DAILY CURRENT AFFAIRS 05-06-2024

GS-1

1. **Abhay mudra**

GS-3

2. **Mars Odyssey**
3. **Rudram-1 Missile**
4. **Xenophrys apatani**
5. **Palm tree**

Abhay mudra

Syllabus: GS-1; Art & Culture

Context

- *In his first speech in the Lok Sabha as the* **Leader of Opposition (LoP),** *Congress leader Rahul Gandhi on Monday ruffled many feathers by bringing up religion. Among the many things he spoke of was 'abhaya mudra' or the motif of an open palm that he said was a common thread in all religions, depicted in portrayals of Lord Shiva, Jesus Christ, and Guru Nanak, and found as well in Jainism, and Buddhism.*

What is abhaya mudra?

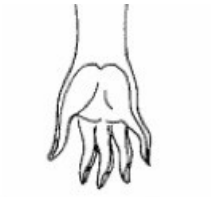
- *Known as abhaya mudra, the motif of an* **open palm** *(as if gesturing a person to stop) is indeed common across many South Asian religions, including Hinduism, Buddhism, Jainism, and Sikhism.*
- *Also called the Also called the* **'fearlessness gesture'** *('abhaya' in Sanskrit means fearlessness), the gesture symbolizes protection and peace and in yoga circles, is believed to help in* **promoting courage, and reducing fear and anxiety in people.**
- *While common across many religions in South Asia, abhaya mudra most prominently features in Buddhism, and as per Stanford University, is particularly pronounced in Thailand and Laos, where it is associated with images of the walking Buddha.*

Where did the gesture originate from?

- *In a newsletter titled Exotic India hosted on the Stanford University website, it is said that the gesture of an open palm pointed outwards appears to be a "natural gesture" that was "probably used from* **pre-historic times as a sign of good intentions—the hand raised and unarmed proposes friendship, or at least peace."**
- *"Since antiquity, it was also a gesture asserting power, as with the magna manus of the Roman Emperors who legislated and gave peace at the same time," notes the article.*
- *The motif, therefore, appears to have originated from a potentially universal gesture associated with human communication that eventually made its way into some of the major religions in South Asia.*
- *In Buddhism, the abhaya mudra also has a legend associated with it: "Devadatta, a cousin of the Buddha, through jealousy caused a schism to be caused among the disciples of Buddha. As Devadatta's pride increased, he attempted to murder the Buddha. One of his schemes involved loosing a rampaging elephant into the Buddha's path. But as the elephant approached him, Buddha displayed the Abhaya mudra, which immediately calmed the animal. Accordingly, it indicates not only the appeasement of the senses, but also the* **absence of fear**,*" the article explains.*

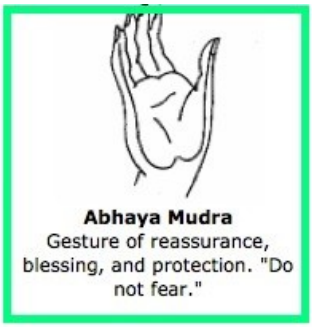
Other mudras

Bhumisparsa Mudra
Touching the earth as Gautama did, to invoke the earth as witness to the truth of his words.



Varada Mudra
Fulfilment of all wishes; the gesture of charity.

Dhyana Mudra
The gesture of absolute balance, of meditation. The hands are relaxed in the lap, and the tips of the thumbs and fingers touch each other. When depicted with a begging bowl this is a sign of the head of an order.



Abhaya Mudra
Gesture of reassurance, blessing, and protection. "Do not fear."

Dharmachakra Mudra
The gesture of teaching usually interpreted as turning the Wheel of Law. The hands are held level with the heart, the thumbs and index fingers form circles.

Vitarka Mudra
Intellectual argument, discussion. The circle formed by the thumb and index finger is the sign of the Wheel of Law.

Tarjani Mudra
Threat, warning. The extended index finger is pointed at the opponent.

Namaskara Mudra
Gesture of greeting, prayer, and adoration. Buddhas no longer make this gesture because they do not have to show devotion to anything.

Jnana Mudra
Teaching. The hand is held at chest level and the thumb and index finger again form the Wheel of Law.

Karana Mudra
Gesture with which demons are expelled.

Ksepana Mudra
Two hands together in the gesture of 'sprinkling' the nectar of immortality.

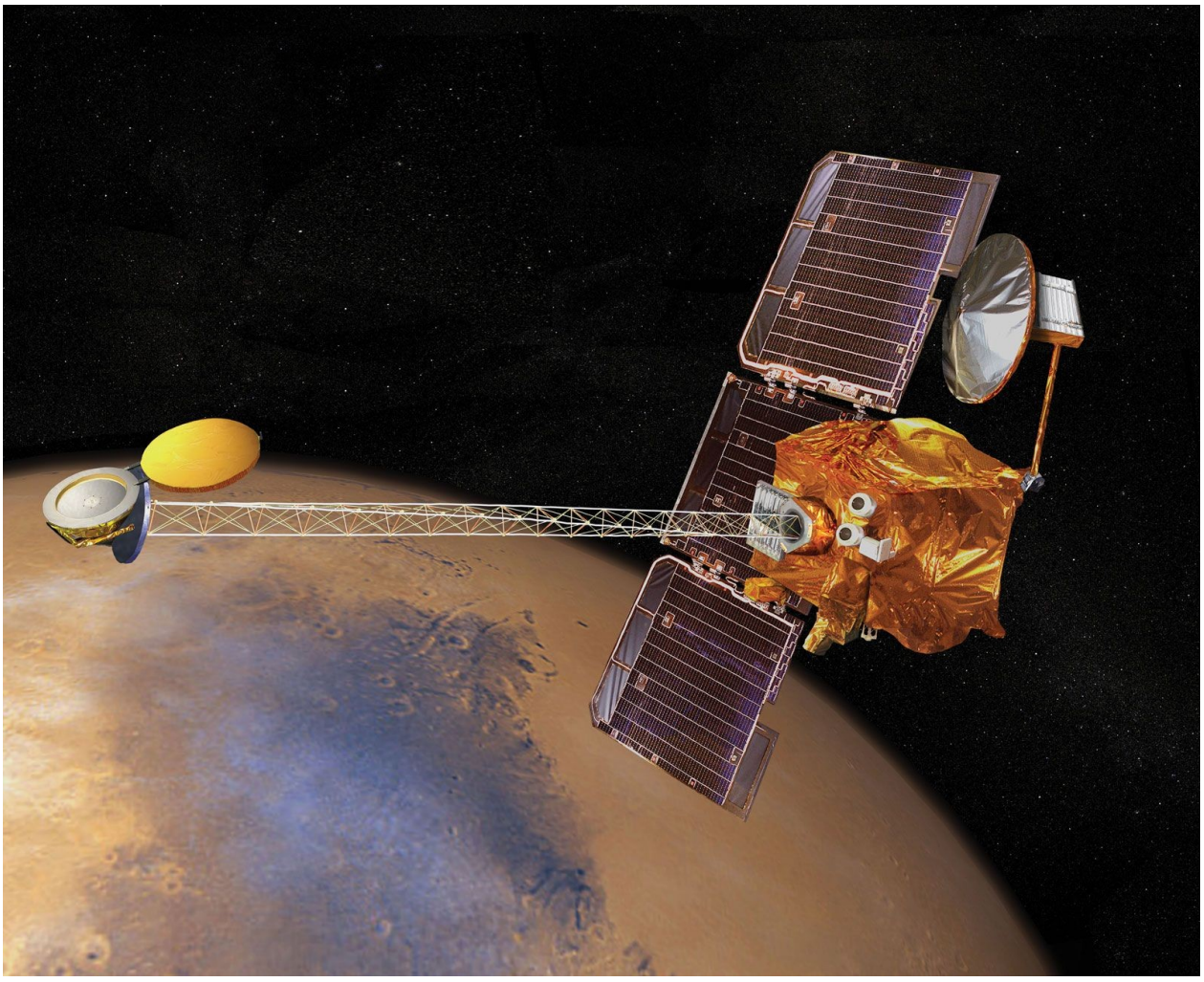
Uttarabodhi Mudra
Two hands placed together above the head with the index fingers together and the other fingers intertwined. The gesture of supreme enlightenment.

Mars Odyssey

Syllabus: GS-3; Science and Technology

Context

- *Mars Odyssey celebrates 100,000 orbits, captures epic view of solar system's largest volcano*



About

- *Mars Odyssey is a spacecraft that has been orbiting Mars since 2001.*
- *It was launched by NASA as part of the* **Mars Exploration Program.**
- *Its primary mission is to study the Martian environment, including its surface and atmosphere, and to serve as a relay station for communication between other Mars missions and Earth.*
- *Mars Odyssey has provided valuable data on* **Martian geology, mineralogy, and radiation environment, contributing significantly to our understanding of the Red Planet.**

Findings

Mars Odyssey has made several important findings since its arrival at Mars in 2001. Some of the key discoveries and contributions include:

- **Water Ice on Mars**
  - *Odyssey's neutron spectrometer detected hydrogen just below the surface of Mars, indicating the presence of water ice.*
  - *This has led to the discovery of large reservoirs of water ice buried under the Martian surface, particularly at high latitudes.*
- **Mapping Surface Composition**
  - *The Thermal Emission Imaging System (THEMIS) aboard Odyssey has provided detailed maps of the mineral composition and thermal properties of Martian surface materials.*
  - *These maps have been instrumental in understanding the geological history and environmental conditions on Mars.*
- **Mapping Radiation**
  - *Odyssey has extensively mapped the radiation environment around Mars, which is crucial for future human exploration missions.*
  - *This data helps scientists understand the potential risks and design protective measures for astronauts.*
- **Supporting Rovers and Landers**
  - *Odyssey serves as a relay station for communication with NASA's Mars rovers and landers, including Spirit, Opportunity, and Curiosity.*
  - *It plays a vital role in transmitting data collected by these surface missions back to Earth.*
- **Seasonal Changes and Weather**
  - *Odyssey has observed seasonal changes on Mars, including variations in temperature, dust storms, and polar ice cap dynamics.*
  - *These observations contribute to our understanding of Martian weather patterns and climate.*

Significance

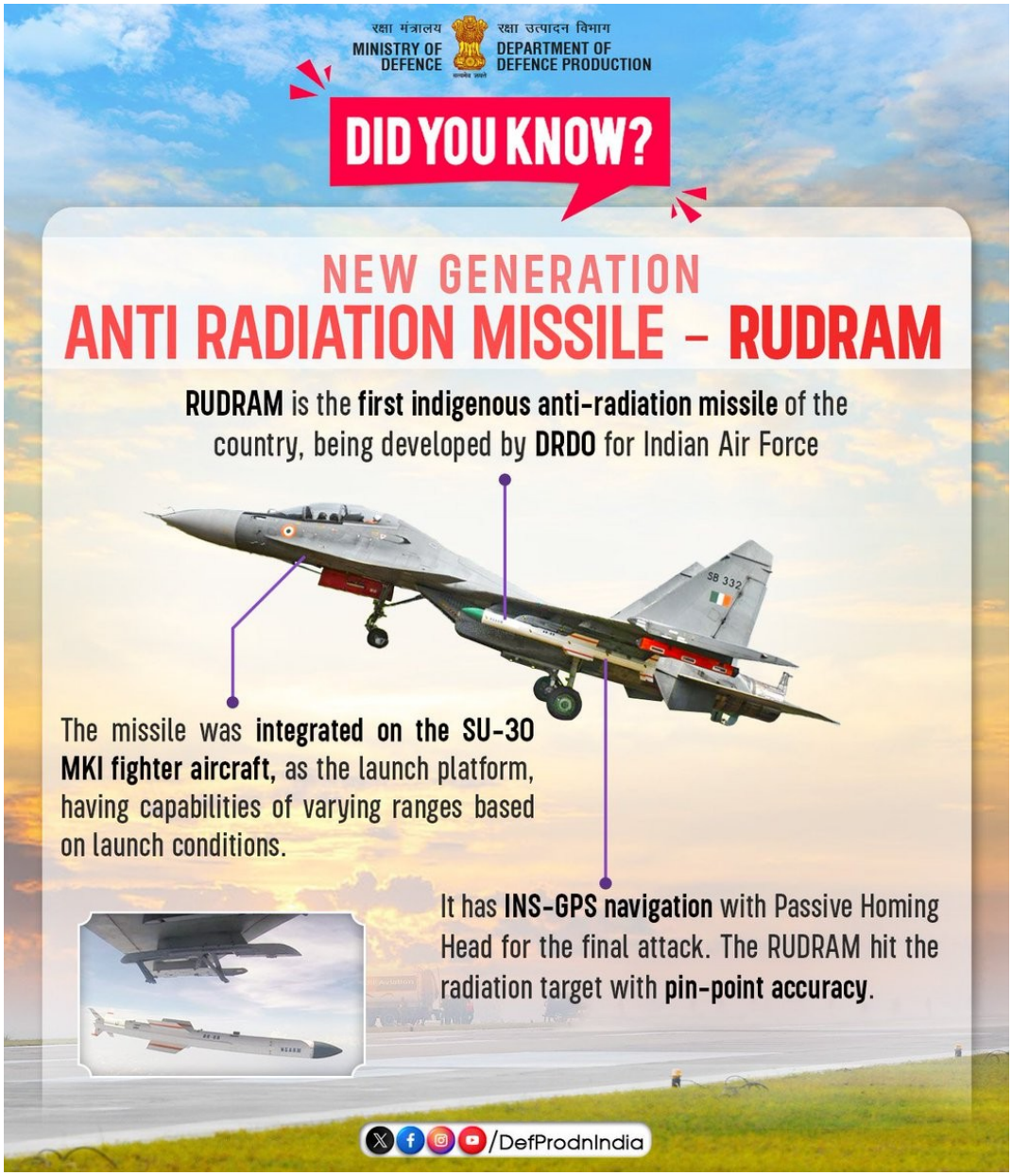
- *Mars Odyssey has been a pivotal spacecraft in advancing our knowledge of Mars, particularly in areas related to water ice, surface composition, radiation environment, and climate.*
- *Its longevity and reliability continue to support ongoing and future missions to the Red Planet.*

Rudram-1 Missile

Syllabus: GS-3; Science and Technology

Context

- *India has successfully test-fired its first indigenous anti-radiation missile*



Developed by

- *It is developed by the* **Defence Research and Development Organisation (DRDO)** *for the Indian Air Force (IAF).*

Key Features of Rudram-1

- *The Rudram-1 missile is integrated with the IAF's Sukhoi-30MKI fighter jets, serving as a potent platform for its deployment.*
- *Equipped with INS-GPS navigation and a Passive Homing Head, the missile ensures* **precise targeting** *of radiation-emitting sources.*
- *This capability is pivotal for Suppression of Enemy Air Defence (SEAD) missions, enabling the IAF to neutralize enemy radars and communication systems from extended ranges.*

Rudram-1 Missile: Technological Edge and Operational Flexibility

- *Rudram-1's advanced features such as* **INS-GPS navigation** *and Passive Homing Head provide a technological advantage, enabling precise targeting across diverse electromagnetic spectrums.*
- *It supports launch from varying altitudes (from 500 meters to 15 kilometers) and boasts a range of up to 250 kilometers, adapting seamlessly to varied combat scenarios.*
- *This operational flexibility enhances the IAF's combat* **readiness and effectiveness in challenging environments.**

Rudram-1 Missile: Regional Defense Dynamics

- *India's successful induction of Rudram-1 into its defense arsenal marks a significant strategic development in regional security dynamics.*
- *While China and Pakistan possess their own indigenous SEAD capabilities, Rudram-1's integration elevates India's deterrence posture, mitigating risks to its aerial assets and bolstering operational resilience.*
- *This advancement underscores India's commitment to enhancing national security through indigenous defense innovations, reinforcing its position as a formidable regional player.*

Significance

- *In achieving this milestone with Rudram-1, India not only strengthens its defense preparedness but also underscores its growing prowess in developing cutting-edge defense technologies.*
- *As geopolitical tensions persist, India's strategic focus on indigenization and technological advancement remains pivotal in safeguarding its national interests and maintaining regional stability.*

Xenophrys apatani

Syllabus: GS-3; Environment and Ecology

Context

- *A new species of forest-dwelling horned frog has been discovered at the* **Tale Wildlife Sanctuary in Arunachal Pradesh.**

More to know

- *This finding overturns an earlier erroneous report of the* **Maoson horned frog (Xenophrys maosonensis)** *in India reported by researchers of ZSI, Shillong in 2019.*
- *The revised conclusion regarding the identity of the species was done after further analysis revealed substantial genetic disparities between the Indian specimen and X. maosonensis from Vietnam and China, prompting a re-evaluation.*
- *The researchers also provided insights into the biogeographic distribution of Xenophrys species in India, which are distributed along the Eastern Himalayas and Indo-Burma biodiversity hotspots.*
- *The findings are expected to guide future conservation efforts and enhance understanding of amphibian evolution in the region.*

Significance

- *The discovery of Xenophrys apatani underscores India's rich biodiversity and highlights the importance of rigorous taxonomic studies in understanding the country's natural heritage.*

Talley Valley Wildlife Sanctuary

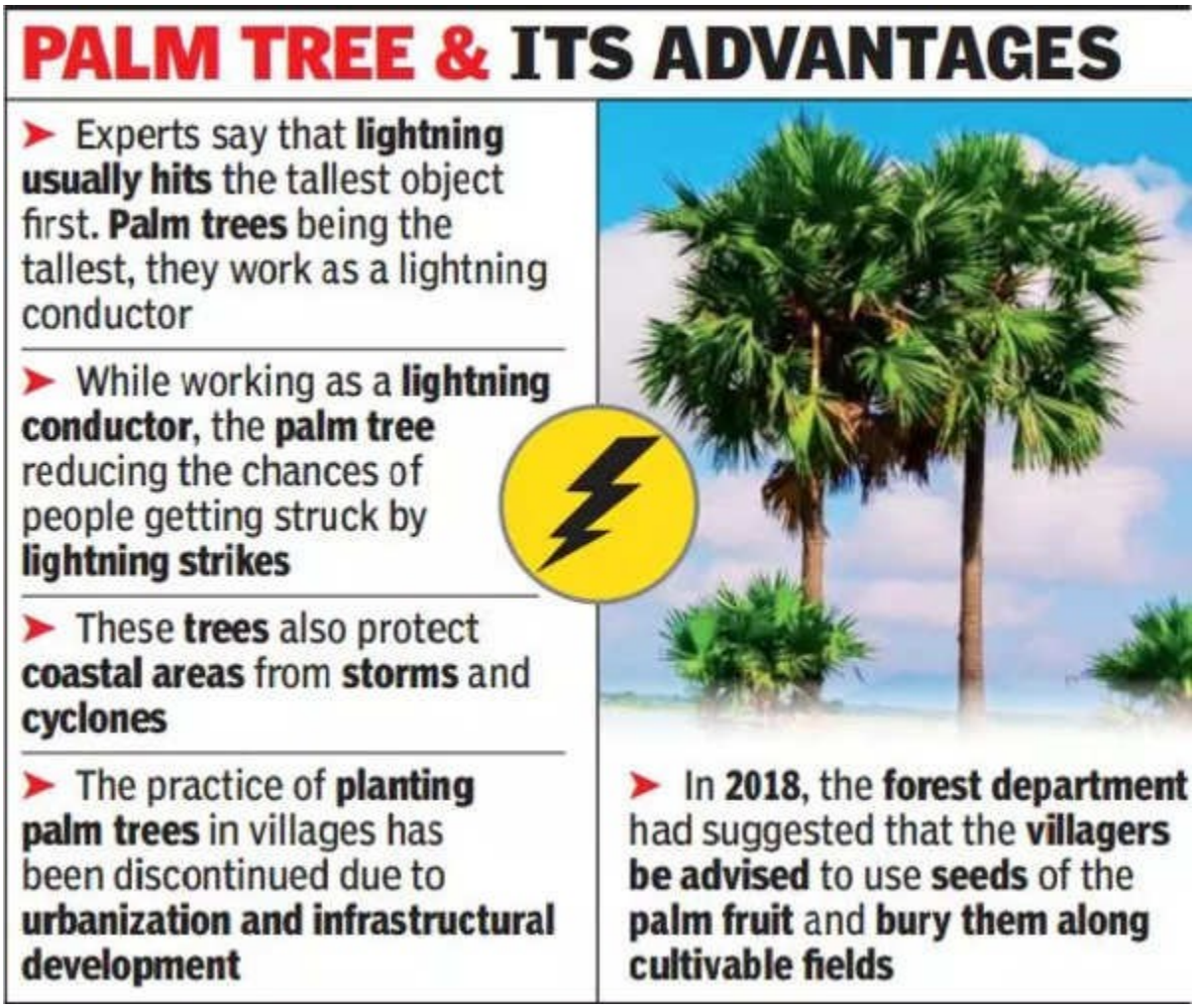
- *Talle Valley Wildlife Sanctuary is a protected area in Arunachal Pradesh, India, with an area of 337 km2 (130 sq mi). It was established in 1995.*
- *It is also known as Talley Valley Wildlife Sanctuary.*
- *It ranges in elevation from 1,200 to 3,000 m (3,900 to 9,800 ft) and harbours subtropical and temperate broadleaved and conifer forests.*
- *Mammal species present include clouded leopard, Malayan giant squirrel, Indian muntjac, and Asian palm civet .*
- *The 130 bird species observed in spring 2015 included black eagle, collared owlet, golden-breasted fulvetta, scarlet minivet, Verditer flycatcher and Mrs. Gould's sunbird.*

Palm tree

Syllabus: GS-3; Environment and Ecology

Context

- *Odisha, one of India's worst-affected states by lightning strikes during the pre-monsoon and monsoon periods, has restricted the cutting of existing palm trees and plans to plant around 1.9 million such trees to reduce casualties from lightning strikes.*



More about the news

- *Palm trees act as natural conductors during lightning strikes and prevent loss of lives.*
- *The government of the eastern state decided in September 2023 to undertake extensive plantation of palm trees and protect existing ones.*
- *The restriction on felling palm trees in the state was initially imposed under the* **Odisha Timber and Other Forest Produce Transit Rule**.
- *However, the restriction was later withdrawn following public demands, leading to the near extinction of palm trees in rural areas.*
- *Now, the government has reinstated the restriction due to the increasing deaths from lightning, particularly during the southwest and northeast monsoon seasons.*
- *In the past, people believed that tall trees like palms absorbed lightning before it struck the ground.*
- *It was also observed that lightning strike deaths were lower in areas, particularly in cultivable lands, where palm trees existed,*

About

- *Palm, any member of the Arecaceae, or Palmae, the single family of* **monocotyledonous flowering plants** *of the order Arecales.*

Distribution

- *The great centres of palm distribution are in America and in Asia from India to Japan and south to Australia and the islands of the Pacific and Indian oceans, with Africa and Madagascar as a third but much less important palm region.*

Economic importance

- *The palms with the greatest importance in world commerce are the coconut and the African oil palm (Elaeis guineensis); both are prime sources of* **vegetable oil and fat.** *Few plants are as versatile as the coconut.*
- *The husk of the fruit is the source of coir, used for ropes and mats; the hard inner fruit layer (endocarp) is used as fuel and to make charcoal, cups, bottles, and trinkets; coconut "juice" or "water" (liquid endosperm) is a tasty beverage; the flesh (solid endosperm) is eaten raw or dried to form copra, a source of oil (widely used for food preparation and industrial purposes) and oil cake (cattle feed); the flesh may also be grated, mixed with water, and pressed to obtain coconut milk, used in food preparation and as a substitute for cow's milk.*
- *The sap obtained from tapping the inflorescence, or flower stalk, is drunk unfermented or fermented (toddy) and is a source of sugar, alcohol, and vinegar.*
- *Trunks are used in construction and furniture making, and leaves are used in a variety of ways in domestic economies.*
- *The African oil palm is important chiefly for the palm oil obtained from the fruit coat and for* **kernel oil from the seed***.*