

Monthly Defence Current Affairs

November 2025

India, US Sign 10-year Framework Pact For Defence

- India and the US signed a framework agreement for a major defence partnership that gives a roadmap for cooperation over the next 10 years, which includes jointly pursuing capacity building for like-minded partners in Asia, Africa and island countries in the Indian Ocean Region.
- The framework will enable the two countries to collaborate on global challenges like space and missile defence, preventing proliferation of weapons of mass destruction and will prioritise export licence approvals for weapons.
- Importantly, the framework will also support India's development as a logistics, maintenance, repair and overhaul hub.
- The partnership, he said, is critical for ensuring a free, open and rules-based Indo-Pacific region – a reference to efforts aimed at countering China's assertive behaviour in the region.
- Hegseth, Secretary of War, said the 10-year framework advances the India-US defence partnership, a “cornerstone for regional stability and deterrence”.
- “We are enhancing our coordination, info sharing and tech cooperation. Our defence ties have never been stronger,” he said in a post on X.



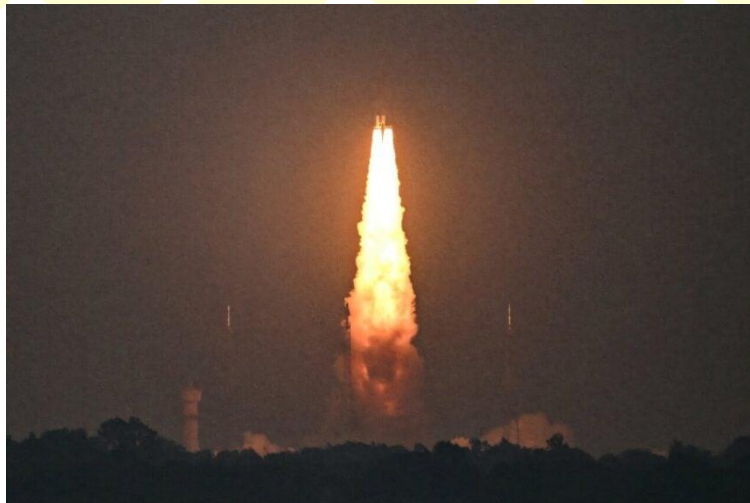
DRDO Tests Swayam Raksha Kavach Suite

- India's DRDO has commenced advanced flight trials of its new airborne electronic warfare suite, **Swayam Raksha Kavach** (SRK), designed for integration with the HAL TEJAS MK-1A light combat aircraft.
- The SRK suite, an evolution of DRDO's earlier D-29 system, represents a major step in enhancing the self-protection capabilities of the IAF forthcoming TEJAS MK-1A fleet. Its deployment is planned from the end of 2026, following successful testing and certification.
- The new suite incorporates an integrated radar warning receiver (RWR) built into the airframe and an external jammer pod mounted on a hard-point. This configuration allows the aircraft to detect and counter hostile radar threats more rapidly and effectively, combining enhanced situational awareness with active jamming functions.
- DRDO anticipates completing the SRK's flight evaluations by mid-2026, aligning with the production ramp-up of the TEJAS MK-1A. The system's design leverages lessons from the D-29 suite that equips the IAF's MiG-29 fleet but delivers improved processing speed, signal discrimination, and threat classification accuracy.



CMS-03 Satellite Will Provide Robust Telecom Coverage

- The communication satellite CMS-03, will provide robust telecommunication coverage across the Indian Ocean Region, and strengthen Navy's space-based communications and maritime domain awareness capabilities.
- The satellite, weighing 4,410 kg, will significantly enhance connectivity with high-capacity bandwidth, enabling seamless and secure communication links between ships, aircraft, submarines, and Maritime Operations Centres of the Indian Navy.
- The indigenously designed and developed satellite was launched by the Indian Space Research Organisation (ISRO) from the Satish Dhawan Space Centre in Sriharikota, Andhra Pradesh.
- CMS-03 is a multi-band communication satellite and would provide services over a wide oceanic region including the Indian landmass. Its payload includes transponders capable of supporting voice, data, and video links over multiple communication bands, he said.
- This satellite is the India's heaviest communication satellite till date, and includes many indigenous state-of-the-art components developed specifically to meet the Indian Navy's operational requirements, officials said.



Russia Launches New Nuclear Submarine Carrier Of Doomsday Drone

- Russia has launched its latest nuclear submarine to be armed with a 'Poseidon' nuclear drone, also known as 'doomsday missile' capable of "wiping out" coastal nations.

- The nuclear submarine 'Khabarovsk' was launched by Russian Defence Minister Andrei Belousov at a solemn ceremony in the presence of Russian Naval Chief Admiral Alexander Moiseyev and other top shipbuilding officials in Severodvinsk at Sevmash shipyards.
- "Today marks a significant event for us - the heavy nuclear-powered missile cruiser Khabarovsk is being launched from the stern of the renowned Sevmash," Belousov said.
- The Khabarovsk nuclear submarine was designed by Rubin, the Central Design Bureau of Marine Engineering, and is intended to address Navy missions using modern underwater weapons, including robotic systems for various purposes, the Russian Defence Ministry said on its website.
- This nuclear submarine would be the carrier of underwater weapons and robotic systems to successfully address the challenges of ensuring the security of Russia's maritime borders and protecting its national interests in various parts of the world's oceans, it underscored.



Trishul 2025

- The tri-Service military exercise 'Trishul' commenced on 30 October 2025 along India's western frontier with Pakistan, signalling a strategic shift from purely defensive posturing to a more integrated offensive capability.
- The large-scale manoeuvres, bring together the Indian Army, Navy, and Air Force in a unified display of operational synergy.

- Conducted across Gujarat and Rajasthan, the drills aim to sharpen jointness in planning, coordination, and execution. The focus lies on real-time interoperability, networked warfare, and synchronised responses under a single theatre command structure.
- The Navy is leading the opening phase of the exercise, emphasising maritime dominance in littoral and coastal operations. Naval task groups are demonstrating amphibious landings and maritime strike capabilities—an increasingly vital component in ensuring security along the western seaboard and Arabian Sea approaches.
- In the second phase, the Indian Army assumes operational control, deploying armoured and mechanised units supported by integrated artillery and air defence systems. The emphasis is on deep manoeuvre warfare, rapid mobilisation, and sustained offensive operations in desert terrain.

EXERCISE TRISHUL



Indigenous Warship Or Submarine Every 40 Days

- The Indian Navy is adding an indigenous warship or submarine to its fleet approximately every 40 days, according to Chief of Naval Staff Admiral Dinesh K Tripathi. This rapid induction pace highlights India's strong commitment to building sovereign maritime capabilities and advancing the goal of "Atmanirbharta" (self-reliance) in defence.
- Currently operating around 145 ships and submarines, the Navy aims to expand to over 200 warships and submarines by 2035.
- All 52 ships presently on order are being constructed in Indian shipyards, underscoring the push towards full domestic manufacturing. Alongside platform

production, the Navy plans to increase indigenous content to the component level to achieve a wholly self-reliant force by 2047.

- India's defence production has more than tripled in the last decade, crossing ₹1.5 lakh crore recently, signalling growing domestic industrial strength that supports naval expansion efforts. The emphasis is moving from 'Make in India' to 'Trust in India' within the defence sector.



India's First 3D-Printed Mobile Drone

- Chennai-based Zuppa and Navi Mumbai-based Divide By Zero (DBZ) have joined forces to unveil India's first 3D-printed Mobile Drone Fabrication Units, marking a major technological milestone under the Aatmanirbhar Bharat vision for indigenous defence innovation.
- The initiative reflects India's growing capability to combine autonomous systems, additive manufacturing, and AI in a deployable battlefield infrastructure concept.
- Using DBZ's industrial-grade additive manufacturing technology, the units can 3D-print airframes and key components, which are then assembled into mission-ready drones through Zuppa's autonomous drone platforms and AI-integrated control systems.
- This innovation aligns India with global trends in distributed, flexible manufacturing for defence applications. The model mirrors recent initiatives by Firestorm Labs in the United States, where deployable production pods have redefined battlefield logistics and drone replenishment strategies.



PM Modi Unveils ₹1 Lakh Crore RDI Mega Fund

- Prime Minister Narendra Modi inaugurated the landmark ₹1 lakh crore Research, Development and Innovation (RDI) Scheme Fund at the Emerging Science, Technology and Innovation Conclave (ESTIC) 2025 in New Delhi.
- The announcement marks one of the most ambitious national investments in scientific research and future technologies ever undertaken by India.
- The RDI Fund aims to transform India into a global powerhouse in sectors such as artificial intelligence, quantum computing, biotechnology, advanced semiconductors, space systems, defence technologies and sustainable energy solutions.
- The three-day ESTIC 2025 conclave has brought together over 3,000 global participants, including Nobel laureates, chief scientists, start-up founders, R&D heads and policy thinkers. The discussions centre on India's innovation roadmap up to 2047, aligning scientific ambition with economic and societal goals.
- The fund will operate through a cluster-based model, supporting both public research institutions and private deeptech enterprises. It will also facilitate joint projects between universities, laboratories, space agencies and defence technology centres.



EME Establishes Drone Hubs In Southern Command

- The Indian Army's Corps of Electronics and Mechanical Engineers (EME) has launched new Drone Hubs within the Southern Command. These hubs are dedicated to the in-house design, development, and mass production of combat-ready drones. The initiative is a major step toward self-reliance in defence technology, aligning with the national vision of Atmanirbhar Bharat.
- Guided by the mantra "Eagle on Every Arm," the Southern Command aims to equip every soldier with the capability to operate drones for surveillance,

precision strike, and electronic warfare. This doctrine envisions drones as an essential extension of every soldier's operational toolkit, transforming battlefield dynamics.

- The Drone Hubs leverage the technical expertise of the Corps of EME, which is responsible for the maintenance and technical support of all Army equipment. The hubs also collaborate closely with India's Micro, Small, and Medium Enterprises (MSMEs), fostering rapid prototyping, indigenous component integration, and accelerated deployment of new systems.



IISc Builds India's First Photonic Quantum Computer

- The Indian Institute of Science (IISc) has achieved a significant milestone by developing a six-qubit photonic quantum system, the first of its kind in India and a world first for generating a six-qubit entangled GHZ (Greenberger–Horne–Zeilinger) state using gate operations without any probabilistic processes.
- This system uses photons—packets of light—as qubits, leveraging their polarisation and spatial path properties to encode multiple qubits per photon. Specifically, a single photon encodes three qubits: one from polarisation and two from spatial path encoding, and by entangling two such photons, the team realised a six-qubit system.
- This photonic quantum computing approach operates at room temperature and offers robustness against environmental noise, making it highly practical. The IISc team demonstrated universal quantum gates using a quantum walk mechanism with linear optical components like beam splitters and waveplates to perform deterministic multi-qubit gate operations.



INS 'Ikshak' Commissioned

- INS Ikshak, the third of the Survey Vessel Large (SVL), was commissioned into the Indian Navy in a ceremonial event at Naval Base, Kochi, on Thursday. This occasion marked the formal induction of INS Ikshak, reflecting the Indian Navy's steadfast commitment to enhancing its hydrographic and maritime capabilities.
- The ship is a shining example of indigenisation... It has 80% indigenous content by cost and 100% indigenous steel from SAIL. The crew is ready to sail into the future and produce quality charts and products to keep the maritime community in the Indian Ocean region.
- Equipped with state-of-the-art hydrographic and oceanographic systems, as well as helicopter support, the ship offers unmatched operational versatility with a dual-role capability--serving both as a survey vessel and a platform for HADR operations or as a hospital ship when required.



Mangalyaan-2 Mission Targets 2030

- Twelve years after India's pioneering entry into Martian orbit, the Indian Space Research Organisation (ISRO) has charted its next ambitious course with Mangalyaan-2, a mission aimed at achieving India's first soft landing on Mars.
- The official confirmation came from ISRO Chairman Dr V. Narayanan, who announced that the launch is planned for 2030.
- This mission represents a major evolution from India's first Mars Orbiter Mission (MOM), highlighting the country's steady rise in the global space exploration landscape. With Mangalyaan-2, India seeks to join an elite club of nations that have successfully landed on the Red Planet.
- The original Mangalyaan, launched on 5 November 2013, made India the first Asian nation to reach Mars and the first in the world to do so on its maiden attempt. Operated for more than seven years, the spacecraft yielded valuable data on atmospheric dynamics, surface composition, and methane presence before communication ceased in 2022.
- Mangalyaan-2's success will solidify India's standing as a major spacefaring nation with capabilities extending beyond lunar and orbital missions. It will reinforce the technological foundation for future interplanetary expeditions, including potential sample-return or human precursor missions in the 2030s.



Exercise Brahmashira

- As part of the Tri-Services Exercise Trishul, the Indian Army has conducted Exercise Brahmashira in the Rann and Creek Sector, bringing together the three

services, Indian Coast Guard and BSF in seamless coordination with civil administration to validate integrated capabilities across land, sea and air.

- Embodying the Indian Army's Decade of Transformation, the exercise integrates Joint Task Forces, a state-of-the-art Joint Control Centre, and robust operational infrastructure to sustain multi-domain operations.
- It also validates new structures, advanced technologies and adaptive warfighting capabilities. Exercise Brahmashira highlights India's commitment to Military-Civil Fusion and a Whole-of-Nation approach, showcasing the Armed Forces' ability to deliver rapid, coordinated, decisive responses across domains.
- Meanwhile, the Indian Army's Southern Command is participating in a series of tri-service exercises under the overarching framework of **Exercise TRISHUL** to validate full-spectrum land-sea-air integration, embodying the mantra of JAI - Jointness, Atmanirbharta and Innovation in action.
- In the Thar Desert, Southern Command formations are undertaking intense integrated manoeuvres through **Exercises MaruJwala and Akhand Prahaar** to validate combined arms operations, mobility, and joint fire integration under realistic conditions.



Malabar Exercise 2025

- The navies of India, the US, Australia and Japan will kick-start the annual Malabar naval exercise in the Northern Pacific beginning Monday with an aim to further bolster interoperability among them.

- The Indian Navy has deployed its guided missile frigate INS Sahyadri for the mega exercise being hosted by the US.
- The exercise is taking place in Northern Pacific's Guam amid some strain in ties between India and the US over Washington's policies on trade and tariff.
- "Following the harbour phase, all participating units will proceed for the sea phase, wherein ships and aircraft will take part in naval drills, focusing on joint fleet operations, anti-submarine warfare, gunnery serials and flying operations," the Indian Navy said in a statement.



India Set To Leases Russia's 'Stealth' Nuclear Submarines

- India is leasing Russian Akula-class nuclear-powered attack submarines (SSNs) as a strategic "stopgap" to fill a critical capability gap in its underwater combat fleet, crucial for deterring threats from China and Pakistan.
- The leasing program, which dates back to the Cold War, allows India to gain operational experience and train crews while its indigenous nuclear submarine program, including the Arihant-class SSBNs, develops slowly due to lack of expertise and delays.
- The most recent leased submarine, INS Chakra-III (K-519 Irbis), is an upgraded Akula-class vessel that was originally to be delivered by 2025 under a \$3 billion deal signed in 2019. However, its delivery has been delayed until at least 2028, primarily due to technical issues, disruptions caused by the Russia-Ukraine war, and Western sanctions affecting Russia's ship refurbishment processes.

- The K-519 Irbis, originally laid down at the Amur Shipyard in 1994, was mothballed following Russia's financial collapse in the mid-1990s. Approximately 40 per cent complete, it now represents a viable candidate for transfer to India following significant modernisation.



India to Procure 80 Medium Transport Aircraft

- The Ministry of Defence (MoD) is preparing to initiate the long-awaited procurement of up to 80 medium transport aircraft (MTA) for the IAF. This multi-billion-dollar contract, one of the largest global tenders in the transport aircraft segment, aims to significantly enhance India's strategic and tactical airlift capabilities over the next decade.
- The new fleet will replace the ageing Soviet-origin An-32s, which have served the IAF reliably for over four decades but are nearing the end of their operational lives.
- Three leading global aircraft manufacturers are set to compete aggressively for the order: Lockheed Martin's C-130J Super Hercules (USA), Embraer's KC-390 Millennium (Brazil), and Airbus Defence & Space's A400M Atlas (Europe). Each contender brings distinctive advantages in payload, endurance, and mission flexibility, catering to different strategic requirements.
- The C-130J, already in IAF service with 12 units, offers proven performance, battlefield versatility, and established logistics support within the existing ecosystem.
- Industry officials suggest that the MTA tender could be valued between 6 to 8 billion US dollars, depending on configuration, technology transfer, and localisation levels. The final evaluation will emphasise lifecycle costs,

operational performance, and industrial participation, in line with the government's Make in India and Atmanirbhar Bharat initiatives.



Ex Mitra Shakti

- India and Sri Lanka kick-started a two-week military exercise in Karnataka's Belagavi as part of efforts to enhance interoperability. The scope of the **11th edition of 'Mitra Shakti' exercise** includes synergising joint responses during counter-terrorist operations, the Indian Army said.
- The Indian contingent of 170 personnel is being represented mainly by troops from the Rajput Regiment, while the Sri Lankan side is being represented by 135 personnel from the Gajaba Regiment, it said.
- Twenty personnel from the Indian Air Force and 10 from Sri Lankan Air Force are also participating in the exercise.
- "Both sides will practice tactical actions such as raid, search and destroy missions, heliborne operations, etc," the Army said. Exercise Mitra Shakti will also involve employment of drones and counter unmanned aerial systems besides helicopters, it said.



2026-27 As Year of Networking And Data Centricity

- The Indian Army is working on designating 2026-27 as the "year of networking and data centricity", force chief General Upendra Dwivedi said on Tuesday, and flagged that this is one field in which "we are not prepared" and therefore, "need to act faster".
- In his address at a seminar here, Gen Dwivedi also said that Operation Sindoor has given some lessons and "we came out as a winner", but the Army must always look at what the lessons which have been drawn are.
- The Army has declared 2024-25 as the 'year of technology absorption', he said.
- "As far as electronic warfare is concerned, it is a protection layer. It is a armoured protection layer, if I can say that. So, you have reactive armour and other things as far as electronic warfare is concerned. This is also a protection layer, and it will have to be inherent in the platform which is being produced here after," he said.



‘Durga Drone Squadron’

- The Border Security Force (BSF) has commissioned its first-ever all-women “Durga Drone Squadron” at the School of Drone Warfare (SDW), situated within the BSF Academy in Gwalior, Madhya Pradesh.
- This historic formation marks a major milestone in integrating gender inclusivity with advanced technological warfare within India’s premier border-guarding organisation.

- Named after the goddess Durga, symbolising strength and protection, the all-female squadron represents a strategic leap in empowering women officers with frontline operational roles involving autonomous systems and drone-based surveillance.
- The Durga Drone Squadron is trained at the SDW, a state-of-the-art facility specialising in Unmanned Aerial Systems (UAS) operations, counter-drone tactics, and artificial intelligence-driven reconnaissance missions.

भास्कर खास पंजाब की पाक सीमा पर थी तैनात, अन्य राज्यों के लिए भी तैयार होंगी महिला ड्रोन स्क्वाड्रन

ग्वालियर में तैयार होगी BSF की पहली 'दुर्गा ड्रोन स्क्वाड्रन', इन महिला अफसरों ने ऑपरेशन सिंदूर में पाक के ड्रोन हमलों को किया था नाकाम

सिटी रिपोर्टर | ग्वालियर

सीमा पर पाकिस्तान के खिलाफ ऑपरेशन सिंदूर में भागीदारी करने वाली बीएसएफ की महिला अफसरों को ग्वालियर की टेकनपुर अकादमी में 6 सप्ताह का ड्रोन कमांडो प्रशिक्षण दिया जा रहा है। ऑपरेशन सिंदूर में दिखाई बहादुरी के चलते इन महिला अफसरों का चयन किया गया है। इस प्रशिक्षित स्क्वाड्रन को दुर्गा ड्रोन स्क्वाड्रन का नाम दिया गया है। प्रशिक्षण के लिए चयनित इन महिला अफसरों ने ऑपरेशन सिंदूर के दौरान पंजाब की पाक सीमा पर पाकिस्तान के ड्रोन हमलों का मुकाबला किया था। इस पहली प्लाटून के बाद देश के अन्य राज्यों की सीमा से भी महिला अफसरों को टेकनपुर अकादमी में प्रशिक्षण दिया जाएगा।

रियल-टाइम इंटेलिजेंस, डेटा विश्लेषण भी सीखेंगी

महिला प्रहरीयों को ड्रोन उड़ाने, निर्वजित करने और निगरानी मिशनों के लिए डेटा एकत्रित करने की विशेष ट्रेनिंग दी जाएगी। प्रशिक्षणों को सीमा पर से आने वाले ड्रोन खतरों से निपटने के उपाय, इलेक्ट्रॉनिक डिटेक्शन और रेस्पॉन्स सिस्टम की ट्रेनिंग। ड्रोन के माध्यम से खोज एवं आपदा में बचाव कार्यों की जानकारी मिलेगी। प्रशिक्षण से महिला स्क्वाड्रन रियल-टाइम इंटेलिजेंस, डेटा विश्लेषण और निर्णय क्षमता में दक्ष होगी, जिससे सीमा की सुरक्षा व्यवस्था और सुदृढ़ बनेगी।

ऑपरेशन सिंदूर की नायिकाएं टेकनपुर में प्रशिक्षण लेते हुए।

ग्वालियर में प्रशिक्षित हुई थीं बीएसएफ की पहली महिला कॉर्बेट अफसर तनुश्री

ग्वालियर की टेकनपुर अकादमी में ही बीएसएफ की पहली महिला कॉर्बेट अफसर तनुश्री पारीक को भी प्रशिक्षित कर पंजाब सीमा की एक यूनिट पर तैनात किया गया था। तनुश्री बीएसएफ की पहली महिला कॉर्बेट अफसर हैं। बीएसएफ की टेकनपुर अकादमी के महानिदेशक दलजीत सिंह चौधरी ने बताया अकादमी स्थित स्कूल ऑफ ड्रोन यारफायर (एसडीडब्ल्यू) में बल के पहले दुर्गा ड्रोन स्क्वाड्रन को प्रशिक्षण दिया जा रहा है।

धैर्य, शुद्धता व दृढ़ता पहचान ड्रोन स्क्वाड्रन तैयार कर रहे

अकादमी के महानिदेशक दलजीत सिंह ने कहा- वर्तमान में युद्ध बल से नहीं तकनीक से लड़ा जा रहा है। महिलाओं की तीन विशेषताएं- धैर्य, शुद्धता व दृढ़ता को पहचान कर ड्रोन संचालित ऑपरेशन में उनकी विशेष भूमिका के लिए स्क्वाड्रन को तैयार किया जा रहा है। प्रशिक्षण कार्यक्रम अकादमी के निदेशक डॉ. शमशेर सिंह नेतृत्व में संचालित किया जाएगा। इसमें महिला अफसरों को आधुनिक तकनीक से लेस कर सीमा प्रबंधन और सुरक्षा में उनकी भागीदारी और सशक्त होगी।

IAF's New Nyoma Airbase Operational

- India's newest airbase at Nyoma in Ladakh has been inaugurated, with Air Chief Marshal AP Singh landing a C-130J transport aircraft at the facility.
- Located just 35 km from the China border, air force station Mudh-Nyoma is capable of fighter jet operations and is probably the highest such airfield of its kind, located at 13,700 feet.
- The project to transform Nyoma from an air strip that was used earlier by military transport aircraft to a full-fledged airbase that can handle high tempo fighter jet operations was completed in just over two years, with the Border Roads Organisation tasked with the job.
- The foundation stone for the base was laid by defence minister Rajnath Singh in September 2023. The decision to transform Nyoma into a frontline fighter base- the closest India currently has with China- was taken after the troop building by PLA forces in eastern Ladakh in 2020, which were followed by deadly clashes.

- "Developed at a cost of approximately ₹200 crore, the base will boost the air infrastructure in Ladakh and augment IAF's capability along the northern border," an official said. Earlier, the defence minister had said the airfield will prove to be a "game-changer" for the armed forces.



IAF 'Maha Gajraj' Exercise

- The Indian Air Force recently executed a significant military drill named 'Maha Gajraj' in Barmer, Rajasthan, demonstrating its tactical adaptability and strategic preparedness.
- During this exercise, a fighter jet successfully performed an emergency landing on the Bharatmala Highway, a vital development that underscores India's evolving defence capabilities.
- The exercise was conducted under the South Western Air Command, where the primary objective was to test the operational readiness of the IAF to utilise highway infrastructure for rapid emergency response.
- The operation demonstrated the IAF's capacity to adapt civil infrastructure for strategic military use, a crucial capability for modern warfare scenarios where traditional airbases may be compromised or inaccessible.



MoD inks Rs 2,095 Crore Contract with BDL

- The defence ministry on Thursday inked a Rs 2,095 crore deal with the state-run Bharat Dynamics Ltd to procure anti-tank missiles for the Indian Army.
- The missiles are being procured to enhance the combat capabilities of the Army. The defence ministry inked a contract with Bharat Dynamics Limited for the procurement of INVAR Anti-tank Missiles at a total cost of Rs 2,095.70 crore under the 'Buy (Indian)' category, an official readout said.
- "The procurement of the INVAR anti-tank missiles enhances the firepower and lethality of Tank T-90, the mainstay of armoured regiments of the Indian Army," it said.
- "The weapon system is a sophisticated laser-guided anti-tank missile with very high hit probability. It is set to transform the conduct of Mechanised operations and offer operational advantage against the adversary," the ministry said in the readout.



L&T Set To Manufacture ABHYAS

- In A Transfer of Technology (ToT) initiative, Larsen & Toubro (L&T), one of India's leading defence and engineering firms, is set to commence production of the High-speed Expendable Aerial Target (HEAT) system named ABHYAS.
- The aerial target has been conceptualised, designed, and developed by the Aeronautical Development Establishment (ADE) under the Defence Research and Development Organisation (DRDO) to support the Indian Armed Forces in realistic aerial threat simulation and weapon training exercises.
- ABHYAS has undergone a comprehensive series of ten successful flight trials at various test ranges, validating its design and performance parameters. All key objectives were achieved, with recent trials demonstrating exceptional system reliability, repeatability, and ease of deployment.
- These trials have confirmed that ABHYAS meets or exceeds global standards in expendable aerial target performance.



INDEC Complex

- The inauguration of the Integrated Non-Destructive Evaluation Complex (INDEC) at the High Energy Materials Research Laboratory (HEMRL) on 27 September 2025 marked a major advancement in India's capability to inspect and certify high energy materials and explosive systems.
- The event was presided over by Dr Samir V Kamat, Secretary DDR&D & Chairman DRDO, who underscored the critical role of Non-Destructive Evaluation (NDE) in ensuring the safety, reliability, and quality assurance of defence and aerospace systems developed by DRDO.
- The complex will feature three integrated radiation bays, including India's first triple energy industrial LINAC with 7/11/15 MeV energies, a dual energy LINAC of 2/6 MeV, and a 450 kV X-Ray system with multiple motor radiography capabilities.
- This unique combination will allow HEMRL to conduct digital x-ray and volumetric CT inspections across the full spectrum of x-ray energies, from nano focus x-ray to 15 MeV LINAC x-ray, making it the only centre in the country with such comprehensive capabilities.



Idea Forge Tech Bags Rs 100-cr Supply Order From Indian Army

- City-based drone maker idea Forge Technology Ltd on Friday said it has secured a supply order worth about Rs 100 crore from the Indian Army for its next-generation tactical unmanned vehicle Zolt and all-terrain VTOL drone, SWITCH 2.
- The capital emergency procurement order for its Zolt is valued around Rs 75 crore, following an extensive and rigorous evaluation process -- extensive field trials in electronic warfare (EW) environments and stringent country of origin checks, while the SWITCH2 order is valued at Rs 30 crore, ideaForge said.
- The company had launched the two UAVs at the Aero India show in Bengaluru earlier this year.
- Zolt is a multi-role platform capable of long-range ISR (intelligence, surveillance and reconnaissance) and precision payload delivery, and is purpose-built for present-day defence operations, combining performance, autonomy, and resilience for ISR while SWITCH 2 is already battle tested and inducted into the Army's arsenal for ISR operations, idea Forge said.



High-altitude Mono Rail System In Arunachal Pradesh

- The Indian Army's Gajraj Corps has operationalised an indigenous mono rail system at 16,000 feet in the Kameng Himalayas of Arunachal Pradesh, marking a major breakthrough in high-altitude logistics.
- The system has been successfully conceptualised, engineered, and deployed to address one of the toughest operational challenges faced by troops in the region, ensuring uninterrupted supply to forward posts routinely cut off by snow, extreme terrain, and unpredictable weather.
- The mono rail system can transport over 300 kg of load in a single run, providing a reliable lifeline to remote posts that lack any other mode of communication or supply.



DRDO Develops New Generation Man-portable Underwater Vehicles

- A new generation of man-portable autonomous underwater vehicles (MP-AUVs) have been successfully developed by the DRDO.
- The system comprises multiple autonomous underwater vehicles (AUVs) equipped with side scan sonar and underwater cameras as primary payloads for real-time detection of mine-like objects.
- The onboard deep learning based target recognition algorithms enable autonomous classification, significantly reducing operator workload and mission time, the ministry said.
- The MP-AUVs have been developed by the DRDO's Naval Science and Technological Laboratory (NSTL) in Visakhapatnam.



Ajeya Warrior: Counter-Terror Exercise

- The **8th edition** of the biennial joint bilateral Exercise Ajeya Warrior between the Indian Army and the British Army conducted from November 17 to 30 at the Mahajan Field Firing Ranges, Rajasthan, an official said on Sunday.
- "The exercise aims to strengthen operational synergy in joint Counter-Terrorism operations in a semi-urban environment under Chapter VII of the #UN mandate," said the Additional Directorate General of Public Information, IHQ of Ministry of Defence (Army) in a statement.
- The 14-day joint exercise reflects the shared commitment of India and the United Kingdom towards global peace and security, while further deepening defence cooperation, camaraderie and mutual trust between both armies, said the MoD
- Earlier, the MoD shared information on Saturday about "**Exercise Poorvi Prachand Prahar**" the Eastern Command of the Indian Army.
- The exercise aimed for validation of new capabilities with IAF, Indian Navy, ITBP and a host of agencies - executed as one force, it said.



India Hosted Colombo Security Conclave

- India hosted the NSA-led Colombo Security Conclave (CSC) and Thursday here for the first time, eyeing to strengthen its role as a net security provider in the Indian Ocean Region.
- The CSC comprises India, Sri Lanka, Maldives, Mauritius and Bangladesh. Interestingly, Bangladesh NSA Khalilur Rahman will participate in the CSC meet here despite lukewarm ties.
- The Colombo Security Conclave was established in 2020, when India, Sri Lanka and the Maldives agreed to expand the scope of their trilateral meeting on maritime cooperation. Mauritius joined the conclave at the fifth meeting of the grouping in Male in March 2022.
- **Background and Formation**
- The CSC traces its origin to the **Trilateral Maritime Security Cooperation** established in 2011 between India, Sri Lanka, and the Maldives. This cooperation focused on improving maritime surveillance, sharing information, and addressing non-traditional security threats.
- In 2020–21, the framework was expanded and formally named the **Colombo Security Conclave** to address a wider range of security issues. Mauritius later joined as a **new member**, while Bangladesh and Seychelles participate as **observers**.
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- **Members and Observers**
- **Member Countries**
- **India**
- **Sri Lanka**
- **Maldives**
- **Mauritius**
- **Observer States**
- **Bangladesh**
- **Seychelles**
- The expansion reflects the growing importance of the Indian Ocean Region and the shared responsibility of regional nations to safeguard maritime interests.

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- **Objectives of the Colombo Security Conclave**
 - CSC aims to strengthen regional collaboration across multiple security domains. Its objectives include:
 - **1. Enhancing Maritime Safety and Security**
 - Coordinating naval surveillance
 - Combating maritime crimes such as piracy and illegal fishing
 - Ensuring safe and secure Sea Lines of Communication (SLOCs)
 - **2. Counterterrorism and Radicalisation Prevention**
 - Sharing intelligence on terror networks
 - Strengthening cooperation on counter-radicalisation programs
 - **3. Cyber Security and Data Protection**
 - Developing joint cyber response mechanisms
 - Training and capacity-building for cyber defence
 - **4. Combating Narcotics and Organized Crime**

- Increasing cooperation in tracking narcotics routes
- Joint operations to dismantle trafficking networks
- **5. Humanitarian Assistance and Disaster Relief (HADR)**
- Improving preparedness for natural disasters
- Coordinated response during emergencies in the Indian Ocean Region
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- **Structure and Working Mechanism**
- The CSC works through **National Security Advisors (NSA)-level meetings, working groups, and joint exercises**. The three main working groups are:
- **Maritime Security Working Group** – Led by *Sri Lanka*
- **Counterterrorism Working Group** – Led by *India*
- **Cyber Security Working Group** – Led by *Maldives*
- Each group conducts regular consultations, tabletop exercises, and practical training programs.
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- **Key CSC Exercises and Initiatives**
- **1. CSC Focused Operation**
- Joint patrolling by member countries to curb illegal maritime activities, ensure ocean safety, and enhance coordination.
- **2. Cyber Drill Series**
- Regular cybersecurity exercises designed to assess readiness against cyberattacks and promote information sharing.
- **3. Joint Maritime Exercises**
- Integrated naval drills help improve interoperability and demonstrate commitment to collective maritime security.
- **4. Information Fusion and Maritime Domain Awareness (MDA) Cooperation**

- The CSC partners with India's IFC-IOR (Information Fusion Centre–Indian Ocean Region) for real-time information exchange on maritime threats.

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- **Importance of the Colombo Security Conclave**

- The CSC plays a strategic role in strengthening India's neighbourhood-first and SAGAR (Security and Growth for All in the Region) vision. Key significance includes:
 - **Strengthening Regional Security**
 - Enhances collective capabilities to address challenges such as terrorism, smuggling, piracy, and cyber threats.
 - **Promoting Maritime Stability in the IOR**
 - Ensures safety of vital shipping lanes that carry major global trade.
 - **Countering Extra-Regional Influences**
 - Creates a cooperative security framework led by Indian Ocean nations, reducing dependency on external powers.
 - **Boosting Bilateral and Multilateral Ties**
 - Deepens trust among member countries and encourages long-term defence partnerships.



India Advances EO-SAAW Program

- India's indigenous precision-guided weapons program has achieved another milestone with the continued maturation of the Electro-Optical Smart Anti-Airfield Weapon (EO-SAAW).
- Designed by DRDO for the Indian Air Force, EO-SAAW represents a new class of long-range, stand-off, air-launched munitions optimised for disabling enemy runways, command centres, and hardened installations without the need for aircraft to enter hostile airspace.
- Parallel to the cooled seeker track, DRDO is also pursuing an uncooled seeker variant aimed at cost-effective mass production. The uncooled design reduces complexity, enhances maintainability, and extends deployability across multiple aircraft platforms, offering options for both tactical and strategic missions.
- This dual-track approach demonstrates India's strategic planning for flexibility in operational and industrial scalability within its precision weapons ecosystem.
- EO-SAAW, with its modular design, can engage targets at ranges up to 100 kilometres, depending on the release altitude and aircraft type. The weapon integrates seamlessly with several Indian fighter aircraft, including the Jaguar DARIN-III, Su-30MKI, and HAL TEJAS, empowering the IAF with greater stand-off engagement capability.



Indian Army secures IPR for New Coat Combat

- The Indian Army has secured the intellectual property rights for a new coat combat (digital print) -- a three-layered garment that integrates combat functionality with comfort and protection, according to officials.
- The 'New Coat Combat' has been designed and developed by the National Institute of Fashion Technology (NIFT), Delhi, as a consultancy project under the aegis of the Army Design Bureau.

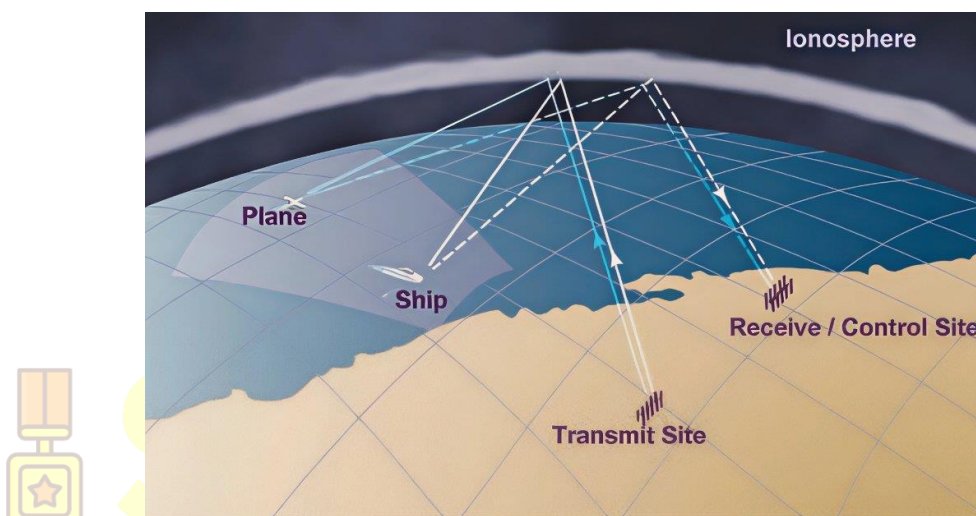
- Following the unveiling of the new combat uniform (digital print), the Army introduced the new coat combat (digital print) in January 2025, marking another milestone in its ongoing journey towards modernisation, indigenisation, and enhanced soldier comfort, it said in a statement.
- The three-layered garment incorporates advanced technical textiles and features an ergonomic design tailored to improve comfort, mobility, and operational efficiency in diverse climatic and tactical conditions, the officials said.
- The new coat combat ensemble includes an outer layer, an inner jacket and a thermal layer. The outer layer consists of digitally printed camouflage coat designed for operational durability and concealment in varied terrains.
- The inner jacket is an insulated mid-layer using lightweight, breathable material, providing warmth without restricting movement; while the thermal layer is a base layer ensuring optimal thermal regulation and moisture control in extreme weather, it said.



India's DRDO SWOTH Radar

- DRDO's Surface Wave Over-The-Horizon Radar (SWOTH-Radar) system integration and testing at the project site has been successfully completed. This radar operates in a bi-static configuration using high-frequency surface wave propagation to detect and track targets over the sea surface beyond the horizon.
- The system is capable of identifying various maritime and low-flying targets up to 500 kilometres away, surpassing the line-of-sight limits of conventional radars.

- SWOTH-Radar leverages surface wave propagation, whereby HF electromagnetic waves travel along the conductive seawater surface, allowing the radar signal to follow the Earth's curvature.
- The system's all-weather performance and resistance to electronic countermeasures make it highly suited for persistent maritime domain awareness, supporting India's strategic surveillance over the Indian Ocean Region.



AUSINDEX 2025 Exercise

- The Indian Naval Ship INS Sahyadri, a proud example of India's indigenous defence capabilities, recently participated in the bilateral exercise AUSINDEX 2025 alongside HMAS Ballarat of the Royal Australian Navy in the Northern Pacific.
- This exercise marked a significant milestone in strengthening the strategic partnership between India and Australia.
- The warships and aircraft of the two navies conduct intensive joint naval drills and operations in the Northern Pacific. The exercise is aimed at significantly boosting interoperability and deepening the strategic partnership between the two maritime nations.
- Australia, India, Japan, and US forces participated in Exercise Malabar 2025 in and around Guam, November 10-18. This year marks the **29th iteration** of the **Malabar exercise**, which began in 1992 as a bilateral exercise between the

United States and India. The exercise has since evolved in scope and complexity, now including Japan and Australia.



10 All-women Border Outposts along LAC

- The Indo-Tibetan Border Police force, which guards the 3,488 km-long India-China LAC, is establishing 10 all-women border posts along this arduous and icy frontier, the director general of the paramilitary said.
- The force, as part of its ambitious "forwardisation" plan, initiated post the 2020 military clash in Ladakh, has also moved its 215 border posts forward along the front on India's north and eastern flank so far.
- Indo-Tibetan Border Police (ITBP) **DG Praveen Kumar** said this during the **64th Raising Day parade** of the force held in Jammu.
- The Centre had sanctioned seven more battalions and a sector office comprising about 9,400 personnel for the ITBP in 2023. The DG said the force will establish 41 more such forward bases along the India-China LAC in the near future in order to "strengthen security and coordination".
- The ITBP, with a manpower of more than one lakh personnel, has its border posts ranging between the height of 9,000 feet and over 14,000 feet, affected by inclement weather and low levels of oxygen. The force, raised in 1962, functions under the command of the Union Home Ministry.



NCC's 78th Raising Day

- The National Cadet Corps (NCC) is set to celebrate its 78th Raising Day on November 23, 2025, with commemorative events planned across the country. As a prelude to the celebrations, a solemn wreath-laying ceremony was held at the National War Memorial, New Delhi, on November 22, 2025.
- From its establishment in 1948 with just 20,000 cadets, the NCC has grown into the world's largest uniformed youth organisation with 20 lakh cadets, including an increase of 6 lakh cadets between 2014 and 2025.
- Today, its footprint extends to 713 out of India's 780 districts, making it one of the most widely represented youth institutions in the country.
- As the NCC observes its 77th anniversary, it continues to evolve as a vibrant and future-ready organisation, preparing disciplined, socially aware and technologically skilled youth committed to strengthening a Viksit Bharat.



Exercise Surya Kiran 2025

- The **19th edition** of the annual bilateral Exercise SURYAKIRAN between the Indian Army and the Nepali Army will be conducted from 25 November to 08 December 2025 at Pithoragarh, Uttarakhand.
- The exercise aims to strengthen operational synergy in conducting Jungle Warfare and Counter Terrorism Operations in Mountainous Terrain.
- It focuses on integration of niche technology to enhance interoperability while sharing best practices, reflecting the shared commitment of India and Nepal towards global peace and security, while further deepening Defence Cooperation, camaraderie and mutual trust between both armies.



INS Mahe Commissioned

- The Indian Navy commissioned INS Mahe, the first of the indigenously designed and built Mahe-class Anti-Submarine Warfare Shallow Water Craft (ASW-SWC), during a ceremony held at the Naval Dockyard, Mumbai, on 24 Nov 2025.
- The ship takes her name from the historic coastal town of Mahe on the Malabar Coast. The town's maritime heritage and tranquil estuary mirror the ship's balance of elegance and strength.
- Her mascot, the Cheetah, embodies speed and focus, while the motto "**Silent Hunters**" reflects the ship's stealth, vigilance, and unyielding readiness.
- Designed and constructed by **Cochin Shipyard Limited**, Kochi, INS Mahe is the lead ship of eight vessels in her class. Drawing on the expertise of BEL, L&T Defence, Mahindra Defence Systems, NPOL, and more than 20 MSMEs, the project reinforces India's expanding ecosystem of naval design, equipment, and system integration.



PM Modi Inaugurates Safran Aircraft Engine Services

- The inauguration of Safran's new Maintenance, Repair and Overhaul (MRO) facility in Hyderabad marks a significant milestone in India's aviation development strategy.
- Virtually inaugurated by Prime Minister Narendra Modi, the Safran Aircraft Engine Services India (SAESI) facility at the GMR Aerospace and Industrial Park

within the Rajiv Gandhi International Airport is a landmark investment in India's aerospace maintenance capability.

- This inauguration not only reflects the deepening Indo-French technological partnership but also underscores India's rapid emergence as a trusted destination for high-value aerospace engineering and services.
- The SAESI facility is dedicated to servicing LEAP (Leading Edge Aviation Propulsion) engines that power the Airbus A320neo and Boeing 737 MAX aircraft families. These new-generation engines are core to modern commercial aviation fleets, valued for their fuel efficiency and reduced emissions.
- The facility spans approximately 45,000 square metres and involves an initial investment of about ₹1,300 crore.
- Once it reaches full operational capacity by 2035, SAESI will be able to maintain and repair up to 300 LEAP engines annually. This scale of operation will make the Hyderabad plant one of the largest engine service centres globally.



Indrajaal Anti-Drone Patrol Vehicle

- City-based Indrajaal Drone Defence on Wednesday announced the launch of ADPV-a fully mobile, AI-enabled counter-drone system. Named 'Indrajaal Ranger', it is India's "first anti-drone patrol vehicle", engineered to detect, track, and neutralise hostile drones, the company said in a statement.
- The Anti-Drone Patrol Vehicle has been designed as a purpose-built combat vehicle capable of on-the-move drone detection, real-time patrolling and

surveillance, autonomous threat assessment through AI, instant interception and neutralisation, and seamless coverage across border roads, canals, agricultural belts, critical infrastructure, and dense urban areas, it added.

- Built on an all-terrain 4x4 platform and powered by Indrajaal's SkyOS™ autonomy engine, the Indrajaal Ranger combines 10 km detection and four km mitigation, along with AI-driven tracking.
- It also features multiple counter-UAS options, including cyber takeover, soft-kill measures, and interceptor drones, the statement said.



REVIEW QUESTIONS

1. **The 10-year India–US defence framework agreement focuses on which of the following areas?**
 - A. Space cooperation only
 - B. Capacity building in Asia, Africa, and the Indian Ocean Region
 - C. Defence exports to Europe only
 - D. Cybersecurity and AI collaboration exclusively

ANSWER: B

2. **The DRDO's new electronic warfare suite 'Swayam Raksha Kavach (SRK)' is designed for which aircraft?**
 - A. Sukhoi Su-30MKI

- B. HAL TEJAS MK-1A
- C. Rafale
- D. Mirage-2000

ANSWER: B

3. Which organisation launched the CMS-03 communication satellite?

- A. DRDO
- B. Bharat Electronics Limited (BEL)
- C. Indian Space Research Organisation (ISRO)
- D. Hindustan Aeronautics Limited (HAL)

ANSWER: C

4. What is the primary objective of the CMS-03 satellite?

- A. To monitor environmental changes in the Himalayas
- B. To provide robust telecommunication coverage and enhance maritime communication
- C. To map ocean currents and climate data
- D. To support agricultural forecasting and irrigation systems

ANSWER: B

5. The nuclear submarine 'Khabarovsk', launched by Russia, is designed to carry which weapon system?

- A. Tsirkon hypersonic missile
- B. Poseidon nuclear drone
- C. Kalibr cruise missile
- D. Bulava ballistic missile

ANSWER: B

6. What is the name of the tri-service military exercise held along India's western frontier in 2025?

- A. Vajra 2025
- B. Trishul 2025
- C. Agni 2025
- D. Varuna 2025

ANSWER: B

7. Which two companies developed India's first 3D printed Mobile Drone Fabrication Units?

- A. BEL and HAL
- B. DRDO and ISRO
- C. Zuppa and Divide By Zero (DBZ)
- D. L&T and BDL

ANSWER: C

8. The ₹1 Lakh Crore RDI Fund aims to boost India's leadership in which of the following sectors?

- A. Textile and Agriculture
- B. Space, AI, Quantum Computing, and Defence
- C. Tourism and Cultural Heritage
- D. Oil and Gas Industries

ANSWER: B

9. The Indian Institute of Science (IISc) has developed India's first _____.

- A. Nuclear Fusion Reactor
- B. Six-qubit Photonic Quantum Computer
- C. Superconducting Processor
- D. Optical Laser Chip

ANSWER: B

10. INS Ikshak, recently commissioned into the Indian Navy, belongs to which class of vessels?

- A. Offshore Patrol Vessel
- B. Survey Vessel (Large)
- C. Anti-Submarine Corvette
- D. Missile Frigate

ANSWER: B

11. The Mangalyaan-2 mission by ISRO aims to achieve which of the following major objectives?

- A. Orbit Venus for atmospheric study
- B. Conduct India's first soft landing on Mars
- C. Collect samples from the Moon's surface
- D. Launch India's first space station

ANSWER: B

12. Exercise Brahmarshira was conducted by the Indian Army in which region?

- A. Thar Desert
- B. Rann and Creek Sector
- C. Andaman & Nicobar Islands
- D. Eastern Himalayas

ANSWER: B

13. Which of the following countries participate in the Malabar Naval Exercise 2025?

- A. India, USA, Australia, Japan
- B. India, UK, France, Japan
- C. India, Russia, USA, Australia
- D. India, Japan, South Korea, Australia

ANSWER: A

14. What is the name of the Russian Akula-class submarine India plans to lease under a \$3 billion deal?

- A. K-43
- B. K-219
- C. K-519 Irbis (INS Chakra-III)
- D. K-152 Nerpa

ANSWER: C

15. Which aircraft is being considered to replace the ageing An-32 fleet of the Indian Air Force?

- A. Boeing C-17 Globemaster III
- B. Lockheed Martin C-130J Super Hercules
- C. Airbus A400M Atlas
- D. Medium Transport Aircraft (MTA)

ANSWER: D

16. What is the estimated value of India's Medium Transport Aircraft (MTA) procurement project?

- A. \$2–3 billion
- B. \$4–5 billion

- C. \$6–8 billion
- D. \$10–12 billion

ANSWER: C

17. What is the significance of the BSF's newly formed 'Durga Drone Squadron'?

- A. It is India's first drone unit operating along the international borders
- B. It is the BSF's first all-women drone squadron trained for surveillance and counter-drone missions
- C. It is a naval unit for underwater drone operations
- D. It focuses solely on disaster management and rescue operations

ANSWER: B

18. Which Indian military exercise demonstrated the emergency landing of a fighter jet on the Bharatmala Highway?

- A. Exercise Trishul
- B. Exercise Brahmashira
- C. Exercise Gagan Shakti
- D. Exercise Maha Gajraj

ANSWER: D

19. The MoD signed a ₹2,095 crore contract with BDL for the procurement of which missile?

- A. NAG
- B. INVAR
- C. HELINA
- D. Spike-LR

ANSWER: B

20. The INVAR missile will enhance the firepower of which Indian Army tank?

- A. Arjun Mk-1A
- B. T-72 Ajeya
- C. T-90
- D. BMP-2

ANSWER: C

21. The An-124 aircraft was transporting which military platform for the Indian Army?

- A. Chinook helicopters

- B. Light Combat Helicopters (LCH)
- C. AH-64E Apache Guardians
- D. Mi-35 attack helicopters

ANSWER: C

22. ABHYAS, set for production by L&T, is classified as which type of defence system?

- A. Surface-to-air missile
- B. High-Speed Expendable Aerial Target
- C. Anti-submarine drone
- D. Artillery radar system

ANSWER: B

23. Idea Forge's recent supply order from the Indian Army includes which two UAVs?

- A. NETRA V4 and SWITCH X
- B. Zolt and SWITCH 2
- C. Garuda and Rustom
- D. Predator and Heron

ANSWER: B

24. Exercise Ajeya Warrior is a bilateral military exercise between India and which nation?

- A. United States
- B. France
- C. Australia
- D. United Kingdom

ANSWER: D

25. The BvS10 Sindhu armoured vehicle will be manufactured at which L&T facility?

- A. Pune
- B. Chennai
- C. Hazira
- D. Kattupalli

ANSWER: C

26. DRDO's SWOTH radar can detect maritime targets up to what approximate distance?

- A. 200 km
- B. 350 km
- C. 500 km
- D. 750 km

ANSWER: C

27. INS Sahyadri recently participated in the bilateral exercise AUSINDEX 2025 alongside which Australian naval ship?

- A. HMAS Sydney
- B. HMAS Ballarat
- C. HMAS Canberra
- D. HMAS Darwin

ANSWER: B

28. AUSINDEX 2025 took place in which region?

- A. Indian Ocean
- B. Bay of Bengal
- C. Northern Pacific
- D. Arabian Sea

ANSWER: C

29. INS Mahe belongs to which class of naval vessels?

- A. Kolkata-class destroyers
- B. Mahe-class ASW Shallow Water Craft
- C. Kamorta-class corvettes
- D. Talwar-class frigates

ANSWER: B

30. Where was the 11th ADMM-Plus meeting held?

- A. Bangkok
- B. Vientiane
- C. Jakarta
- D. New Delhi

ANSWER: B



SSBCrack
EXAMS