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1. Chandrayaan-3's Pragyan Rover Begins Lunar Mobility Operations (Aug. 25, 2023)

Indian Space Research Organization (ISRO) confirmed that the mobility operation of Pragyan Rover on Chandrayaan-3 has begun.

An Overview of the News

- The payload has been activated on the lander module. Both the lander and the rover instruments will now analyze the mineralogical composition of the Moon and detect seismic activities in its atmosphere.

- Indigenously developed Pragyan Chandra Rover successfully de-lighted from Vikram Lander.

- Pragyan Chandra Rover begins the exploration of the lunar surface, making India the fourth country to successfully land on the Moon.

About Chandrayaan:

- **Chandrayaan-3** is ISRO's third lunar mission after **Chandrayaan-1 (2008) and Chandrayaan-2 (2019).**

- **Chandrayaan-1** revealed lunar insights, including the presence of water ice.

- **Chandrayaan-2** was intended to land on the Moon but faced challenges, which led to the deployment of the rover from lunar orbit.

Chandrayaan-3's enhancements and objectives:

- Chandrayaan-3 builds on the successes of earlier missions and addresses the challenges.

- The lander has an advanced braking system for controlled landing.

- The rover boasts advanced capabilities and scientific instruments as compared to the rover of Chandrayaan-2.

2. Dr. Jitendra Singh unveils the unique 'NAMOH 108' lotus and launches Lotus Mission along with innovative initiatives (Aug. 21, 2023)

NAMOH-108
Union Minister Dr. Jitendra Singh launched a new 'Lotus flower variety named 'Namoh 108' developed by CSIR-NBRI in Lucknow. This lotus has an extraordinary 108 petals and holds religious and symbolic significance.

An Overview of the News

- The unveiling of 'NAMOH 108' is seen as a special gift to commemorate **Prime Minister Narendra Modi's dedicated ten years in office.**

- The Lotus Mission was also launched on the occasion and this project, like other priority schemes, aims to achieve specific goals. For example, the **National Honey and Bee Mission, the National Bamboo Mission**, and many other missions were mentioned.

- The **unique 'Namoh 108' lotus variety blooms from March to December**, rich in nutrients. In particular, its whole genome sequencing has been completed to better understand its characteristics.

- Under the Lotus research program, **NBRI in collaboration with FFDC, Kannauj introduced a garment made of lotus fiber and a perfume named 'Frotas' extracted from lotus flowers.**

- Dr. Jitendra Singh inaugurated the CSIR-NBRI Digital Herbarium, a repository of botanical specimens of India, and released books on roses, plant resources of Uttar Pradesh, and an e-flora guide.

- Collaborative research on cotton was initiated through an MoU between CSIR-NBRI and M/s Nucleome Informatics, Hyderabad.

- The event showcased **state-of-the-art research, technologies, and products developed by NBRI** through a six-day theme-based exhibition. It served to highlight his achievements to various stakeholders.

- **Dr. Ajit Kumar Shashani, Director, NBRI** welcomed Dr. Jitendra Singh and acknowledged the transformative impact of the 'One Week One Lab' initiative in showcasing CSIR achievements.

3. Union Minister launches Global Initiative on Digital Health (GIDH) (Aug. 19, 2023)

Union-Minister-launches-Global-Initiative-on-Digital-Health-(GIDH)
During the concluding day of the G20 Health Ministers' meeting held in Gandhinagar on 19th August 2023, Union Minister Dr. Mansukh Mandaviya unveiled the 'Global Initiative on Digital Health (GIDH)', a network managed by the World Health Organization (WHO).

An Overview of the News

- The launch event was graced by the presence of Dr. Tedros Adhanom Ghebreyesus, Director-General of the World Health Organisation, who attended the launch of GIDH.

- Dr. Mandaviya emphasized that the G20 Chair of India leveraged its expertise in setting up a national digital health framework by coordinating various digital health interventions.

- Apart from the launch of GIDH, Dr. Mandaviya also unveiled the World Bank's flagship report 'Digital-in-Health - Unlocking Value for Everyone'.

Discussion focus areas during the three-day meeting:

- Health Emergency Preparedness and Response: There is a special emphasis on combating antimicrobial resistance and adopting the One Health framework.

- Strengthening Pharmaceutical Sector Cooperation: Enhancing cooperation within the pharmaceutical sector to address common challenges.

Digital health innovation: exploring innovative approaches in the realm of digital health
• to improve health care outcomes.

4. Central Water Commission Chairman launches "Floodwatch" mobile app for real-time flood forecasts (Aug. 19, 2023)

Central-Water-Commission-Chairman-launches-Floodwatch-mobile-app-for-real-time-flood-forecasts
Central Water Commission (CWC) Chairman Kushwinder Vohra launched the "Floodwatch" mobile application.

An Overview of the News

- The objective of the "Floodwatch" mobile app is to disseminate real-time flood information and forecasts up to 7 days to the public through mobile phones.

- User-friendly app developed in-house with readable and audio transmission available in English and Hindi.

Key Features of "Floodwatch" App:

- Users can check the current flood conditions across the country in real-time.

- The app collects river flow data in real-time from various sources.

- Provides flood forecast (24 hours) or flood advisory (7 days) of Central Water Commission.

- Users can directly select stations on the map or search by station name.

- The map zooms in on the station location when selected from the dropdown menu.

- Users can access flood forecasts or advisories (24 hours or 7 days).

- Select Options: Specific Station, State, or Basin from the dropdown menu.

- The app is accessible on Android devices through the Google Play Store; the iOS version coming soon.

Advanced Technologies Employed:

- "Floodwatch" uses satellite data analysis, mathematical modeling, and real-time monitoring.

- Its objective is to provide accurate and timely flood forecasts.

5. Pibot: Humanoid Robot for Airplane Piloting (Aug. 17, 2023)

Pibot-Humanoid-Robot-for-Airplane-Piloting
The Korea Advanced Institute of Science and Technology (KAIST) is making advances in aviation through the creation of the "Pibot".

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An Overview of the News

- Pibot is a humanoid robot designed to autonomously fly aircraft using advanced AI capabilities and its own dexterity.

Revolutionizing Aviation and Beyond:

- Pibot aims to revolutionize aviation by enabling autonomous flight in existing aircraft, without the need for cockpit modifications.

- By mimicking human pilot actions and decisions, Pibot aims to usher in a new era of automated aviation.

Unrivaled Control Precision:

- The Pibot has state-of-the-art robotic arms and fingers with high-precision control mechanisms.

- It excels in handling flight instruments and managing cockpit switches even under challenging conditions like intense vibrations.

Advanced AI Capabilities:

- Pibot uses artificial intelligence to understand and retain complex flight manuals presented in everyday language.

- It surpasses even human pilots by memorizing extensive sets of Jeppesen aeronautical navigation charts, a feat well beyond human capability.

6. NHAI launches a mobile application called 'Rajmargyatra' (Aug. 4, 2023)

The National Highways Authority of India (NHAI) launched a citizen-centric integrated mobile application named 'Rajmargyatra' to enhance the highway user experience.

An Overview of the News

- The 'Rajmargyatra' app is available for download on Google Play Store and iOS App Store and currently supports Hindi and English languages.

- 'Rajmargyatra' provides comprehensive information on Indian National Highways, including real-time weather conditions, broadcast notifications, nearest toll plazas, petrol pumps, hospitals, hotels and other essential services for safe and seamless travel.

- The app has an efficient complaint redressal system, which allows users to report highway-related issues with geo-tagged videos or photos. The complaints are dealt with in a time bound manner, any delay is reported to the higher authorities. Users can track the status of their complaints for transparency.

- 'Rajmargyatra' integrates FASTag services with various bank portals, enabling users to recharge FASTags, avail monthly passes and access other related banking services within the app.

- The app also provides over-speed notification and voice assistance to promote responsible and safe driving behaviour.

- 'Rajmargyatra' aims to create a user-friendly experience for highway commuters, thereby ensuring a safer and more enjoyable journey on Indian National Highways.

About National Highways Authority of India (NHAI)

- The NHAI was created through a promulgation of the National Highways Authority of India Act, 1988.

- It is an independent organization established in 1995 by the Government of India.

- NHAI manages and maintains a vast network of more than 50,000 km of National Highways across India, which represents about 40% of the total length of National Highways in the country.

- NHAI is responsible for maintaining and upgrading the quality of National Highways in India and ensuring their smooth operation for the benefit of road users.

- As a nodal agency of the Ministry of Road Transport and Highways, NHAI plays a vital role in formulating policies related to highways and implementing them effectively.

- Headquarters - New Delhi

- President - Santosh Kumar Yadav

7. 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.

8. 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.**

9. 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

10. 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