MISSIONX

Innovation in Learning

X TECH WEEKLY

SCIENCE & TECHNOLOGY CURRENT AFFAIRS

11 Nov to 17 Nov 2026

IN THIS EDITION

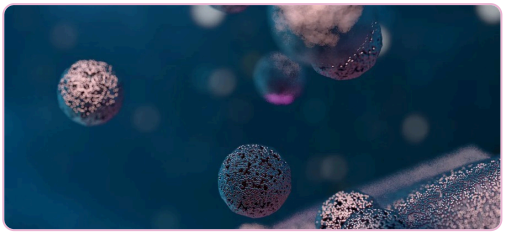
1	Extracellular Vesicles: Tiny Cellular Messengers Reach the Clinic	BIOTECH	p. 2
2	Vitamin K Shot for Newborns: Bleeding Cases Rise in US Study	HEALTH	p. 4
3	Alzheimer's Disease: Blood Protein APOA1 and the Diabetes Link	HEALTH	p. 6
4	INS Betwa: Rs 498 Crore Refit and Re-powering Contract	DEFENCE	p. 8
5	Sea Vigil-26: Fifth Pan-India Coastal Defence Exercise	DEFENCE	p. 10
6	Super ICE: Rafael's New Long-Range Cruise Missile	DEFENCE	p. 12
7	Exercise Mitra Shakti 2026: India and Sri Lanka at Maduru Oya	DEFENCE	p. 14
8	Geran-5: Russia's Jet-Powered Strike Drone	DEFENCE	p. 16
9	INSA Endorses G20 Science Academies' Statement on Disaster Resilience	S&T POLICY	p. 18

BIOTECH

1

Extracellular Vesicles: Tiny Cellular Messengers Reach the Clinic

NEWS IN BRIEF



- Extracellular vesicles (EVs) are tiny membrane-enclosed particles that carry proteins, lipids and genetic material (RNA) from one cell to another.
- The 3rd World Congress on Targeting Extracellular Vesicles was held in Porto, Portugal, on 12 and 13 November 2026, covering EVs in inflammation, neurodegeneration, heart disease, cancer and drug delivery.
- Nagoya University researchers (reported on 3 November 2026) showed a way to read microRNA and surface proteins inside single EVs from blood and urine, a step towards non-invasive tests for chronic inflammation and its source organ.
- In a lab model of kidney transplant rejection, EVs carrying both the microRNA miR-1246 and the kidney protein DPYS were found in patient urine.
- Experts note that EV therapy still needs proof of safety, targeting, consistent manufacturing and clinical benefit before routine use.

KEY CONCEPTS EXPLAINED

Exosomes and microvesicles

Main EV types. Exosomes are small (about 30 to 150 nm) and come from inside the cell. Microvesicles are larger and bud off from the cell surface.

EV cargo as a signature

Surface proteins hint at the tissue of origin, while the RNA inside reflects the state of the parent cell. This makes EVs useful for liquid biopsy.

Drug delivery vehicle

Natural or engineered EVs can carry RNA or drugs to target cells, with less immune reaction than many synthetic carriers.

UNIQUE FACT

Cells have long been known to shed membrane particles, but EVs were once thought to be cellular waste. They are now recognised as a major route of cell to cell communication.

EXAM TRAP

EVs are not viruses and not whole cells. They are not made only by dying cells. The Nagoya work is a research method tested on lab models and urine samples, not an approved clinical test.

PRELIMS MEMORY BANK

Membrane-bound particles | Exosomes 30 to 150 nm | Microvesicles | RNA and protein cargo | Liquid biopsy | miR-1246 | Drug delivery

1 BIOTECH **Extracellular Vesicles: Tiny Cellular Messengers Reach the Clinic**

PRELIMS PRACTICE MCQ

Consider the following statements about extracellular vesicles (EVs):

1. They are membrane-enclosed particles that carry proteins, lipids and genetic material between cells.
2. Surface proteins of an EV can indicate the tissue from which it originated.
3. EVs are released only when a cell dies.
4. EVs cannot carry RNA.

How many of the statements given above are correct?

a. Only one

b. Only two

c. Only three

d. All four

ANSWER: (b)

SOLUTION EXPLAINED

THROUGH LOGICAL ANALYSIS

The two negative sounding statements, 'only when a cell dies' and 'cannot carry RNA', are absolute claims that go against the very idea of EVs as messengers between living cells. That leaves the first two statements.

THROUGH FACTUAL KNOWLEDGE

EVs are released by healthy and diseased cells and carry cargo including RNA, which is why they are studied as carriers and as biomarkers. Their surface proteins help trace the tissue of origin, so statements 1 and 2 are correct.

HEALTH

2

Vitamin K Shot for Newborns: Bleeding Cases Rise in US Study

NEWS IN BRIEF



- A JAMA Pediatrics study reported on 10 November 2026 found that diagnoses of vitamin K deficiency bleeding (VKDB) in US infants rose about 347 percent between 2017 and 2025.
- The study used electronic health records of more than 11 million infants aged 6 months or younger. VKDB rose from 24 to 107.4 cases per 100,000 infants.
- The share of newborns recorded as receiving the vitamin K injection fell from 97.7 percent to 95 percent.
- The authors say the study does not prove that fewer shots caused the rise, and that records may contain coding errors.
- A single vitamin K injection after birth has been recommended by the American Academy of Pediatrics since 1961 and cuts late VKDB by about 98 percent.

KEY CONCEPTS EXPLAINED

Role of vitamin K

A fat-soluble vitamin needed to activate clotting factors II, VII, IX and X in the liver. Without it blood clots poorly and bleeding can occur.

Why newborns are at risk

Little vitamin K crosses the placenta, breast milk has low amounts and the newborn gut has no bacteria yet to make it. Hence a shot at birth.

K1 and K2

K1 (phylloquinone) comes from green leafy vegetables. K2 (menaquinones) is made by gut bacteria and found in fermented foods.

UNIQUE FACT

Warfarin, a common blood thinner, works by blocking the recycling of vitamin K, which is why patients on it need to keep vitamin K intake steady.

EXAM TRAP

Vitamin K is fat-soluble (not water-soluble) and deficiency causes bleeding, not bone softening or night blindness. The study shows an association, not a proven cause.

PRELIMS MEMORY BANK

Fat-soluble vitamin | Clotting factors II, VII, IX, X | K1 and K2 | VKDB in newborns | Sterile newborn gut | Warfarin antagonist | JAMA Pediatrics

2 HEALTH Vitamin K Shot for Newborns: Bleeding Cases Rise in US Study

PRELIMS PRACTICE MCQ

Read the two statements and answer the question that follows.

STATEMENT I Newborn babies are prone to vitamin K deficiency bleeding.

STATEMENT II At birth the newborn gut has no bacteria to make vitamin K and breast milk is low in it.

Which one of the following is correct in respect of the above statements?

a Both Statement I and Statement II are correct and Statement II explains Statement I

b Both Statement I and Statement II are correct but Statement II does not explain Statement I

c Statement I is correct but Statement II is not correct

d Statement I is not correct but Statement II is correct

ANSWER: (a)

SOLUTION EXPLAINED

THROUGH LOGICAL ANALYSIS

Bleeding from vitamin K deficiency needs a cause for the low level in newborns. Statement II supplies it, since the supply by gut bacteria is absent and milk gives little. So II explains I.

THROUGH FACTUAL KNOWLEDGE

Newborns have low stores because little vitamin K crosses the placenta, the gut is sterile at birth and breast milk is a poor source. A single vitamin K injection after birth prevents VKDB.

HEALTH

3

Alzheimer's Disease: Blood Protein APOA1 and the Diabetes Link

NEWS IN BRIEF

- A study in Cell (11 November 2026) from the Gladstone Institutes, US, found that 92 of 861 blood proteins studied cross the blood-brain barrier into brain tissue, mostly from organs such as the liver.
- One of them, apolipoprotein A1 (APOA1), made mainly in the liver, prompts brain astrocytes to release cholesterol that supports connections between neurons.
- In mice with Alzheimer's-like disease, less APOA1 crossed the barrier early on. Raising liver output of APOA1 reduced inflammation and loss of neuronal connections.
- The work was done in mice and is not yet shown in people.
- A separate meta-analysis of 40 studies (Curtin University, reported on 12 November 2026) found that type 2 diabetes is linked to up to a 53 percent higher risk of Alzheimer's disease.

KEY CONCEPTS EXPLAINED

Blood-brain barrier

A tightly sealed layer of cells that controls what passes from blood into the brain. It protects the brain but can also limit useful molecules.

Amyloid and tau

Alzheimer's is marked by amyloid beta plaques outside neurons and tau tangles inside them, along with loss of synapses and neurons.

Brain and body link

The new idea is that a failing exchange of signals between organs like the liver and the brain may contribute to the disease.

UNIQUE FACT

Alzheimer's disease is the most common cause of dementia. It was first described in 1906 by the German physician Alois Alzheimer.

EXAM TRAP

The APOA1 result is from mice, so it is not a human treatment. The diabetes link is an association and the figure is 'up to' 53 percent, which does not prove that diabetes causes Alzheimer's.

PRELIMS MEMORY BANK

Gladstone Institutes | Blood-brain barrier | APOA1 from liver | Astrocytes | Amyloid and tau | Type 2 diabetes link | Dementia

3 HEALTH **Alzheimer's Disease: Blood Protein APOA1 and the Diabetes Link**

PRELIMS PRACTICE MCQ

Consider the following statements about the recent research on Alzheimer's disease:

1. The blood-brain barrier controls which blood proteins enter the brain.
2. APOA1, mainly made in the liver, was shown to cross the barrier and help neurons through astrocytes.
3. The study has proved in humans that restoring APOA1 transport cures Alzheimer's disease.

Which of the statements given above is/are correct?

a. 3 only

b. 1 and 3 only

c. 1 and 2 only

d. 1, 2 and 3

ANSWER: (c)

SOLUTION EXPLAINED

THROUGH LOGICAL ANALYSIS

The study is described as work in mice, so a human cure cannot have been proved. Statement 3 is therefore wrong, which removes options a, b and d.

THROUGH FACTUAL KNOWLEDGE

The Cell study found APOA1 moves from blood to brain, where it prompts astrocytes to release cholesterol. The results were in mice and a human cure has not been shown, so only statements 1 and 2 are correct.

DEFENCE

4

INS Betwa: Rs 498 Crore Refit and Re-powering Contract

NEWS IN BRIEF



- The Ministry of Defence signed a contract of about Rs 498.58 crore with Cochin Shipyard Limited on 11 November 2026 for the normal refit and re-powering of INS Betwa.
- The steam-based propulsion of the ship will be replaced with a diesel-engine-based propulsion system. A modernised weapon suite is also part of the refit.
- INS Betwa is a Brahmaputra-class guided missile frigate built by Garden Reach Shipbuilders and Engineers, Kolkata, and commissioned on 7 July 2004.
- The project is expected to involve more than 50 MSMEs and create jobs in shipbuilding and allied industries.
- The contract was linked by the Ministry to the Aatmanirbhar Bharat and Make in India initiatives.

KEY CONCEPTS EXPLAINED

Refit and re-powering

A refit overhauls and upgrades a ship during its life. Re-powering replaces its engines or propulsion plant to extend life and cut maintenance.

Steam vs diesel propulsion

Steam plants have boilers and turbines that need more manpower and upkeep. Diesel engines are simpler, easier to maintain and more fuel efficient.

Brahmaputra class

Three guided missile frigates named after rivers, INS Brahmaputra, INS Betwa and INS Beas, built under Project 16A.

UNIQUE FACT

INS Betwa is named after the Betwa river, a tributary of the Yamuna that flows through Madhya Pradesh and Uttar Pradesh. It is the same river as in the Ken-Betwa link project.

EXAM TRAP

Betwa is a Brahmaputra-class frigate built by GRSE, not a Shivalik-class ship built by Mazagon Dock. The contract is for refit and re-powering, not a new ship, and the yard is Cochin Shipyard.

PRELIMS MEMORY BANK

Brahmaputra class | Project 16A | Built by GRSE | Commissioned 2004 | Refit by Cochin Shipyard | Steam to diesel | Rs 498.58 crore

4 DEFENCE INS Betwa: Rs 498 Crore Refit and Re-powering Contract

PRELIMS PRACTICE MCQ

Under a contract signed in November 2026, the Brahmaputra-class frigate INS Betwa is to be re-powered by replacing which one of the following?

a. A gas turbine plant with a nuclear reactor

b. A diesel-engine plant with steam turbines

c. Its steam-based propulsion with a diesel-engine-based system

d. Its waterjets with propellers

ANSWER: (c)

SOLUTION EXPLAINED

THROUGH LOGICAL ANALYSIS

Re-powering aims at easier maintenance. A move to a nuclear reactor or back to steam turbines would raise complexity, which rules out a and b. The news mentions no waterjets, so option d has no basis and only option c remains.

THROUGH FACTUAL KNOWLEDGE

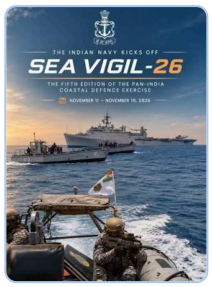
The Ministry of Defence signed about Rs 498.58 crore with Cochin Shipyard for the refit of INS Betwa, replacing steam propulsion with a diesel-engine-based system and modernising the weapons suite.

DEFENCE

5

Sea Vigil-26: Fifth Pan-India Coastal Defence Exercise

NEWS IN BRIEF



- The Indian Navy is coordinating Sea Vigil-26, the fifth edition of the Pan-India Coastal Defence Exercise, from 11 to 19 November 2026.
- It covers the entire Indian coastline and the Exclusive Economic Zone (EEZ), with all coastal States and Union Territories taking part.
- The first phase, up to 17 November, is the Coastal Defence and Security Readiness Evaluation. The Sea Phase follows on 18 and 19 November.
- Fishing and coastal communities and other maritime stakeholders are involved along with security agencies.
- The exercise was conceptualised in 2018 to validate the maritime security measures put in place after the 26/11 Mumbai attacks.

KEY CONCEPTS EXPLAINED

Exclusive Economic Zone

The sea area up to 200 nautical miles from the coast in which a coastal state has rights over resources, as per UNCLOS.

Coastal security architecture

A layered system in which the Navy, Coast Guard and marine police of the coastal states work together, with fishermen as eyes and ears.

Readiness evaluation

A check of how well the systems, agencies and communication links respond to a simulated maritime threat.

UNIQUE FACT

After 26/11 the Indian Navy was made responsible for overall maritime security, both coastal and offshore, with the Coast Guard handling coastal and territorial waters.

EXAM TRAP

Sea Vigil is a national coastal defence exercise led by the Indian Navy, not a bilateral drill with a foreign navy. It tests the whole coastal security network, not only warships.

PRELIMS MEMORY BANK

5th edition | 11 to 19 Nov 2026 | Coastal Defence phase | Sea Phase | Led by Indian Navy | EEZ and coastline | After 26/11

5 DEFENCE Sea Vigil-26: Fifth Pan-India Coastal Defence Exercise

PRELIMS PRACTICE MCQ

Consider the following statements about Sea Vigil-26:

1. It is coordinated by the Indian Navy.
2. It covers the entire coastline and the Exclusive Economic Zone of India.
3. It is a bilateral naval exercise between India and Sri Lanka.
4. It was conceptualised to validate maritime security measures introduced after the 26/11 attacks.

Which of the statements given above are correct?

(a) 1 and 2 only

(b) 2, 3 and 4 only

(c) 1, 2 and 4 only

(d) 1, 2, 3 and 4

ANSWER: (c)

SOLUTION EXPLAINED

THROUGH LOGICAL ANALYSIS

The word 'Pan-India' signals a national and not a bilateral exercise, so statement 3 is wrong. That leaves 1, 2 and 4, which fit a national coastal security drill.

THROUGH FACTUAL KNOWLEDGE

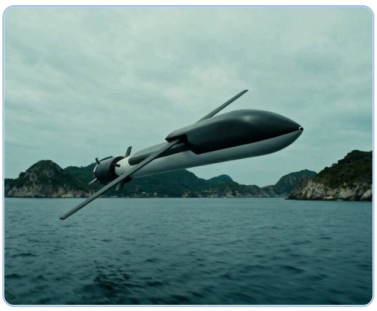
Sea Vigil-26 is the fifth edition of the Pan-India Coastal Defence Exercise, led by the Indian Navy and covering all coastal States and UTs and the EEZ. It validates measures taken after 26/11, so statements 1, 2 and 4 are correct.

DEFENCE

6

Super ICE: Rafael's New Long-Range Cruise Missile

NEWS IN BRIEF



- Israel's Rafael Advanced Defense Systems unveiled the Super ICE cruise missile, reported on 11 November 2026.
- It carries a 1,000-pound (about 454 kg) warhead, compatible with the MK83 bomb, and can be launched from air, land and sea platforms.
- It builds on Rafael's ICE BREAKER missile and shares launchers, mission planning systems and logistics with it, with more striking power.
- Navigation is autonomous. It flies low, follows the terrain, works in all weather and uses an electro-optical seeker with image matching for high accuracy.
- It is meant for stand-off strikes on high-value targets, including air defence systems. Range and speed were not stated in the release.

KEY CONCEPTS EXPLAINED

Cruise missile

A guided missile that flies within the atmosphere under its own power, usually at low altitude, all the way to the target. A ballistic missile follows an arc above it.

Terrain following

The missile flies low and follows the ground contours to avoid radar detection and nearby air defences.

Image-matching seeker

An electro-optical camera compares the scene below with stored images to find the exact aim point, with no need for satellite signals.

UNIQUE FACT

Stand-off weapons let a platform hit a target from outside the reach of the target's own defences. This is why cruise missiles are valued for striking air defence sites.

EXAM TRAP

Super ICE is an Israeli Rafael product, not an Indian DRDO missile. It is a cruise missile, not a ballistic or hypersonic missile. It is unveiled, not yet reported in service.

PRELIMS MEMORY BANK

Rafael, Israel | Cruise missile | 1,000 lb warhead | Air, land, sea launch | Builds on ICE BREAKER | Terrain following | EO image matching

6 DEFENCE Super ICE: Rafael's New Long-Range Cruise Missile

PRELIMS PRACTICE MCQ

The Super ICE, unveiled by Rafael in November 2026, is best described as which one of the following?

(a) A ship-borne air defence interceptor

(b) A hypersonic ballistic missile

(c) **A cruise missile that can be launched from air, land and sea**

(d) A man-portable anti-tank guided missile

ANSWER: (c)

SOLUTION EXPLAINED

THROUGH LOGICAL ANALYSIS

A weapon with a large 1,000 lb warhead, three launch modes and terrain following flight is a stand-off strike weapon. That rules out interceptors and man-portable weapons. Terrain following also rules out a ballistic arc.

THROUGH FACTUAL KNOWLEDGE

Super ICE is a Rafael cruise missile with a 1,000 lb warhead that flies low using terrain following and an electro-optical image-matching seeker. It can be launched from air, land and sea platforms.

DEFENCE

7

Exercise Mitra Shakti 2026: India and Sri Lanka at Maduru Oya

NEWS IN BRIEF



- The 12th edition of the India and Sri Lanka joint military exercise Mitra Shakti began on 13 November 2026 at the Army Training School, Maduru Oya, Sri Lanka, and runs till 26 November.
- Each side has 170 personnel. The Indian contingent is mainly from the Rajputana Rifles, with other arms and services and the Indian Air Force.
- The Sri Lankan contingent is mainly from the 1st Battalion, Vijayabahu Infantry Regiment.
- The focus is counter-terrorism operations in a semi-urban setting under a United Nations mandate, with better coordination and interoperability.
- Activities include joint planning, urban patrolling, convoy protection, ambush drills, operations against fortified positions and a joint validation exercise at the end.

KEY CONCEPTS EXPLAINED

Interoperability

The ability of two armies to work together using common procedures and communications.

UN mandate operations

Operations planned in line with a UN Security Council mandate, such as peacekeeping or counter-terrorism under Chapter VII.

Hosted by turns

The exercise is hosted alternately by the two countries. The 11th edition in 2025 was held at Belagavi, Karnataka.

UNIQUE FACT

India and Sri Lanka also hold the naval exercise SLINEX and the diving exercise DIVEX. Mitra Shakti is the army to army exercise of the pair.

EXAM TRAP

Mitra Shakti is an army exercise with Sri Lanka and not a naval one. Do not confuse it with Maitree (Thailand), Ekuverin (Maldives) or Nomadic Elephant (Mongolia).

PRELIMS MEMORY BANK

12th edition | 13 to 26 Nov 2026 | Maduru Oya, Sri Lanka | Rajputana Rifles | 170 each side | Counter-terrorism | UN mandate

7 DEFENCE Exercise Mitra Shakti 2026: India and Sri Lanka at Maduru Oya

PRELIMS PRACTICE MCQ

Consider the following statements about Exercise Mitra Shakti 2026:

1. The 12th edition is being held at Maduru Oya in Sri Lanka.
2. It focuses on counter-terrorism operations in a semi-urban setting under a UN mandate.
3. It is a naval exercise between India and Sri Lanka.
4. The previous edition of 2025 was held in Sri Lanka.

How many of the statements given above are correct?

(a) Only one

(b) Only two

(c) Only three

(d) All four

ANSWER: (b)

SOLUTION EXPLAINED

THROUGH LOGICAL ANALYSIS

The exercise is hosted by turns. If the 2026 edition is in Sri Lanka, the 2025 edition must have been in India, so statement 4 fails. The name and troop types also show it is an army exercise, so 3 fails.

THROUGH FACTUAL KNOWLEDGE

Mitra Shakti is an India and Sri Lanka army exercise. The 12th edition (13 to 26 November 2026) is at Maduru Oya, Sri Lanka, focusing on counter-terrorism under a UN mandate, and the 11th edition (2025) was at Belagavi, India. Only statements 1 and 2 are correct.

DEFENCE

8

Geran-5: Russia's Jet-Powered Strike Drone

NEWS IN BRIEF



- The Geran-5 is a jet-powered one-way attack drone used by Russia, first reported in use against Ukraine in early 2026 according to Ukrainian military intelligence (HUR), and it was back in the news this week.
- HUR says it flies at up to about 600 km/h, has a range of nearly 1,000 km, weighs about 850 kg and can fly for about two hours, at altitudes of up to 6 km.
- It uses a Chinese-made TELEFLY TF-TJ2000A turbojet, which makes it far faster than earlier propeller-driven Geran-2 drones.
- Guidance is by satellite navigation and inertial navigation, with a telemetry unit built around a Raspberry Pi computer and cellular and mesh communication links.
- HUR says its electronics come from China, the US and Germany despite sanctions, and that its design resembles Iran's Karrar. These claims are not independently verified.

KEY CONCEPTS EXPLAINED

One-way attack drone

An unmanned aircraft that flies to a target and explodes on impact. It is also called a loitering or kamikaze drone.

Turbojet vs piston engine

A turbojet gives much higher speed than a small piston engine, which shortens warning time but costs more per unit.

Inertial navigation

A self-contained system that tracks position from motion sensors. It works even if satellite signals are jammed.

UNIQUE FACT

The Geran-2 is the Russian-built version of the Iranian Shahed-136 drone. The Geran-5 is a step up in speed and capability, closer to a cruise missile.

EXAM TRAP

The performance figures come from Ukrainian intelligence and are claims. The Geran-5 is a jet drone and not a piston-engine drone like the Geran-2, and it is a Russian system, not an Iranian or Indian one.

PRELIMS MEMORY BANK

Russia | Jet-powered | Up to 600 km/h | About 1,000 km range | One-way attack drone | Inertial plus satellite nav | Geran-2 successor

8 DEFENCE Geran-5: Russia's Jet-Powered Strike Drone

PRELIMS PRACTICE MCQ

Which one of the following features distinguishes the Geran-5 from the earlier Geran-2 attack drones, according to reports?

(a) Use of a small piston engine with a propeller

(b) Launch only from submarines

(c) Guidance only by manual control from a ground station

(d) Use of a turbojet engine giving much higher speed

ANSWER: (d)

SOLUTION EXPLAINED

THROUGH LOGICAL ANALYSIS

Earlier drones are slow and propeller-driven, which is why interceptors could catch them. A new version that is described as far faster must differ in its engine, and jet engines are what give such speed.

THROUGH FACTUAL KNOWLEDGE

The Geran-5 uses a Chinese-made turbojet engine and is reported to reach about 600 km/h with a range near 1,000 km. Earlier Geran-2 drones are propeller-driven and much slower.

S&T POLICY

9

INSA Endorses G20 Science Academies' Statement on Disaster Resilience

NEWS IN BRIEF

- The Indian National Science Academy (INSA) endorsed the Joint Statement of G20 Science Academies issued under the Science20 (S20) 2026 process on 10 November 2026. The endorsement was reported on 12 November.
- The statement was led by the US National Academy of Sciences, with inputs from science academies of G20 countries.
- It covers advanced technologies for preparedness and response to natural hazards and disasters, such as Earth observation, remote sensing, AI, digital twins, drones and early warning systems.
- It suggests a roadmap of better risk assessment, secure and fair access to data and technology, local capacity building, stronger governance and global collaboration.
- It says technology should complement, not replace, human expertise. INSA said it will take the recommendations to stakeholders in India.

KEY CONCEPTS EXPLAINED

Science20 (S20)
The engagement group of the G20 in which national science academies give science-based advice and joint statements to G20 leaders.

Digital twin
A virtual model of a real system, such as a river basin or city, kept updated with live data to test scenarios like floods before they happen.

Early warning system
A set of sensors, forecasts and communication channels that alert people ahead of a hazard so that they can act in time.

UNIQUE FACT

INSA began in 1935 in Calcutta as the National Institute of Sciences of India and was renamed the Indian National Science Academy in 1970. It is based in New Delhi.

EXAM TRAP

INSA is the national academy of sciences, funded through the Department of Science and Technology. It endorsed the S20 statement but did not lead it, because the lead was the US National Academy of Sciences.

PRELIMS MEMORY BANK

INSA, New Delhi | Founded 1935 | Science20 (S20) | Led by US NAS | Disaster resilience | Digital twins | Human expertise first

9 S&T POLICY INSA Endorses G20 Science Academies' Statement on Disaster Resilience

PRELIMS PRACTICE MCQ

Consider the following statements about the Joint Statement of G20 Science Academies of November 2026:

1. The Indian National Science Academy endorsed the statement.
2. It was led by the US National Academy of Sciences.
3. It recommends that technology should replace human expertise in disaster management.

Which of the statements given above is/are correct?

a. 1 only

b. 2 and 3 only

c. 1 and 2 only

d. 1, 2 and 3

ANSWER: (c)

SOLUTION EXPLAINED

THROUGH LOGICAL ANALYSIS

Disaster management depends on local knowledge and judgment, so a science academy would not advise replacing human expertise. That rules out statement 3 and the options carrying it.

THROUGH FACTUAL KNOWLEDGE

INSA endorsed the S20 joint statement, which was led by the US National Academy of Sciences. The statement says technology should complement, not replace, human expertise, so only statements 1 and 2 are correct.