

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

### **1. The extended range version of the air-to-air BrahMos missile was successfully launched ( May 13, 2022 )**

The extended range version of the air-to-air BrahMos missile was successfully launched from a Sukhoi-30 Mark-I fighter aircraft.

- During the test, the missile hit the target accurately in the Bay of Bengal.
- This was the first launch of the extended-range version of the BrahMos missile from a Sukhoi-30 Mark-I fighter aircraft.
- The advanced version of this missile has a range of around 350 kms while the original missile had a range of around 290 kms.
- Indian Defence Research Organisation (DRDO), Indian Navy, BAPL and HAL were involved in this test along with the Indian Air Force.
- **Sukhoi 30 MKI fighter aircraft**
- The Sukhoi 30 MKI is the flagship fighter aircraft of the Indian Air Force.
- This fighter aircraft is made in collaboration with Russia's military aircraft manufacturer Sukhoi and India's Hindustan Aeronautics Limited.
- It was inducted into the Indian Air Force in the year 2002 and since 2004, they have been manufactured in India by Hindustan Aeronautics Limited.
- This aircraft can attack at a distance of 3000 km.
- **About BrahMos missile**
- BrahMos is a short-range ramjet, supersonic cruise missile.
- It can be launched from submarines, ships, aircraft or even from land.
- It has been jointly developed by Russia's NPO Mashinostroyeniya and India's Defence Research and Development Organisation.
- Brahmos is named after the Brahmaputra of India and the Moskva river of Russia.
- **Features of BrahMos**
- It can change course in the air and can also hit the moving target.
- It can fly at a height of 10 metres and is not caught by radar.

### **2. Scientists discover almost 35 million years old rare snake fossil from Ladakh Himalaya ( May 13, 2022 )**

Scientists have discovered for the first time the fossil of a Madtsoidae snake from molasses deposits in the Ladakh Himalayas.

- This indicates its prevalence in the subcontinent for a longer period of time than previously thought.
- Madtsoiidae is an extinct group of medium-sized to gigantic snakes.
- It firstly appeared during the Cretaceous and mostly distributed in the Gondwanan landmasses.
- Although, their Cenozoic record is extremely scarce.
- The occurrence of Madtsoiidae from the Oligocene of Ladakh indicates their continuity at least to the end of the Paleogene (geologic period and system that spans 43 million years from the end of the Cretaceous Period 66 million years ago).
- The research was published in the Journal of Vertebrate Palaeontology.
- The newly discovered fossil specimen is housed in the repository of Wadia Institute, an autonomous institute of Department of Science and Technology.

### **3. ISRO's plan to make Venus mission special ( May 7, 2022 )**

After the Moon and Mars mission, India is now going to participate in the journey of Venus along with America and other countries.

- The purpose of this campaign is to gather information about the atmosphere of Venus.
- The project report of 'Shukrayan-1', the name given to the Venus mission of ISRO, is ready and the budget has also been fixed for this.
- The cost of the Venus mission is likely to be between ₹500 crore to ₹1,000 crore, depending on the level of equipment.

#### **• About Shukrayaan-I Mission**

- Shukrayaan will be India's first orbiter mission to Venus.
- It will be similar to Moon and Mars missions.
- The mission aims to study the surface of the hottest planet in our solar system.
- It also aims to unravel the mysteries under the Sulphuric Acid clouds enveloping on Venus.
- Its atmosphere is highly toxic and corrosive.
- Studying the structure, composition, and dynamics of the atmosphere.
- ISRO is planning to launch orbital manoeuvres in December 2024 when Earth and Venus will converge.

#### **• About Venus**

- Venus is the second planet from the Sun and Earth's closest planetary neighbour. Mercury is closer to the Sun.

- Venus is the hottest planet in our solar system.
- The surface temperature on Venus is about 900 °F (475 °C), high enough to melt lead.
- Its dense atmosphere is filled with the greenhouse gas carbon dioxide, and contains clouds of sulfuric acid.
- Venus is sometimes called Earth's twin because it is similar in size and composition, but the planet differs greatly in other respects.

#### **4. North Korea fires ballistic missile ( May 5, 2022 )**

North Korea has test fired an intercontinental ballistic missile. Regarding the test of this missile, Kim Jong Un, describing it as a display of his nuclear power, said that it has been prepared to prevent any kind of military action from the US.

- Pyongyang, which is the nuclear arsenal of North Korea, has conducted 14 weapons tests since January, including firing an intercontinental ballistic missile at full-range for the first time since 2017.
- Last week, Kim oversaw a huge military parade, vowed to rapidly expand and improve his nuclear arsenal, and warned of possible attacks.
- North Korea fired the ballistic missile from the Sunan Airfield near Pyongyang, the site of recent ICBM tests.
- The missile flew 470KM (300 miles) and reached an altitude of 780KM, it was a "blatant violation of UN Security Council resolutions."
- The name of this intercontinental missile of North Korea is known as Hwasong-17.
- This ballistic missile is the largest liquid-fueled missile ever launched by any country from a road mobile launcher.

- **About Intercontinental Ballistic Missiles (ICBMs)**

- It is a land-based, nuclear-armed ballistic missile with a range of more than 5,600 km.
- The first ICBMs were deployed by the Soviet Union in 1958, the US followed the next year.
- India, Russia, the United States, China, Israel, the United Kingdom, France and North Korea are the only countries that have ICBMs.

#### **5. Indian Oil launches methanol-blended petrol on pilot basis in Assam ( May 4, 2022 )**

Indian Oil Corporation has launched Petrol 'M15' with 15 percent methanol blend in the Tinsukia district of Assam as a pilot project.

- Methanol is being manufactured by Assam Petrochemical Limited near Digboi Refinery.
- This new petrol blending with methanol will reduce fuel costs.

- This new petrol with methanol mixture will contain 15% methanol, so that instead of 100% petrol, only 85% petrol will cost.

- **About Indian Oil Corporation**

- Indian Oil Corporation Limited (IOCL) is a Government of India-owned oil and gas exploration and manufacturing company.
- It is under the ownership of the Ministry of Petroleum and Natural Gas, Government of India.
- Founded-30 June 1959
- Headquarters- New Delhi
- Chairman- Shrikant Madhav Vaidya

## **6. DRDO successfully test-fired Advanced Towed Artillery Gun System ( May 3, 2022 )**

The longest range indigenous artillery gun i.e. 155mm/52 Advanced Towed Artillery Gun System (ATAGS) was successfully test fired at Jaisalmer's Pokhran Firing Range (PFR) from 26 April to 2 May 2022.

- **What is ATAGS ?**

- The Advanced Artillery Gun System Project is a modern 155 mm artillery gun developed by DRDO.
- This gun is manufactured by Bharat Forge and Tata Advanced Systems Limited.
- It weighs 18 tonnes and has a firing range of 48 km.
- The 155mm ATAGS developed by DRDO was first fired in 2016.
- It took almost four years to develop the Advanced Towed Artillery Gun System, the Indian Army currently has seven Advanced Towed Artillery Guns available.

## **7. Anti-ship version of BrahMos missile successfully test-fired ( April 29, 2022 )**

An anti-ship version of the BrahMos supersonic cruise missile was successfully test-fired jointly by the Andaman and Nicobar Command and Indian Navy.

- The Andaman and Nicobar Command is the only tri-services command of the Indian armed forces.
- On 19 April, the Indian Air Force (IAF) successfully test-fired a BrahMos missile from a Sukhoi fighter jet on the eastern seaboard.
- In march 2022, the Indian Navy successfully test-fired an improved version of the BrahMos missile from a stealth destroyer in the Indian Ocean.

- **About BrahMos-**

- It is a joint venture between the Defence Research and Development Organisation (DRDO) of India and Russia's NPOM.
- Brahmos is named after the Brahmaputra and Moskva rivers.
- Brahmos produces supersonic cruise missiles that can be launched from submarines, ships, aircraft, or land platforms.
- BrahMos missile flies at a speed of almost three times the speed of sound or 2.8 Mach.
- The range of the advanced version of the missile is learnt to have been extended to around 350 km from the original 290 km.

## **8. AAI first time successfully conducts flight trials using 'GAGAN' ( April 29, 2022 )**

Airports Authority of India (AAI) successfully test fired at Kishangarh airport in Rajasthan using GAGAN (GPS Aided GEO Augmented Navigation) based LPV approach procedures.

- The successful test is a major achievement and a major milestone in the field of Air Navigation Services (ANS) in the history of Indian Civil Aviation.
- India is the first country in the Asia Pacific Region to achieve such a landmark.
- **What is LPV (Localizer Performance with Vertical Guidance)**
- LPV is a Satellite Based Procedure which has been used by the aircraft for landing purposes at Kishangarh Airport (Rajasthan).
- It permits aircraft guided approaches that are operationally nearly equivalent to Cat-I/ILS, without the need for ground-based navigational infrastructure.
- The service depends on the availability of GPS and GAGAN geostationary satellites (GSAT-8, GSAT-10 and GSAT-15) launched by ISRO.
- **Significance**
- The LPV approach will make it possible to land at airports that are not equipped with expensive instrument landing systems, including many smaller regional and local airports.
- AAI in coordination with Indian National Centre for Ocean Information Services (INCOIS) has implemented Gagan Message Service (GMS) through which alert messages will be sent to fishermen disaster affected people on occurrence of natural calamities like flood, earthquake etc.
- Additional capabilities of GAGAN are also being explored for its use in non-aviation sectors like railways, surveying, agriculture, power sector, mining etc.
- **About GAGAN**
- It is an Indian Satellite Based Augmentation System (SBAS) jointly developed by AAI and ISRO.

- This is the first such system developed for India and neighbouring countries in the equatorial region.
- GAGAN System was certified by DGCA in 2015 for Approach with Vertical Guidance (APV 1) and en-route (RNP 0.1) operations.
- There are only four Space-Based augmentation systems available in the world -

1. India (GAGAN),
2. US (WAAS)
3. Europe (EGNOS) and
4. Japan (MSAS).

### **9. DCGI approves use of Covaxin for children age between 6 to 12 years ( April 26, 2022 )**

The Drugs Controller General of India (DCGI) has given approval (EUA) to the corona vaccine 'Covexin' for children in the age group of 6-12 years.

- Covexin has been developed by Hyderabad-based Bharat Biotech.
- DCGI has also approved Corbevax for emergency use for people between the ages of 5 to 12.
- DCGI also approves ZycovD for children above 12 years of age.
- **About Drug Controller General of India (DCGI)**
- It is responsible for the approval of licences of specified categories of drugs such as blood and blood products, IV fluids, vaccines and sera in India.
- It also establishes standards for the manufacture, sale, import and distribution of drugs in India.
- It works under the Ministry of Health and Family Welfare.

### **10. I&B Ministry blocks 16 YouTube news channels ( April 26, 2022 )**

The Ministry of Information and Broadcasting has shut down 16 YouTube news channels for spreading propaganda related to the country's national security, foreign relations and public order.

- Ten Indian and six Pakistan-based YouTube channels have been shut down under the Information Technology Rules, 2021.
- These channels were broadcasting false, unverified information to create panic, incite communal disharmony and disturb public order in the country, the ministry said.
- The total viewership of these YouTube channels is more than 68 crores.

**The Indian YouTube channels which have been blocked-**

1. Saini Education Research,
2. Hindi Mein Dekho,
3. Aaj Te News, SBB News,
4. Defence News 24x7, and
5. Tahaffuz-E-Deen India

**Pakistan- based YouTube channels that have been blocked-**

1. Aaj Tak Pakistan,
2. Discover Point,
3. Reality Checks,
4. Kaiser Khan,
5. The Voice of Asia, and
6. Bol Media Bol.