

Current Affairs search results for tag: science-and-technology

1. India's first indigenously developed Next Generation Magnetic Resonance Imaging (MRI) scanner unveiled in New Delhi (Aug. 2, 2023)

Magnetic-Resonance-Imaging-(MRI)

Union Minister Dr. Jitendra Singh launched India's first indigenously developed, cost-effective, lightweight, ultrafast, high-field (1.5 Tesla) next generation Magnetic Resonance Imaging (MRI) scanner in New Delhi.

An Overview of the News

- VoxelGrids Innovations Pvt Ltd developed the MRI scanner under the National Biopharma Mission of the Department of Biotechnology.
- The development of the world-class MRI scanner required a total investment of Rs 17 crore, of which Rs 12 crore was provided by the Department of Biotechnology through BIRAC.
- The introduction of indigenous MRI scanners will make MRI scanning more accessible and affordable to the masses, in line with Prime Minister Narendra Modi's vision of Atmanirbharta in cutting-edge diagnostic and therapeutic manufacturing in India.
- MRI scanners are important diagnostic methods, but **70% of the world's population does not have access to them. The prohibitively high capital cost has been a challenge, especially in developing countries like India.**
- Currently, the installed base of MRI scanners in India is 3 times less than that of CT scanners, mainly because of the high cost of MRI machines and import dependence.
- The annual demand for MRI machines is expected to more than double by 2030 with initiatives such as Ayushman Bharat aimed at improving healthcare access and inclusion.

2. Education Minister Dharmendra Pradhan launches 'ULLAS' mobile app (Aug. 2, 2023)

Education Minister Dharmendra Pradhan launched '**ULLAS**' (**Understanding Lifelong Learning for All in Society**) mobile app.

An Overview of the News

- The launch event took place at **Bharat Mandapam** on July 30, 2023 at a function organised at Pragati Maidan, Delhi under the National Education Policy.
- During the programme, Union Education Minister Dharmendra Pradhan introduced the new slogan '**Jan Jan Sakshar**'.
- The 'ULLAS' mobile app facilitates access to basic literacy and harnesses technology potential for all.
- It is available as an interactive app on both **Android and iOS platforms for the convenience of the users.**

- This app **acts as a digital gateway for learners through the DIKSHA portal of NCERT.**

About 'ULLAS' App

- The initiative aims **to revolutionise education and literacy across the country, create a learning ecosystem that reaches every individual and addresses the gap in basic literacy and critical life skills.**
- The initiative focuses on **providing basic education, digital and financial literacy, as well as essential life skills to individuals aged 15 and above who missed the opportunity to participate in formal schooling.**
- Key features of the 'ULLAS' app include promoting functional literacy, vocational skills and imparting important life skills such as **financial literacy, legal literacy, digital literacy and civic empowerment.**

3. India's first online gaming academy launched in Madhya Pradesh (July 29, 2023)

India's-first-online-gaming-academy-launched-in-Madhya-Pradesh

Madhya Pradesh is launching its first online gaming industry "MP State Esports Academy".

An Overview of the News

- The Academy aims to provide a platform for aspiring gaming and esports professionals to advance their skills and reach a professional level.

MP Junior Esports Championship

- "MP Junior Esports Championship" is a 10-day talent hunt tournament from 27th July to 7th August.
- It is exclusively for e-sports enthusiasts in the age group of 12 to 17 years.
- The tournament provides a platform for young participants to engage, compete and showcase their gaming skills.

Inclusive Selection Procedure

- 80% seats in the academy are reserved for gamers from Madhya Pradesh.
- The remaining 20% seats are open to enthusiastic gamers from across India.
- The selection process is open to all, giving a fair chance to the participants to compete for admission.

Combination of tradition and innovation

- MP State Esports Academy aims to promote the sport represented in the Asian Games and Olympics.

- It seeks to integrate traditional and modern sports while providing opportunities in both emerging esports and traditional sports.

Government Sponsored Excellence

- Selected eSports athletes will receive 12 months of intensive coaching and high-quality eSports education.
- The coaching and education is fully funded by the government, with an aim to nurture and groom talented sportspersons.

Exports in India: Growing Recognition and Growth Projections

- With its inclusion as a medal sport in the Asian Games 2022 and a pilot program in the Commonwealth Games 2022, eSports is gaining recognition in India.
- The gaming industry in India is expected to grow four-fold to reach Rs 1,100 crore by 2025.
- India's potential as a lucrative market for eSports has attracted major gaming companies from around the world.
- Due to its increasing popularity, global players are looking for opportunities and investing in Indian e-sports.

Sports minister of Madhya Pradesh: Yashodhara Raje Scindia

4. SpaceX launches 'Jupiter 3', world's largest private communication satellite (July 28, 2023)

On July 27, 2023, SpaceX launched the world's largest private communications satellite 'Jupiter 3' using a Falcon Heavy rocket from Launch Complex-39A of NASA's Kennedy Space Center in Florida.

An Overview of the News

- The 'Jupiter 3' satellite, developed by Maxar Technologies in Palo Alto, California, holds the record as the largest commercial communications satellite ever built.
- This upcoming launch marks the seventh mission of SpaceX's triple-booster rocket, the Falcon Heavy, which first attracted widespread attention during its debut in 2018.

About 'Jupiter 3'

- Its size would be comparable to the wingspan of a commercial airliner, measuring between 130 and 160 feet (40 to 50 m). Its larger size will enable it to double current internet capacity to 500 Gbps, significantly improving connectivity in areas with limited cable and fibre options.
- Hughes will integrate the 'Jupiter 3' into its existing satellite network, allowing HughesNet customers in the United States and Latin America to access high-speed satellite broadband at speeds of up to 100 Mbps.

- The capabilities of satellites extend far beyond regular Internet access. It will support in-flight Wi-Fi, ensuring connectivity for passengers during air travel. It will also provide maritime connectivity, allowing internet access for ships at sea.
- 'Jupiter 3' will play a key role in enhancing enterprise networks, meeting the connectivity needs of businesses across North and South America.
 - Additionally, the satellite will serve as a reliable backhaul solution for mobile network operators (MNOs), ensuring smoother and more efficient data transmission within the region's mobile networks.
 - One of its essential applications is providing community Wi-Fi solutions, which help bridge the digital divide and extend Internet access to disadvantaged areas in North and South America.

About NASA

- NASA was formed on July 19, 1948, under the National Aeronautics and Space Act, replacing its predecessor, the National Advisory Committee for Aeronautics (NACA).
- NASA - National Aeronautics and Space Administration
- Headquarters - Washington D.C.
- Administrator - Bill Nelson

5. CERT-In issues alert on 'Akira' ransomware (July 26, 2023)

CERT-In issues alert on 'Akira' ransomware

CERT-In (Indian Computer Emergency Response Team), issued a warning about a new Internet ransomware named 'Akira'.

An Overview of the News

- Ransomware is designed to steal sensitive personal information and encrypt the data, forcing victims to pay a ransom.
- The 'Akira' ransomware targets both Windows and Linux-based systems, gaining unauthorised access to victims' environments, especially those VPN services that lack multi-factor authentication. Once inside, attackers steal sensitive data from victims.
- After stealing data, ransomware launches a two-pronged attack. First, it encrypts the victim's files, effectively blocking their access to their own data and systems. To pressure the victim into paying the ransom, attackers use a dual extortion tactic.
- If the victim refuses to meet the ransom demand, the attackers resort to public shaming. They publish the stolen data on their dark web blogs, thereby exposing the victim's personal information.

Steps to protect against 'Akira' ransomware:

- Maintain up-to-date offline backups of important data to minimise potential data loss in the event of an infection.

- Regularly update the operating system and applications to strengthen protection against vulnerabilities and potential cyber threats. Consider using "virtual patching" to protect legacy systems and networks, making it harder for cybercriminals to exploit legacy software.
- Enforce strong password policies and implement multi-factor authentication (MFA) to enhance the security of user accounts.
- Avoid installing updates or patches from unofficial sources to reduce the risk of malware or other security breaches. Stay connected to official and reliable sources for updates.

Indian Computer Emergency Response Team (ICERT)

- It functions as a division within the Ministry of Electronics and Information Technology under the Government of India.
- ICERT is primarily tasked with dealing with and combating various cyber security threats including hacking and phishing.
- Director General - **Sanjay Behl**

6. ISRO to launch PSLV-C56 with Six Co-passenger Satellites (July 26, 2023)

On July 30, the Indian Space Research Organization (ISRO) is all set to launch the PSLV-C56 rocket from the first launch pad of the Satish Dhawan Space Center in Sriharikota.

An Overview of the News

- The PSLV-C56 mission will also carry six co-passenger satellites along with a DS-SAR satellite from Singapore.
- The DS-SAR satellite, weighing 3600 kg, has been developed by DSTA and ST Engineering, representing the Government of Singapore.
- It will be launched into a Near Equatorial Orbit (NEO) at an inclination of 5 degrees and an altitude of 535 km.
- The DS-SAR satellite is equipped with a Synthetic Aperture Radar (SAR) payload developed by Israel Aerospace Industries (IAI), which allows it to provide day and night coverage in all weather with 1-metre resolution at full polarimetry.
- Once operational, the DS-SAR satellite will meet the satellite imagery requirements of various government agencies within Singapore.
- ST Engineering will use the satellite to provide multi-responsive imagery and geospatial services for its commercial customers.

About the six co-passenger satellites

- VELOX-AM:** It is a technology demonstration microsatellite.
- Atmospheric Coupling and Dynamics Explorer (ARCADE):** This satellite is designed for experimental purposes.

- **Scoob-II:** A 3U nanosatellite carrying a technology demonstrator payload.
- **NuLioN by NuSpace:** An advanced 3U nanosatellite that aims to provide seamless IoT connectivity in urban and remote locations.
- **Galasia-2:** A 3U nanosatellite intended for low Earth orbit.
- **ORB-12 STRIDER:** This satellite is the product of an international collaboration effort.

Indian Space Research Organization (ISRO):

- It is the **national space agency of India, established in 1969.**
- It is headquartered in **Bengaluru (Bangalore), Karnataka.**
- It launches its space rocket from **Satish Dhawan Space Center in Sriharikota, Andhra Pradesh.**
- ISRO's objectives include **space exploration, earth observation, communications, navigation and scientific research.**
- Notable achievements include the Chandrayaan-1 mission to the Moon, the Mars Orbiter Mission (Mangalyaan), the Astrosat space observatory and the NavIC navigation satellite system.
- ISRO is known for cost effective space missions and technology development.
- Chairman: **S Somnath**

7. Twitter unveils new logo 'X' (July 24, 2023)

Popular social media platform Twitter launched a new logo 'X' as part of a massive rebranding effort.

An Overview of the News

- The blue bird logo has been replaced by an 'X', which is now featured prominently on the website.
- Media reports have confirmed the unveiling of the new logo, which features a white 'X' on a black background, symbolising the platform's updated identity.
- The new logo was announced jointly by **Twitter founder Elon Musk and CEO Linda Yacarino, indicating their involvement in the rebranding process.**
- This logo change represents the latest significant update since Elon Musk acquired Twitter last year for a whopping \$44 billion.

'X' logo:

- The 'X' logo introduced during Twitter's rebranding marks a shift towards turning the platform into an all-encompassing app similar to China's WeChat.

- The change is aimed at enabling users **to perform various tasks beyond social media including making payments and booking hotels.**
- Rebranding isn't just a visual change; It represents a major strategic effort to turn Twitter into a comprehensive application with multiple functionalities.

8. Tata to set up EV battery factory in UK for £4 billion (July 20, 2023)

On 19 July 2023, the Tata group has announced setting up a factory in the **United Kingdom** with an investment of **four billion pounds (Rs 42,500 crore)** to make batteries.

An Overview of the news:

- In Britain, the Tata group is working on plans to make batteries for **Jaguar Land Rover (JLR)** as well as other vehicle companies.
- **The factory will be located in Bridgwater, Somerset, England:**
- Tata Sons has chosen the **Bridgwater area of Somerset** in south-west England for the factory instead of **Spain**.

Europe's largest plant:

- The 40 GWh gigafactory will be the largest in Europe and Tata's first outside India.
- It will be one of the largest investments in the UK automotive industry.
- This Tata investment will not only create thousands of jobs for Britons, but will strengthen the UK's lead in the global transition to electric vehicles, helping to power our economy in the clean industries of the future.

9. China launches world's first methane-fuelled space rocket (July 18, 2023)

China's ZhuQue-2 Y-2 became the world's first methane-fuelled rocket to successfully reach orbit.

An Overview of the News

- The methane-powered rocket, known as Metalox, followed the anticipated trajectory and completed its flight as planned.
- Methane engines provide improved performance while significantly reducing operating costs, contributing to the advancement of reusable rocket technology.
- Metalox rockets use methane as the fuel and liquid oxygen (LOX) as the oxidizer, with specific design considerations compared to conventional rockets.
- Methane offers advantages as a rocket propellant, including high energy density, favourable combustion characteristics, and wide availability.

Important Point

- **Landspace** has become the **second private Chinese company** to successfully launch a **liquid-propellant rocket**.

- **Beijing Tianbing Technology** successfully launched the **kerosene-oxygen rocket**.

About China

- Capital: **Beijing**
- Official language: **Mandarin**
- CCP General Secretary, President, CMC Chairman - **Xi Jinping**
- Congress President - **Zhao Leji**
- CPPCC Chairman - **Wang Huning**

10. IIT Roorkee announces research awards for 2022 (July 18, 2023)

Indian Institute of Technology Roorkee

Indian Institute of Technology Roorkee (IIT Roorkee) has announced its **Research Awards 2022**.

An Overview of the news:

- The award is given to recognize the outstanding contribution of Institute awardees in their chosen careers.
- The research awards given by IIT Roorkee are open to all Indian citizens and include winners from various prestigious institutions across the country.
- This year's award has five awardees in different categories including '**Khosla National Award' (Science)**.
- These awards have been in existence since the inception of the University.

Khosla National Award (Science):

- **Dr. Kanishka Biswas**, recipient of the Khosla National Award, is a professor in the New Chemistry Unit at the Jawaharlal Nehru Center for Advanced Scientific Research, Bangalore, whose research interests focus on renewable energy and a clean environment.
- In the past, Dr. Biswas has also been awarded Shanti Swarup Bhatnagar Prize for Chemical Sciences in 2021 and Swarnajayanti Fellowship 2019.

HRED Hydro & Renewable Energy Award:

- Recipient of the HRED Hydro and Renewable Energy Award, Dr. RP Saini has been Professor in the Department of Hydro and Renewable Energy at IIT Roorkee.

A.S. Arya Aapda Nivaran Puraskar:

- Professor **DP Kanungo** to A.S. Arya Aapda Nivaran Award Winner has been announced.
- Professor Kanungo is the Chief Scientist of the Geohazard Risk Reduction Group, CSIR-CBRI, Roorkee.

- He is also Professor of Physics at the Indian Academy of Scientific and Innovative Research (ACSIR). He is a Raman Research Fellow of CSIR.

Gopal Ranjan Technology Award:

- IIT Bombay Professor **Dr. Dipankar Chowdhary** received the Gopal Ranjan Technology Award.
- Professor Chowdhary is the **only Geotechnical Engineer in India** who is an elected Fellow of the National Academy of Sciences, India (NASI), India's oldest science academy.

SR Mehra Memorial Award:

- **Dr. Satish Chandra** was honored with the SR Mehra Memorial Award. He is a professor in the Department of Civil Engineering at IIT Roorkee.
- Dr. Chandra has contributed immensely to teaching and research in the areas of Highway Efficiency and Bituminous Material Characterization.