



Sanskriti IAS



DAILY CURRENT AFFAIRS

Important Current News for UPSC & UPPSC

19th Mar 2026

TOPICS:-

1. MXene
2. Floating LiDAR Buoy System
3. Ladakh Magmatic Arc (LMA)
4. Bharat Electricity Summit 2026
5. IOS SAGAR Initiative 2026
6. Krishi Sakhi Initiative
7. Stockholm Water Prize 2026
8. Kalinjar Fort
9. Other Important News of the day
10. Uttar Pradesh in News

DELHI CENTRE:
636, Mukherjee Nagar
New Delhi-110009

PRAYAGRAJ CENTRE:
1/1/8A, Stanley Rd,
Maharana Pratap Chauraha,
Civil Lines, Prayagraj, UP - 211002

 **9555-124-124**
 **sanskritiias.com**

MXENE

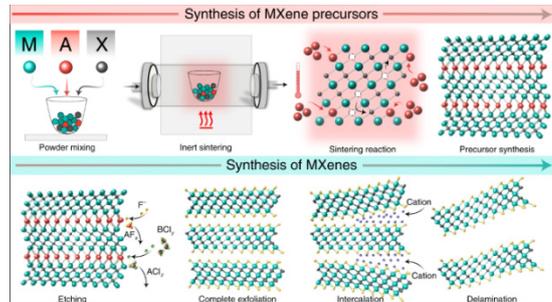
IIT Guwahati Develops Dual-Use MXene Catalyst

Researchers at the Indian Institute of Technology Guwahati have developed an advanced material capable of producing hydrogen fuel through...



Why in News

- IIT Guwahati developed a **MXene-based catalyst** for hydrogen production and desalination.



Material Science and Composition

- MXenes are **two-dimensional materials discovered in 2011**.
- They are derived from **MAX phases** with formula **M_n+1X_nT_x**.
- Common example includes **Titanium carbide (Ti₃C₂T_x)**.

Physical and Chemical Properties

- They exhibit **high electrical conductivity and mechanical strength**.
- They possess **hydrophilicity and tunable surface chemistry**.

Applications in Emerging Technologies

- Used in **energy storage devices like Li-ion batteries and supercapacitors**.
- Applied in **water desalination and wastewater treatment systems**.
- Useful in **industrial filtration and separation technologies**.

Strategic and Environmental Relevance

- Supports **green hydrogen production and clean energy transition**.
- Contributes to **sustainable water management solutions**.

FLOATING LIDAR BUOY SYSTEM

India Today

India tests floating Lidar buoy to boost weather forecasting, offshore wind energy

The newly developed system is capable of measuring wind speed and direction profiles up to 300 meters above sea level.



Why in News

- **NIOT (National Institute of Ocean Technology)** successfully tested an indigenous **Floating LiDAR Buoy System off Tamil Nadu coast**.

Scientific and Technical Features

- It uses **LiDAR (Light Detection and Ranging)** technology to measure atmospheric parameters.
- It **emits laser pulses** that reflect off air particles to detect wind characteristics.
- It measures **wind speed, direction, and vertical wind profile up to 300 metres.**



Operational Mechanism

- The floating buoy acts as a stable platform over ocean surfaces.
- Returned laser signals are analysed for **high-precision real-time data collection.**
- It overcomes limitations of traditional offshore meteorological instruments.

Strategic and Economic Significance

- It supports **offshore wind energy development**, aligning with India's renewable targets.
- It improves **cyclone prediction and early warning systems.**
- It contributes to **climate modelling and ocean-atmosphere interaction studies.**

Policy and Governance Linkages

- It aligns with India's push for **blue economy and clean energy transition.**
- It strengthens indigenous technological capability under **Atmanirbhar Bharat.**

LADAKH MAGMATIC ARC (LMA)



PIB

<https://www.pib.gov.in> > PressReleasePage[decoding evolution of the ladakh magmatic arc in nw ...](#) ✓

4 days ago — **LMA is a belt of igneous rocks in the Trans-Himalaya** formed in the period Jurassic to Eocene- 201.3 million years ago to 33.9 Million Year (Ma). [Read more](#)

Why in News

- Scientists traced the geological evolution of the **Ladakh Magmatic Arc.**

Geological Formation and Timeline

- It formed between **Jurassic to Eocene period (201–33.9 million years ago).**
- It represents an extinct volcanic arc in the **Trans-Himalayan region.**
- Formation is linked to **subduction of Neo-Tethys Ocean crust.**

Phases of Evolution

- Initial stage formed **island arcs (Dras–Nidar Island Arc Complex).**

- Later phase saw formation of **Ladakh Batholith due to crustal enrichment**.
- Final stage involved **post-collision magmatism after India-Eurasia collision**.

Scientific and Tectonic Significance

- It provides evidence of **plate tectonics and continental collision processes**.
- Helps understand **Himalayan orogeny and crustal evolution**.

BHARAT ELECTRICITY SUMMIT 2026

India Education Diary

Maiden Edition of India's Biggest Electricity Show – Bharat Electricity Summit 2026 Commences



'Bharat Electricity Summit 2026', a four-day global Conference-cum-Exhibition for the power sector was inaugurated by Union Minister of

Why in News

- The **Bharat Electricity Summit 2026** is being held at **Yashobhoomi, New Delhi (19–22 March 2026)**.

Scale and Global Energy Governance

- The summit is witnessing participation from 80+ countries and over 25,000 visitors, indicating India's global energy role.
- It includes 100+ sessions, 300+ speakers, and 500+ exhibitors including startups.
- Participation of energy ministers, policymakers, and global investors reflects multilateral energy cooperation.

Technological and Sectoral Focus

- The theme is “**Electrifying Growth. Empowering Sustainability. Connecting Globally.**”
- Discussions cover **power generation, transmission, distribution, and energy storage systems**.
- Key areas include **renewable energy integration, smart grids, and digital transformation of power sector**.

Economic and Industrial Implications

- The sector presents investment potential of over **₹50 lakh crore by 2032**.
- It promotes **Make in India and indigenisation of energy technologies**.
- It aims to strengthen **supply chains and global competitiveness of India's power sector**.

IOS SAGAR Initiative 2026

PIB

INDIAN NAVY CONTINUES IOS SAGAR INITIATIVE TO STRENGTHEN MARITIME PARTNERSHIP WITH INDIAN OCEAN NATIONS



Reaffirming India's commitment to collaborative maritime security in the Indian Ocean Region, the second edition of Indian Ocean Ship (IOS)...

Why in News

- The **Indian Navy launched the second edition of IOS SAGAR initiative (16 March 2026)**.

Strategic and Institutional Framework

- IOS SAGAR aligns with India's vision of **SAGAR (Security and Growth for All in the Region)**.
- It complements the broader **MAHASAGAR framework for maritime cooperation**.
- It follows India assuming chairmanship of **Indian Ocean Naval Symposium (IONS) 2026**.

Operational and Training Dimensions

- Training begins at **Indian Navy establishments in Kochi** focusing on seamanship and maritime security.
- Participating personnel engage in **joint deployments onboard Indian naval ships**.
- It enhances **interoperability and operational coordination among navies**.

Regional Cooperation and Maritime Security

- Participation includes **16 Indian Ocean Region countries**, reflecting regional trust.
- Port visits and engagements facilitate **exchange of best practices among maritime agencies**.
- It addresses challenges like **piracy, trafficking, and disaster response coordination**.

Geopolitical Significance

- It strengthens India's role as **a net security provider in the Indian Ocean Region**.
- It promotes **rules-based maritime order and collective security architecture**.

KRISHI SAKHI INITIATIVE

PIB

[Agriculture Insurance Company of India Ltd. \(AIC\) Launches Krishi Sakhi Initiative to empower women farmers](#)

Agriculture Insurance Company of India Ltd. (AIC) Launches Krishi Sakhi Initiative to empower women farmers...



Why in News

- The **Agriculture Insurance Company of India (AIC)** launched the **Krishi Sakhi Initiative**.

Policy Context and Institutional Framework

- The initiative aligns with **FAO's declaration of 2026 as International Year of the Woman Farmer**.
- It focuses on enhancing access to **crop insurance and financial protection for women farmers**.

Implementation and Outreach Strategy

- The programme follows a **year-long awareness and engagement model**.
- Activities include **digital campaigns, walkathons (#AICforHer), and grassroots workshops**.
- It promotes awareness on **crop insurance schemes, sanitation, and rural livelihoods**.

Socio-Economic and Gender Dimensions

- It aims to increase **women's participation in formal agricultural systems**.
- It strengthens **financial inclusion and resilience against agricultural risks**.
- It supports **gender-inclusive rural development and livelihood security**.

STOCKHOLM WATER PRIZE 2026

Down To Earth

[From 'water terrorist' to water laureate: Iran's 'eco-warrior' in exile Kaveh Madani wins 2026 Stockholm Water Prize](#)

Kaveh Madani wins 2026 Stockholm Water Prize for groundbreaking water research.



Why in News

- **Kaveh Madani**, Director of **UNU-INWEH**, has been awarded the **Stockholm Water Prize 2026**.

Institutional and Global Recognition

- The **Stockholm Water Prize** is a prestigious global award for contributions to **water research and policy**.
- The announcement was made at **UNESCO Headquarters, Paris**, ahead of **World Water Day**.
- The award will be presented during **World Water Week, Stockholm**.

Scientific Contributions and Concepts

- Madani introduced the concept of “**water bankruptcy**”, indicating systemic depletion of water resources.
- His work uses **game theory and decision science** for water governance and conflict resolution.
- He highlighted global transition into an era of **unsustainable water extraction and crisis**.

Institutional Role and Policy Interface

- He leads **UNU-INWEH (UN University Institute for Water, Environment and Health)**.
- The institute functions as a **global think tank on water, environment, and health issues**.
- His work bridges **science, policy, and public outreach in environmental governance**.

KALINJAR FORT

 Hindustan Times

[GSI declares Kalinjar fort hill as National Geo-Heritage site | Hindustan Times](#)

The hill area around the historic Kalinjar Fort in Banda district has been declared a National Geo-Heritage Site by the Geological Survey of...



Why in News

- The region around **Kalinjar Fort** declared a **National Geo-Heritage Site by GSI**.

Historical Evolution and Political Importance

- The fort dates back over **1500 years**, with origins in the **Gupta period**.
- It became a capital under the **Chandela dynasty (9th–13th century)**.
- It was contested by rulers like **Mahmud Ghaznavi, Humayun, and Akbar**.
- It was finally captured by **Akbar in 1569 and later transferred to Birbal**.

Geographical and Strategic Location

- Located in **Banda district, Uttar Pradesh**, on a hill in **Vindhya range**.
- It overlooks the **Ken River**, giving it strong defensive advantage.



Architectural and Cultural Features

- The fort houses **temples, mosques, palaces, and stepwells**.
- The **Neelkanth Temple** features a **blue stone Shiva lingam and 18-arm sculpture**.

Geo-Heritage Significance

- Recognition by **Geological Survey of India (GSI)** highlights geological importance.
- Promotes **geo-tourism and conservation of geological heritage**.

OTHER IMPORTANT NEWS OF THE DAY

Art and Architecture

PRAMBANAN TEMPLE

 ThePrint

India, Indonesia come together to preserve shared heritage with restoration of 9th-century temple

Prambanan Temple complex in southern Java is part of wider cultural landscape with Sewu and Plaosan, said Indonesian culture minister.



Why in News

- India and Indonesia have partnered to restore the **Prambanan Temple complex in Yogyakarta, Indonesia**.

Historical and Cultural Significance

- The temple was built in the **9th century CE** by the **Sanjaya dynasty of Central Java**.
- It is the largest Hindu temple complex in **Indonesia**, reflecting early Indian cultural influence in Southeast Asia.
- The complex is dedicated to the **Hindu Trimurti—Shiva, Vishnu, and Brahma**.
- It is locally known as **Roro Jonggrang (Temple of the Slender Virgin)**.
- It was rediscovered and restored during the **19th century colonial period**.



Architectural and Artistic Features

- The complex consists of **240 temples**, showcasing advanced temple planning and symmetry.
- The central compound contains **eight main and eight minor temples** on a raised platform.
- The **Shiva Temple**, at **47 metres**, is the tallest and centrally located structure.
- The architecture reflects a blend of **Javanese traditions and South Indian Pallava style**.
- Intricate carvings depict narratives from the **Ramayana and other Hindu epics**.

International Recognition and Cultural Diplomacy

- It was designated a **UNESCO World Heritage Site in 1991**, highlighting global heritage value.
- The restoration collaboration reflects **India’s cultural diplomacy under Act East Policy**.
- It strengthens **India-Indonesia civilizational ties rooted in shared heritage**.

Defence

EXERCISE SEA DRAGON 2026

TH The Hindu

Indian Navy joins U.S.-led drill 'Sea Dragon' in Guam

India is participating in the United States Navy-led multinational anti-submarine warfare (ASW) exercise 'Sea Dragon 2026' being held near...



Why in News

- The **Indian Navy** is participating in **Exercise Sea Dragon 2026**, a US-led multinational drill.

Strategic and Security Dimensions

- It is a **United States Navy-led** annual **Anti-Submarine Warfare (ASW)** exercise.
- It is conducted in the **Indo-Pacific region**, particularly at **Andersen Air Force Base, Guam**.
- The exercise enhances **maritime domain awareness and undersea warfare capabilities**.
- It aligns with India’s **Indo-Pacific strategy and SAGAR vision**.

Operational and Technological Features

- Participating nations deploy **long-range maritime patrol aircraft like P-8 Poseidon**.
- It standardizes **data links, communication protocols, and tactical procedures**.
- The exercise progresses from **simulated targets to live submarine tracking**.
- Performance is evaluated based on **speed, coordination, and detection accuracy**.

Participating Countries and Cooperation

- Participants include **USA, India, Australia, Japan, and New Zealand**.
- It strengthens **multilateral defence cooperation among Quad-like partners**.
- The **Dragon Belt award** is given to the highest scoring nation.

Geopolitical Relevance

- It acts as a counterbalance to **China's increasing submarine presence in Indo-Pacific**.
- It promotes **rules-based maritime order and collective security architecture**.

UTTAR PRADESH IN NEWS

UP and HGS sign MoU for project GANGA

The State Transformation Commission of the Government of Uttar Pradesh has signed a Memorandum of Understanding with OneOTTEntertainment...



PROJECT GANGA: UP GOVERNMENT–HINDUJA GROUP MOU

Why in News

- The **UP Government** launched **Project GANGA** to provide **high-speed broadband to 20 lakh rural households**.

Institutional Framework and Partnerships

- An **MoU** was signed between **State Transformation Commission (STC)** and **One OTT Entertainment Ltd (Hinduja Group)**.

- The project is aligned with India's broader **Digital India Mission** objectives.
- It focuses on strengthening **digital infrastructure in rural and semi-urban areas**.

Implementation Model and Coverage

- Around **8,000–10,000 Digital Service Providers (DSPs)** will be created at **Nyaya Panchayat level**.
- DSPs will deliver **broadband, digital services, and last-mile connectivity** in villages.
- Target coverage is **20 lakh households within 2–3 years**.
- Special focus on **remote districts like Shravasti, Bahraich, and Balrampur**.

Socio-Economic and Governance Impact

- Expected to generate over **1 lakh direct and indirect employment opportunities**.
- Around **50% DSP participation reserved for women**, promoting **women-led entrepreneurship**.
- Enables growth of **telemedicine, online education, e-commerce, and digital services**.
- Helps bridge the **digital divide** and improve **inclusive governance delivery**.

Support Mechanisms

- DSPs will receive **training, financial assistance, and infrastructure support**.
- Linked with state scheme offering **interest-free, collateral-free loans up to ₹5 lakh**.
- Strengthens concept of **“digital highways” complementing physical infrastructure**.
- Enhances rural access to **public services, digital economy, and skill development**.