- One of Indonesia's most active volcanoes, Marapi Volcano, erupted recently, spewing thick columns of ash at least three times and blanketing villages with debris, but no casualties were reported.
- As part of the 'Act4Dyslexia' campaign, iconic Delhi monuments like Rashtrapati Bhawan, Parliament House, and India Gate were illuminated in red to raise awareness about dyslexia, a learning disorder characterized by reading difficulties due to struggles with speech sound identification and decoding. Dyslexia is not related to intelligence, hearing, or vision, but rather individual brain differences, genetics, and disruptions in brain development. Despite being highly genetic, with a 30-50% inheritance chance, dyslexia is often misunderstood as a "slow-learner syndrome." Recognized under the Rights of Persons with Disabilities Act 2016, individuals with dyslexia are entitled to equal opportunities. The National Education Policy 2020 reinforces inclusive education, emphasizing early identification, teacher training, and support for students with specific learning disabilities, including dyslexia, to ensure equal access to education and employment.
- The Karnataka State Road Transport Corporation (KSRTC) has just upgraded its fleet with 20 sleek, new-age Volvo multi-axle seater buses, an upgraded version 2.0 of the popular Airavat Club Class. These luxurious buses, part of Volvo's 9600 series, were flagged off by the Chief Minister at Vidhana Soudha and come with a price tag of Rs 1.78 crore each. Measuring 15 meters long, they have 51 seats in a 2x2 configuration, retaining the Airavat Club Class logo and branding. What's more, they boast plush interiors, Scandinavian-style exteriors, and top-notch features. The KSRTC has planned an extensive deployment of these buses, with two each plying from Bengaluru to Kundapura, Sriharikota, Kasaragod, Kozhikode, and Tirupati, and from Mysuru to Bengaluru. Additionally, one bus each will connect Bengaluru to Shivamogga, Davangere, Ballari, Raichur, Chennai, and Hyderabad, and from Mangaluru to Bengaluru, ensuring seamless travel across the state.
- The Indian Institute of Science (IISc) has announced its Distinguished Alumnus/Alumna awards for 2024, recognizing exceptional contributions made by its alumni to their profession, society, and the Institute. Six scientists and engineers have been selected for the award, including George Brody, Sridevi Jade, Shekhar Chintamani Mande, S. Unnikrishnan Nair, Jagjit Nanda, and Yadati Narahari. Additionally, IISc has introduced the Young Alumnus/Alumna medals for recipients under 40, which will be awarded to Himabindu Lakkaraju (Harvard University) and Nihar Bhadrash Shah (Carnegie Mellon University). The awardees will be honored

at a ceremony in December 2024, following evaluation by a committee chaired by the IISc director.

- Karnataka has made significant strides in foreign direct investment (FDI) inflows, jumping from third place in 2023-24 to second place in the first quarter of 2024-25, surpassing Gujarat. The state attracted \$2.2 billion in investments in the first quarter, reflecting growing investor confidence in its progressive economic policies . This achievement is coupled with impressive fiscal performance, generating ₹1,03,689 crore in revenue, achieving 53% of its annual target of ₹1,96,525 crore across five major revenue departments. Chief Minister Siddaramaiah noted that the state has achieved a year-on-year growth rate of 11.2%, driven by robust economic fundamentals, strong economic growth, increased consumer demand, better governance, and a business-friendly environment. Karnataka's focus on infrastructure development is evident, with 46% of the Budget estimates already spent by October 2024 and capital expenditure rising to 29% of BE. The government aims to sustain economic growth rate at 14% and is exploring external funding agencies to execute focused infrastructure projects, including a transformation of Bengaluru's infrastructure landscape worth ₹1,31,500 crore
- The Union Home Minister has launched the Civil Registration System (CRS) mobile app, a game-changer for registering births and deaths across India. Developed by the Registrar General and Census Commissioner of India, this app simplifies and expedites the registration process, making it more accessible and efficient for citizens. With the CRS mobile app, users can register births or deaths anytime, anywhere, in their state's official language. This innovative move integrates technology with governance, easing the process for citizens. The Registrar General and Census Commissioner of India, established in 1961, plays a vital role in conducting the decennial Census, compiling demographic statistics, and overseeing the CRS . As a crucial policy-making body, it provides valuable data informing social, economic, and political decisions at all government levels.
- Mission Amrit Sarovar, launched on April 24, 2022, has achieved remarkable success, with over 60,000 Amrit Sarovars constructed across villages, leaving a lasting legacy for future generations. This initiative aims to build 75 Amrit Sarovars in every district, totaling 50,000 nationwide, as part of Azadi ka Amrit Mahotsav, celebrating India's 75th year of independence. Each Amrit Sarovar spans at least 1 acre, with a 10,000 cubic meter water holding capacity, focusing on water conservation, community involvement, and optimal soil utilization for infrastructure development . The mission involves a collaborative effort between six government departments, including Rural Development, Land Resources, and Water Resources, with Bhaskaracharya National Institute for Space Application and Geo-informatics (BISAG-N) as the technical partner. Notably, the initial target of 50,000 Amrit Sarovars was achieved ahead of schedule, with 50,071 completed as of May 10, 2023 . This accomplishment demonstrates the power of community-driven initiatives, with freedom fighters, martyrs' families, and Padma awardees participating in the mission

- The World Meteorological Organization's (WMO) 2023 Greenhouse Gas Bulletin reports a alarming surge in greenhouse gas levels, reaching a new record high with a 10% increase over just two decades. The annual report, published since 2004, reveals globally averaged surface mole fractions for carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O), exceeding pre-industrial levels. The report highlights the significant rise in radiative forcing by long-lived greenhouse gases (LLGHGs) and the individual gas contributions to this increase. Released ahead of the UN Climate Change conference (COP), this flagship publication sounds a dire warning, underscoring the urgent need for collective action to mitigate climate change.
- The National Commission for Indian System of Medicine (NCISM) recently conducted a workshop to draft the Ayurveda Process Handbook at its office, marking a significant step towards promoting traditional Indian medicine. Established under the NCISM Act, 2020, this statutory body replaced the Central Council for Indian Medicine (CCIM) to ensure transparency and accountability in the sector . The NCISM's primary objective is to provide a medical education system that offers quality and affordable education, thereby ensuring the availability of skilled medical professionals across the country. Comprising 29 members appointed by the Central Government, the commission is responsible for framing policies, assessing healthcare needs, and ensuring compliance with regulations . Its key functions include regulating medical institutions and professionals, evaluating human resource requirements, and facilitating coordination among autonomous boards. The four autonomous boards under NCISM include the Board of Ayurveda, Board of Unani, Siddha and Sowa-Rigpa, Board of Ethics and Registration for Indian System of Medicine, and Medical Assessment and Rating Board for Indian System of Medicine