



# PIB, THE HINDU Newspaper and Editorial

## Current Affairs

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### **Guided PINAKA**

#### **Why in news?**

Defence Research and Defence Organisation (DRDO) today successfully test fired the Guided PINAKA from Pokhran ranges.

#### **Highlights:**

- Pinaka is a multiple rocket launcher produced in India and developed by the Defence Research and Development Organisation (DRDO) for the Indian Army.
- The system has a maximum range of 40 km for Mark-I and 75 km for Mark-II and can fire a salvo of 12 HE rockets in 44 seconds. The system is mounted on a Tatra truck for mobility.
- Pinaka saw service during the Kargil War, where it was successful in neutralising enemy positions on the mountain tops. It has since been inducted into the Indian Army in large numbers.
- Pinaka is a complete MBRL system, each Pinaka battery consists of: six launcher vehicles, each with 12 rockets; six loader-replenishment vehicles; three replenishment vehicles; two Command Post vehicle (one stand by) with a Fire Control computer, and the DIGICORA MET radar. A battery of six launchers can neutralise an area of 1,000 m × 800 m.
- The Army generally deploys a battery that has a total of 72 rockets. All the 72 rockets can be fired in 44 seconds, taking out an area of 1 km.
- Each launcher can fire in a different direction too. The system has the

flexibility to fire all the rockets in one go or only a few.

- This is made possible with a fire control computer. There is a command post linking together all the six launchers in a battery. Each launcher has an individual computer, which enables it to function autonomously in case it gets separated from the other five vehicles in a war.
- The weapon system is equipped with state-of-the-art guidance kit comprising of an advanced navigation and control system.
- This was the guided rocket's second test since June 2018. The PINAKA system is expected to give a significant fillip to the artillery's capability to make precise hits.
- In both the missions, the weapon systems impacted the intended targets with high precision and achieved desired accuracies. Telemetry Systems tracked and monitored the vehicle all through the flight path.
- The new and improved PINAKA system comes with a guidance, navigation and control kit developed by DRDO's Research Centre Imarat (RCI). The earlier PINAKA system was unguided and the newer rocket is expected to replace Russian SMERCH rockets.
- The Indian Army intends to induct 22 regiments of PINAKA by 2026 including 12 regiments of the newer guided PINAKA missiles. The rocket's first regiment was raised in February 2000.
- The rocket is used as an area destruction weapon that has the capacity to annihilate 900 sq metres of an area from a 20-80 km range firing a salvo of 12 rockets in 44 seconds.
- Each PINAKA battery consists of: six launcher vehicles, each with 12 rockets; six loader-replenishment vehicles; three replenishment vehicles; two Command Post vehicle (one stand by) with a Fire Control computer, and the DIGICORA MET radar.

### **Salient features:**

- Use of state-of-the-art technologies for improved combat performance
- Total operational time optimised for shoot & scoot capability
- Cabin pressurisation for crew protection in addition to blast shields
- Microprocessor-based fully automatic positioning and fire control console
- Night vision devices for driver and crew

- Neutralisation/destruction of the exposed troop concentrations, 'B' vehicles and other such soft targets
  - Neutralisation of enemy guns/rocket locations
  - Laying of anti-personnel and anti-tank mines at a short notice.
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## **UNESCO**

### **Why in news?**

To stabilize the Earth's climate for people and ecosystems, it is imperative to ramp up natural climate solutions and, at the same time, accelerate mitigation efforts across the energy and industrial sectors, according to a new policy perspective published recently in Science.

### **Highlights of Paper:**

- Among their findings, the researchers warn that a ten-year delay in emissions reductions from energy and industry could this century result in emissions that negate the net potential emissions reductions benefit of natural climate solutions.
- Natural climate solutions -such as enhancing carbon sinks from forests, agriculture and other lands-come with a host of benefits like improved forests, croplands, grazing lands, and wetlands.
- The paper, co-authored by scientists and climate experts at the Cary Institute of Ecosystem Studies, Columbia University, Kepos Capital, Princeton University, University of Aberdeen, Stanford University, and World Wildlife Fund (WWF), underscores that natural climate solutions alone are not enough to meet the Paris Agreement and must be paired with rapid efforts to decrease emissions from the energy and industrial sectors.
- Even ambitious deployment of natural climate solutions leaves a big gap that needs to be filled through increased work on decreasing emissions from cars, factories, and power plants.
- By maximizing natural climate solutions and energy mitigation, we

can improve forests and habitat, reduce the risk of wildfires, and decrease air and water pollution, thus improving human health and well-being as well as the health of our planet.

- To reduce cumulative emissions and peak warming, the policy paper underscores that the solution will require policy mechanisms and incentives that support natural climate solutions and a major increase in mitigation efforts across the energy and industrial sectors.
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## **NASA's lunar orbiter**

### **Why in news?**

NASA's Lunar Reconnaissance Orbiter (LRO) spacecraft has observed water molecules moving around the dayside of Moon, a finding that could help scientists learn about the accessibility of water that can be used by humans in future lunar missions.

According to a study published in the journal - Geophysical Research Letters- the measurements from the Lyman **Alpha Mapping Project** (LAMP), an instrument aboard the LRO, of the sparse layer of molecules temporarily stuck to the surface helped characterise lunar hydration changes over the course of a day.

### **Study: Key Highlights**

- As per NASA, scientists have identified surface water in sparse populations of molecules bound to the lunar soil, or regolith. The water molecules reportedly remain tightly bound to the regolith until surface temperatures peak near lunar noon.
- The amount and locations vary based on the time of the day. This water is more common at higher latitudes and tends to hop around as the surface heats up.
- The water molecules thermally desorb and can bounce to a

- nearby location that is cold enough for the molecule to stick or populate the Moon's extremely tenuous atmosphere or exosphere until temperatures drop and the molecules return to the surface.
- The latest research revealed the amount of energy needed to remove water molecules from lunar materials, helping scientists understand how water is bound to surface materials.
  - Due to the complex way light reflects off the surface of the Moon, lunar hydration is tricky to measure from orbit.
  - The previous research reported quantities of hopping water molecules that were too large to explain with known physical processes.
  - Scientists have hypothesised that hydrogen ions in the solar wind may be the source of most of the Moon's surface water.
  - However, the water observed by LAMP does not decrease when the Moon is shielded by the Earth and the region influenced by its magnetic field, suggesting water builds up over time, rather than raining down directly from the solar wind.

### **Significance:**

- According to LRO deputy project scientist John Keller, the study is an important step in advancing the water story on the Moon and is a result of years of accumulated data from the LRO mission.
- The current results help in understanding the lunar water cycle and will ultimately help the scientists learn about accessibility of water that can be used by humans in future missions to the Moon.

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## **How the model code of conduct evolved?**

### **What is the model code of conduct?**

- The model code refers to a set of norms laid down by the Election Commission of India, with the consensus of political parties. ***It is not statutory.***
- It spells out the dos and don'ts for elections. Political parties, candidates and polling agents are expected to observe the norms, on

matters ranging from the content of election manifestos, speeches and processions, to general conduct, so that free and fair elections take place.

### **When was it introduced?**

- The EC traces its introduction to the 1960 Assembly elections in Kerala. During simultaneous polls to the Lok Sabha and Assemblies in several States in 1962, the EC circulated the code to all recognised parties, which followed it “by and large”.
- In October 1979, the EC came up with a comprehensive code that saw further changes after consultations with parties.

### **When is the code enforced?**

- The code comes into force on the announcement of the poll schedule and remains operational till the process is concluded, as provided in the notification.
- It is also applicable to a “caretaker” government on premature dissolution of a State Assembly, as was the case in Telangana.

### **How is it enforced?**

- The EC ensures that ruling parties at the Centre and in States adhere to the code, as part of its mandate to conduct free and fair elections under **Article 324** of the Constitution.
- In case of electoral offences, malpractices and corrupt practices like inducements to voters, bribery, intimidation or any undue influence, the EC takes action against violators.
- Anyone can report the violations to the EC or approach the court. The EC has devised several mechanisms to take note of the offences, which include joint task forces of enforcement agencies and flying squads.
- The latest is the introduction of the **cVIGIL mobile app** through which audio-visual evidence of malpractices can be reported.



## **What are the key malpractices?**

- Any activity aggravating existing differences or creating mutual hatred or causing tension between different castes and communities, religious or linguistic, is a corrupt practice under the Representation of the People Act.
- Making an appeal to caste or communal feelings to secure votes and using places of worship for campaigning are offences under the Act.
- Bribery to voters is both a corrupt practice and an electoral offence under the Act and Section 171B of the Indian Penal Code. Intimidation of voters is also an electoral offence, while impersonating them is punishable under the IPC.
- Serving or distributing liquor on election day and during the 48 hours preceding it is an electoral offence. Holding public meetings during the 48-hour period ending with the hour fixed for the closing of the poll is also an offence.

## **What restrictions does the code impose?**

- According to the EC, the code states that the party in power — whether at the Centre or in the States — should ensure that it does not use its official position for campaigning.
- Ministers and other government authorities cannot announce financial grants in any form. No project or scheme which may have the effect of influencing the voter in favour of the party in power can be announced, and Ministers cannot use official machinery for campaign purposes.

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## **Archaeological Survey of India**

### **Why in News?**

Archaeological excavations undertaken by a group of researchers and students of the University of Kerala in Kutch (Gujarat) have shed light on the custom and burial rituals that were prevalent during the early

Harappan phase.

- The 47-member team, which camped in Khatiya village of Kutch for a month-and-a-half, unearthed several skeletal remains from a cemetery-like burial site where 26 graves out of the nearly 300-odd ones were excavated.
  - The rectangular graves, each of varying dimensions and assembled using stones, contained skeletons that were placed in a specific manner. They were oriented east-west with the heads positioned on the eastern side. Next to the legs on the western side, the archaeologists found earthen pots and pottery shards and other artefacts, including conch-shell bangles, beads made of stones and terracotta, numerous lithic tools and grinding stones.
  - Of the 26 graves that were excavated, the biggest was 6.9 metres long and the smallest 1.2 metres long. The skeletal remains of human beings in most of them were found to be disintegrated. The presence of animal skeletons along with those of humans were also recorded in a few graves.
  - Interestingly, the researchers found the mode of burial to be non-uniform. Instances of primary burial and secondary burial (when the remains of the primary burial are exhumed and moved to another grave) were found. The remains of those who were possibly cremated were also found in a few graves.
  - Lending credence to the trade network that could have existed during the early phase of the Harappan civilisation from 3300 BCE to 2600 BCE, the researchers claimed that the mud pots bore similarities with those that were unearthed from other Harappan sites in KotDiji, Amri and Nal in Pakistan, Nagwada, Santhali, Moti Pipli and Ranod in North Gujarat, and Surkotada and Dhaneti in Kutch.
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## **Gender discrimination**

**Why in News?**



## Gender discrimination high in telecom and manufacturing sector, says survey

- For 97% of working women, life has changed post migration, said a survey by ICICI Lombard on the physical and mental health of working women through their career span.
- The study surveyed working women in the age group 22-55 years, covering aspects like migration for work, resuming work post maternity and women at work facing menopause. The objective of the survey was to understand issues faced by working women at the workplace.
- While gender equality at the workplace has become a byword in the corporate sector, the survey has brought forth the fact that 53% of the working women believe their workplaces are still male dominated.
- Of this, 46% belong to the age group 22-33 years, followed by 35% group from the age group 34-44 years. Women in the telecom and manufacturing sector experienced more instances of gender discrimination than any other sector.
- Another interesting facet of the survey was in that 62% of the respondents believed that recognition at par with male counterparts notwithstanding, there is a gap when it comes to remuneration. This was found to be more prevalent in the manufacturing and financial sector.
- The imbalance thus created puts extra pressure on women leading into 'increased frustration levels (66%)', 'working beyond their capacity to prove their mettle (64%)' and 'stress due to high expectations (62%)'.
- Workplace abuse was an aspect faced more by older women (45-55 years), with a majority of them reporting this to HR (43%), but a significant lot (32%) also quitting on account of this.

### Positive change

- Migration for work has proved to be a positive change for 97% of working women, enhancing self-confidence and financial independence. Cultural shock, though, is a major challenge.

- Also, women migrating post 30 are more prone to stress as it is mentally difficult to accommodate in formal office environment, the survey said.
  - Respondents to the survey relating to menopause revealed that depression is a common emotion impacting 89% of working women, leading 42% of them to take leave once a month. In order to relieve that stress, 49% of the women engaged in activities like yoga, while others preferred morning/evening walks and zumba. However, gym and outdoor sports are almost negligible.
  - The study involved online quantitative interviews with 1500 working women, across five locations.
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## **Geographic Indication**

### **Why in News?**

Arecanut gets its first GI tag for 'Sirsi Supari'

### **Highlights:**

- The arecanut has unique features like a round and flattened coin shape, particular texture, taste
- For the first time in the arecanut sector, 'Sirsi Supari' grown in Uttara Kannada has received the Geographic Indication (GI) tag. It is cultivated in Yellapura, Siddapura and Sirsi taluks.
- Totgars' Cooperative Sale Society Ltd., Sirsi, is the registered proprietor of the GI.
- The Registrar of Geographical Indications, under the Union government, Chennai issued the certificate to the society on March 4, 2019. Its GI number is 464.
- According to it, the particular arecanut "is medium in size, somewhat flat and rounded in shape, somewhat ash coloured, and has a hard seed."
- The arecanut grown in these taluks have unique features like a round and flattened coin shape, particular texture, size, cross-sectional views, taste, etc. These features are not seen in arecanut grown in

any other regions. Its average dry weight is 7.5 g and average thickness is 16 mm.

- This particular variety has a unique taste due to differences in chemical composition. The total average flavonoids content in it is around 90 whereas in others it is around 80.
  - The total carbohydrates in 'Sirsi Supari' are 23% to 26%, total arecoline is 0.11% to 0.13%, total tannin content is 14.5% to 17.5%.
  - It took about six years to get it owing to scientific research proof to be submitted to prove its uniqueness.
  - 'Sirsi Supari' is used both as 'chali' (white arecanut) and red arecanut. The 'chali' variety is made by peeling the ripened nuts and sun drying them later. The red arecanut is produced by harvesting the tender nuts, then boiling and colouring them, then making them into different grades and finally sun drying them.
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### **Girnar forest and palash tree**

- The Girnar Hills in Junagadh district of Gujarat, are famous since ancient times as a place of pilgrimage for both Hindus and Jains. The town of Junagadh is situated practically at the foot of these hills to their west.
- Girnar forests were once part of a major forest ecosystem comprising of Gir and Girnar. Gradually the urbanization and economic activities caused by major agricultural expansion and industrialization have isolated these two forests converting Girnar as a isolated compact patch of forested habitat
- Palash tree
- *Butea monosperma* is a species of *Butea* native to tropical and sub-tropical parts of the Indian Subcontinent and Southeast Asia, ranging across India, Bangladesh, Nepal, Sri Lanka, Myanmar, Thailand, Laos, Cambodia, Vietnam, Malaysia, and western Indonesia. Common names include flame-of-the-forest and bastard teak
- In West Bengal, it is associated with spring, especially through the poems and songs of Nobel Laureate Rabindranath Tagore, who likened its bright orange flame-like flower to fire.
- In Santiniketan, where Tagore lived, this flower has become an

indispensable part of the celebration of spring. The plant has lent its name to the town of Palashi, famous for the historic Battle of Plassey fought there.

- In Theravada Buddhism, *Butea monosperma* is said to have been used as the tree for achieving enlightenment, or Bodhi by second Lord Buddha called "Mahakasyapa"
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## **ITU to inaugurate its first ever innovation centre in India**

- The International Telecommunication Union originally the International Telegraph Union is a specialized agency of the United Nations (UN) that is responsible for issues that concern information and communication technologies. It is the oldest among all the 15 specialised agencies of UN.
- The ITU coordinates the shared global use of the radio spectrum, promotes international cooperation in assigning satellite orbits, works to improve telecommunication infrastructure in the developing world, and assists in the development and coordination of worldwide technical standards.
- The ITU is active in areas including broadband Internet, latest-generation wireless technologies, aeronautical and maritime navigation, radio astronomy, satellite-based meteorology, convergence in fixed-mobile phone, Internet access, data, voice, TV broadcasting, and next-generation networks.
- The agency also organizes worldwide and regional exhibitions and forums, such as ITU Telecom World, bringing together representatives of government and the telecommunications and ICT industry to exchange ideas, knowledge and technology.
- ITU, based in Geneva, Switzerland, is a member of the United Nations Development Group, and has 12 regional and area offices in the world. ITU has been an intergovernmental public-private partnership organization since its inception.
- Its membership includes 193 Member States and around 800 public and private sector companies, and academic institutions as well as international and regional telecommunication entities, known as Sector Members and Associates, which undertake most of the work of

each Sector.

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## **Wood snake**

### **Why in News?**

Wood snake, last seen in 1878, rediscovered by scientists The species is endemic to the Meghamalai forests and Periyar Tiger Reserve area.

### **Highlights:**

- Species of wood snake that wasn't seen for 140 years has resurfaced in a survey conducted by scientists in the Meghamalai Wildlife Sanctuary.
- The species, endemic to the Meghamalai forests and the Periyar Tiger Reserve landscape, was recently rediscovered.

### **Endemic species**

- Endemic species are plants and animals that exist only in one geographic region. Species can be endemic to large or small areas of the earth: some are endemic to a particular continent, some to part of a continent, and others to a single island.
  - Usually an area that contains endemic species is isolated in some way, so that species have difficulty spreading to other areas, or it has unusual environmental characteristics to which endemic species are uniquely adapted. Endemism, or the occurrence of endemic animals and plants, is more common in some regions than in others.
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