

Testwale Current Affairs PDF

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1. Union govt approves Indian Space Policy 2023 to enhance role of Department of Space (April 7, 2023)

Union govt approves Indian Space Policy 2023 to enhance role of Department of Space

The Union government has approved the **Indian Space Policy 2023** on 6th April.

An overview of the news

- The Union Cabinet also approved the **revised domestic gas pricing guidelines**.
- Information and Broadcasting Minister **Anurag Singh Thakur** said, the **price of natural gas should be 10 percent of the monthly average of the Indian crude basket**.
- This step has been taken to **ensure stable pricing** in the regime and to provide adequate protection to the producers from adverse market movements.
- This would provide an incentive to increase production.

Indian Space Policy 2023

- Its aim is **to boost the country's space department's role** and give a **larger participation to research, academia, startups, and industry**.
- The policy sets out the roles and responsibilities of the **Indian Space Research Organization (ISRO) and private sector entities**.
- The policy will enhance the **role of India's Department of Space, promote research, education, start-ups and industry**.
- The policy is expected to provide a framework for the **country's space sector for the next decade**.
- Within 3 years, the number of **startups has reached 150 in ISRO**.

India's progress in the field of space exploration

- India has been making significant progress in the field of space exploration in recent years, with the successful launch of the **Chandrayaan-2 mission** and the development of the **Gaganyaan mission**, which aims to send astronauts into space.
- The country is also working on developing its **own satellite navigation system, the Indian Regional Navigation Satellite System (IRNSS)**.

2. Skyroot Aerospace test-fires advanced fully 3D-printed cryogenic engine (April 5, 2023)

Skyroot Aerospace test-fires advanced fully 3D-printed cryogenic engine

In Nagpur, private space vehicle company **Skyroot Aerospace** test-fired its **3D-printed Dhawan II engine** for a duration of **200 seconds** on 4 April.

An overview of the news

- This is the second cryogenic rocket that has been successfully test-fired by **Skyroot**, following the **Dhawan-I engine that was tested in November 2021**.
- The achievement comes after the **November 2022 launch of Vikram-S**, making **Skyroot the first Indian private company** to send a rocket into space.
- The engine has been developed by the company for its heavy vehicle **Vikram II**.
- This cryogenic engine will be used as an **advanced stage of the updated version of Vikram-II**.
- The cryogenic engine series is named after **Dr. Satish Dhawan**, a renowned Indian rocket scientist who played a key role in the development of the Indian space programme.

Utilisation of Skyroot's cryogenic rocket engines

- Skyroot's cryogenic rocket engines use two **high-performance rocket propellants, liquefied natural gas (LNG) and liquid oxygen (LOX)**, which require cryogenic temperatures (below -150 °C) for storage and operation .
- Fully cryogenic engines are ideal for rocket upper stages due to their high specific impulse, which increases payload carrying capacity.

Skyroot Aerospace

- Skyroot Aerospace is a **spacetechnology start-up** that aims to address growing concerns in the global space industry.
- It provides **low cost launch solutions** to reach space in short time.
- The startup's three launch vehicles - **Vikram I, II and III** - can carry payloads ranging from **200 kg to 700 kg to low Earth orbit**.
- Currently, the team is testing a **3D printed liquid propellant engine** and a **fully composite (carbon fiber)** and high-performance solid rocket motor.
- Headquarters - **Hyderabad, Telangana**

3. Indigenous Anti Tank Guided Missile, Amogha-III tested successfully (April 4, 2023)

Indigenous Anti Tank Guided Missile, Amogha-III tested successfully

Bharat Dynamics (BDL) has successfully conducted a **field firing test** of its latest **3rd generation man-portable Anti Tank Guided Missile (ATGM), Amogha-III**.

About Amogha-III Missile

- The Amogha-III Missile has been **developed indigenously** under **Integrated Guided Missile Development Programme (IGMDP)**.
- It is a **third generation fire-and-forget Anti-Tank Guided Missile**.
- Developed by the **Research and Development Division of BDL**, the missile also has a dual-mode IIR seeker with a range of **200 to 2500 metres**.
- The missile can be fired in **lock-on-before launch (LOBL)** mode and its anti-armour tandem warhead can penetrate in excess of 650 mm beyond **Explosive Reactive Armour (ERA)**.

About Anti-tank Guided Missile (ATGM)

- An anti-tank guided missile is a guided missile **designed primarily to hit and destroy heavily armored military vehicles**.
- These missiles can be **carried by a single soldier** as a large tripod-mounted weapon.

4. New butterfly species discovered in Kerala (April 4, 2023)

New butterfly species discovered in Kerala

Recently, a group of researchers discovered a **butterfly subspecies** from the fringes of **Akkulam and Vembanad lakes in Kerala**.

An overview of the news

- The name of this subspecies of discovered butterfly is **Caltoris bromus Sadashiv**.
- It belongs to the skipper butterfly family of **Lepidoptera (moths and butterflies)**.
- It is the first Bromus swift butterfly to be documented in the **Western Ghats**.
- **Caltoris is an Indo-Australian genus** with more than **15 species** found in **Southeast Asia**.
- **Caltoris bromus** is one of them and its two other subspecies are **Caltoris bromus bromus** and **Caltoris bromus yanuka**.

About Vembanad Lake

- It is the **largest lake in Kerala and the longest lake in India**.

- The source of the lake is related to four rivers - **Meenachil, Achankovil, Pampa and Manimala**.
- The **Vallam Kali** (Nehru Trophy Boat Race) is a snake boat race held every year in August in **Vembanad Lake**.
- In the **year 2002**, it was included in the list of **wetlands of international importance as defined by the Ramsar Convention**.
- The Government of India has identified the Vembanad wetlands under the **National Wetlands Conservation Programme**.

5. NASA announces four-member team of astronauts to travel to the Moon (April 4, 2023)

NASA announces four-member team of astronauts to travel to the Moon

For the first time in five decades, **NASA** announced a team of **four astronauts for its human spaceflight mission to the Moon**.

An overview of the news

- The team of **four astronauts will fly around the moon for a 10-day mission next year**.
- NASA has announced the four astronauts who will go to lunar orbit and return with the Artemis 2 mission.

Who are these Artemis 2 astronauts?

- These four Artemis 2 astronauts are - **Reid Wiseman, Victor Glover, Jeremy Hansen and Christina Koch**.
- NASA's **Reid Wiseman** will be the commander of the **Artemis 2 mission**.
- **Victor Glover** will serve as the **pilot for Artemis 2**. Glover was previously the pilot of NASA's SpaceX Crew-1 mission.
- **Jeremy Hansen** will represent the **Canadian Space Agency** during the mission.
- NASA astronaut **Christina Koch** will be the **mission specialist for Artemis 3**.
- Koch visited the space station in 2019, where she was part of the first all-woman spacewalk in history.
- The Artemis II flight team will have three American and one Canadian astronauts, the first since the historic Apollo mission ended in 1972.

Artemis 2 mission

- The Artemis 1 mission will allow NASA to test the foundation of its **latest human space exploration capabilities**.
- This includes the **Space Launch System (SLS) rocket, the Orion spacecraft, and all associated ground systems**.
- Artemis 2 will be the first crewed mission to test all of these.

About NASA

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

6. ISRO successfully conducts landing experiment of the Reusable Launch Vehicle (April 2, 2023)

ISRO successfully conducts landing experiment of the Reusable Launch Vehicle

The **Indian Space Research Organisation (ISRO)** on 2 April successfully conducted the **Reusable Launch Vehicle Autonomous Landing Mission (RLV LEX)**.

An overview of the news

- The test was conducted at the **Aeronautical Test Range (ATR), Chitradurga, Karnataka**.
- A **Chinook Helicopter** of the Indian Air Force carried the launch vehicle to a **height of 4.5 kms** and released it in mid-air.
- The **RLV took off at 7.10 am and landed at the ATR airstrip at 7.40 am**.
- It is noteworthy that the rocket can be launched again with the help of a reusable launch vehicle.
- This has successfully achieved the autonomous precise landing of the Space vehicle.
- ISRO had developed the **navigation system, instrumentation and sensors** on its own.
- With this successful test, the dream of developing a reusable spacecraft in India can become a reality.

Indian Space Research Organization (ISRO)

- It was established on **15 August 1969**.
- It is the national space agency of India. It launches its space rocket from **Satish Dhawan Space Center in Sriharikota, Andhra Pradesh**.
- Headquarters: **Bengaluru**
- Chairman: **S Somnath**

7. ISRO releases images of Earth captured by its EOS-06 satellite (April 1, 2023)

The **Indian Space Research Organisation (ISRO)** has recently released **images of Earth captured by the EOS-06 satellite**.

An overview of the news

- The images are a mosaic generated by **ISRO's National Remote Sensing Center (NRSC)**.
- The images have been captured by the **Ocean Color Monitor (OCM) payload on board EOS-06 by NRSC**.

About EOS-06 satellite

- **Earth Observation satellite (EOS-6)** is the **third-generation satellite in the Oceansat series**.
- It provides continued services of **Oceansat-2** with enhanced **payload capability**.
- It was launched by ISRO **onboard the PSLV-C54** along with **eight Nano-satellites** on 26 November, 2022.
- It provides continued services of Oceansat-2 with enhanced payload capability and carries four payloads **OCM-, Sea Surface Temperature Monitor, Ku-Band Scatterometer, and ARGOS**.

Objectives of the Mission

- Ensuring data continuity of **ocean color and wind vector data** to maintain operational applications.
- To improve the **applications, adjusting the number of bands in the optical region** for some additional datasets such as sea surface temperature and fluorescence.
- Develop **related algorithms and data products**.

Indian Space Research Organisation (ISRO)

- ISRO was set up on **15 August 1969**.

- Chairman of ISRO: **S Somnath**
- Headquarters of ISRO : **Bengaluru, Karnataka**
- Space Station from where ISRO launches rockets :
- **Satish Dhawan Space Centre (SDSC) SHAR, Sriharikota, Andhra Pradesh**

8. India's first quantum computing based telecom network link activated (March 31, 2023)

India's first quantum computing based telecom network link activated

The **first quantum computing-based telecom network link** has been **activated in India** and is located between **Sanchar Bhawan and National Informatics Center (NIC) office at CGO Complex in New Delhi.**

An Overview of the News

- Telecom Network Link provides **quantum secure communications, making it highly resistant to hacking attempts and cyber threats.**
- Telecom Minister **Ashwini Vaishnav** inaugurated a small exhibition of quantum computing firms, inviting them to run pilot projects for communication networks and the Indian Railways.
- Using quantum computing, the telecommunications sector will benefit from faster and more secure communications, which can lead to improved network reliability and better user experiences.

About Quantum Computing

- It uses qubits instead of classical bits to perform calculations, enabling it to perform calculations much faster than classical computers.
- Quantum computers use quantum-mechanical phenomena such as superposition and complexity to perform calculations.
- Potential applications of quantum computing include such revolutionary fields as cryptography, chemistry and materials science.
- Challenges facing quantum computing include the issue of qubit decoherence and the high cost of building and maintaining quantum computers.

9. NASA to send 4 humans to live on Mars from June 2023 (March 30, 2023)

NASA to send 4 humans to live on Mars from June 2023

The **National Aeronautics and Space Administration (NASA)** is training four people to **live on Mars in June 2023**.

An overview of the news

- These four '**Martians**' will be part of **NASA's human exploration mission to Mars**.
- These **four people will be a part of NASA's Human Exploration Journey to Mars**.
- In addition, NASA is sending a satellite, the **InSight lander, a robotic helicopter and related systems to Mars**, which will conduct comprehensive investigations of Mars.
- NASA is working on a plan for three such **trips to Mars**.
- The US space agency is planning three such missions to better understand Mars.

Living space on Mars

- The **3D-printed habitat** has private crew quarters, a kitchen and dedicated areas for **medical, recreation, fitness, work and crop development activities, a technical work area and two bathrooms**.
- Crew members will perform a variety of mission activities, including simulated **spacewalks, robotic operations, habitat maintenance, personal hygiene, exercise and crop growth**.

About NASA

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

10. For the first time in the country, the decision on bail in the case of 'murder' with the help of ChatGPT (March 29, 2023)

(ChatGPT

For the first time in the country, the Punjab and Haryana High Court used Artificial Intelligence based ChatGPT (ChatGPT) during the hearing of the bail plea in the murder case on March 27.

An overview of the news

- **Justice Anoop Chitkara** used ChatGPT to assess the **worldwide outlook on bail in a murder case**.
- He asked AI tool ChatGPT '**What is the jurisprudence on bail when the assailants brutally attack?**'
- ChatGPT then offered a **comprehensive three-paragraph reply on bail jurisprudence** in such cases.
- Thereafter, the **court refused the bail and dismissed the petition**.
- However, the court clarified that **any reference to ChatGPT** and any comment made was **not an expression of opinion on the merits of the case**.
- The court also asked the trial court not to take into account the observations relating to the response of ChatGPT.
- The Court noted that the **petitioner had a criminal history** of two cases of attempt to murder.

What is ChatGPT?

- It is a **natural language processing tool** powered by **Artificial Intelligence (AI) technology** that allows chatbots to do much more than just have **human-like conversations**.
- This language model can answer questions and assist with tasks such as **writing emails, essays and code**.
- ChatGPT was created by **OpenAI, an AI and research company**.
- The company launched ChatGPT on **30 November 2022**.

What is Artificial Intelligence?

- It is a **broad branch of computer science** that deals with the **creation of smart machines** capable of performing tasks that typically require human intelligence.