MISSION X

*Innovation in Learning*

# X TECH WEEKLY

## SCIENCE & TECHNOLOGY CURRENT AFFAIRS

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ICT

1

# Eka-1, Dhir 2B and Dhir 5B: New Indigenous AI Models Launched

## NEWS IN BRIEF




- Three indigenous AI foundation models, Eka-1, Dhir 2B and Dhir 5B, were launched under the IndiaAI Mission in the first week of November 2026.
- Eka-1 is built by Soket Labs. It is an open, sparse hybrid language model with about 26.3 billion parameters, trained on about 7.5 trillion tokens.
- Eka-1 supports all 22 Scheduled Indian languages plus English and targets maths, code, reasoning and agentic use.
- Dhir 2B and Dhir 5B are open-source models by ZenteiQ AiTech Innovations. They support English and 10 Indian languages.
- The Dhir models are light enough to run on GPUs, TPUs and even mobile phones without cloud connectivity, for secure on-premise use in defence, government, industry and education.

## KEY CONCEPTS EXPLAINED

**Foundation model**
A large model trained on broad data that can be adapted to many tasks such as language, code or reasoning.

**Sparse model**
Only a part of the model's parameters is activated for each input, which cuts compute cost for a given size.

**On-device AI**
The model runs locally on a phone or an on-premise server, so data need not leave the device. It works in low-connectivity or sensitive settings.

**UNIQUE FACT**

The IndiaAI Mission was approved in March 2024 with an outlay of over Rs 10,000 crore, with pillars such as compute capacity, foundation models and datasets.

**EXAM TRAP**

Eka-1 and the Dhir models come from two different startups (Soket and ZenteiQ). Do not credit all three to one developer. Eka-1 covers 22 Scheduled languages, while Dhir covers 10 Indian languages.

## PRELIMS MEMORY BANK

IndiaAI Mission | Eka-1 = Soket | Dhir 2B / 5B = ZenteiQ | 26.3B parameters | 22 Scheduled languages | On-device AI | Open-source

## 1 ICT Eka-1, Dhir 2B and Dhir 5B: New Indigenous AI Models Launched

**PRELIMS PRACTICE MCQ**

### Consider the following statements about the new AI models launched under the IndiaAI Mission:

1. Eka-1 supports all 22 Scheduled Indian languages along with English.
2. Dhir 2B and Dhir 5B are light enough to run on mobile phones without cloud connectivity.
3. All three models were developed by a single company.

**Which of the statements given above is/are correct?**

- **a** 1 and 2 only
- **b** 2 and 3 only
- **c** 1 and 3 only
- **d** 1, 2 and 3

**ANSWER: (a)**

**SOLUTION EXPLAINED**

**THROUGH LOGICAL ANALYSIS**

Statement 3 says one company built all three models, which is unlikely for models of two very different sizes and purposes. That removes options b, c and d, leaving a.

**THROUGH FACTUAL KNOWLEDGE**

Eka-1 was built by Soket Labs, while Dhir 2B and Dhir 5B were built by ZenteiQ AiTech Innovations. Dhir models are open-source and designed for on-premise and on-device use, so statements 1 and 2 are correct.

ICT

2

# TRAI Network Anubhav: A Map of Real-World Network Quality

## NEWS IN BRIEF



- TRAI launched the Network Anubhav platform on 4 November 2026. TRAI Chairman Anil Kumar Lahoti spoke at the briefing.
- It is a geospatial dashboard that combines user test data from TRAI's MySpeed and MyCall apps with results of TRAI's independent drive tests (IDT).
- Users can compare cellular and fixed broadband by provider and technology, view coverage maps, compare two places such as home and office, and download reports.
- Each provider gets an integrated value from its last five tests, including at least one drive test, with percentile values shown (P50 median, P80 for mobile broadband, P90 for fixed broadband).
- The portal also gives a web interface for Do Not Disturb (DND) services, where users can set preferences and file and track spam complaints.

## KEY CONCEPTS EXPLAINED

**Drive test (IDT)**

Independent measurement of coverage, call quality and data speed made by moving through an area with test equipment.

**Crowdsourced data**

Speed and call quality tests run by ordinary users through apps, which add real-world coverage to formal audits.

**Percentile value**

P50 is the median result. P80 or P90 shows the speed that a given share of tests meets or exceeds, a better view of the typical experience than an average.

**UNIQUE FACT**

Telecom operators get a secure login to see anonymised call quality, coverage and internet test data. Eligible third-party apps can plug in using the MySpeed SDK.

**EXAM TRAP**

Network Anubhav is run by TRAI, the regulator. It is not an app from DoT or an operator. Spam complaints are on the same portal but are not shown on the map. TRAI says user tests are not a full quality assessment under standard methodology.

## PRELIMS MEMORY BANK

TRAI | anubhav.trai.gov.in | MySpeed + MyCall | Drive test (IDT) | P50 / P80 / P90 | DND web interface | Anil Kumar Lahoti

## 2 ICT TRAI Network Anubhav: A Map of Real-World Network Quality

**PRELIMS PRACTICE MCQ**

TRAI recently launched the Network Anubhav platform. Which one of the following best describes it?

(a) A spectrum auction portal for telecom operators

**(b) A geospatial dashboard combining user tests from MySpeed and MyCall with independent drive test results**

(c) A government app for filing income tax returns

(d) A satellite based tracking system for mobile towers

**ANSWER: (b)**

### SOLUTION EXPLAINED

**THROUGH LOGICAL ANALYSIS**

TRAI is a regulator of service quality, not an auctioneer or a tax body. A platform from TRAI called Anubhav (experience) is about the user's network experience, which points to the dashboard of speed and call quality.

**THROUGH FACTUAL KNOWLEDGE**

Network Anubhav merges crowdsourced MySpeed and MyCall data with TRAI's independent drive tests on a map and also hosts a web interface for DND and spam complaints.

ICT

3

# TRAI Recommends a New Authorisation for Satellite Networks

## NEWS IN BRIEF



- On 5 November 2026 TRAI released recommendations for a new Satellite Communication Network (SCN) provider authorisation under the Telecom Act, 2023.
- SCN providers would supply network capacity to eligible telecom service providers, a wholesale model, instead of serving users directly.
- The authorisation would run for up to 20 years, renewable for up to another 20 years. A revenue-linked fee of 8 percent has been reported.
- Operation, maintenance and control facilities of the network must be located in India, with real-time traffic monitoring and limits on routing Indian traffic through foreign gateways.
- Starlink, Jio Satcom and Eutelsat OneWeb hold satcom licences, but spectrum assignment still awaits security compliance and a final pricing framework.

## KEY CONCEPTS EXPLAINED

### Satcom licence vs spectrum

A licence allows an entity to operate. It does not by itself allow commercial services, which also need spectrum assignment and security clearance.

### FSS, MSS and D2D

Fixed satellite service links fixed terminals, mobile satellite service links moving terminals, and direct-to-device lets ordinary phones connect to satellites.

### Gateway and earth station

Ground facility that connects the satellite to the terrestrial internet. Rules on its location and monitoring protect national security and Indian traffic.

**UNIQUE FACT**

Satellite broadband from low earth orbit constellations such as Starlink and OneWeb gives lower latency than older geostationary satellites because the satellites are much closer to Earth.

**EXAM TRAP**

TRAI only recommends. The government decides. Holding a licence is not the same as getting spectrum or permission to start services. Reports say the wholesale SCN model suits OneWeb more than Starlink's direct-to-consumer model.

## PRELIMS MEMORY BANK

SCN authorisation | Telecom Act 2023 | 20 + 20 years | FSS / MSS / D2D | Gateway in India | Spectrum pending | Starlink, Jio, OneWeb

## 3 ICT TRAI Recommends a New Authorisation for Satellite Networks

**PRELIMS PRACTICE MCQ**

### Consider the following statements about the TRAI recommendations of November 2026 on satellite communication:

1. A new Satellite Communication Network (SCN) provider authorisation is proposed under the Telecom Act, 2023.
2. The authorisation can run for up to 20 years and be renewed for up to another 20 years.
3. Operation and control facilities of the network must be located in India.
4. SCN providers would mainly sell directly to individual consumers.

**How many of the statements given above are correct?**

(a) Only one

(b) Only two

(c) Only three

(d) All four

**ANSWER: (c)**

**SOLUTION EXPLAINED**

**THROUGH LOGICAL ANALYSIS**

SCN is described as a wholesale route, where capacity goes to telecom operators. That makes statement 4 doubtful. The first three describe the legal basis, the term and the India-based control, which fit together as a framework.

**THROUGH FACTUAL KNOWLEDGE**

TRAI proposes an SCN authorisation under the Telecom Act, 2023, valid up to 20 years with a 20 year renewal, with India-based control and traffic monitoring. SCN providers supply capacity to eligible telcos rather than to consumers, so statement 4 is wrong.

SPACE

4

# Neil Gehrels Swift Observatory Re-enters After 22 Years

## NEWS IN BRIEF



- NASA's Neil Gehrels Swift Observatory re-entered Earth's atmosphere over Indonesia on 4 November 2026 after tumbling out of orbit.
- Swift was launched in 2004 under NASA's Medium Explorer (MIDEX) programme to study gamma-ray bursts, the most powerful explosions in the universe.
- Its Burst Alert Telescope (BAT) detected about 100 bursts a year, the X-ray Telescope (XRT) studied afterglows and the UV/Optical Telescope (UVOT) imaged them.
- Swift also studied supernovae, star-shredding black holes, stellar X-ray flares, asteroids and comets.
- Its work contributed to about 7,000 published scientific papers.

## KEY CONCEPTS EXPLAINED

### Gamma-ray burst (GRB)

Brief and intense flash of gamma rays from very distant events such as the collapse of massive stars or the merger of neutron stars.

### Afterglow

Fading X-ray, optical and radio light that follows a burst. Fast pointing lets telescopes catch it and fix the burst's position.

### Orbital decay

A low earth orbit slowly loses height because of drag from the thin upper atmosphere, and more so when solar activity heats and expands it.

**UNIQUE FACT**

The observatory was named after Neil Gehrels, the mission's principal investigator at NASA Goddard, who died in 2017.

**EXAM TRAP**

Swift was a gamma-ray burst mission in low earth orbit. It was not a Moon or Mars mission, nor an exoplanet finder. Its re-entry was an end of mission, not a launch or a discovery.

## PRELIMS MEMORY BANK

NASA MIDEX | Launched 2004 | Gamma-ray bursts | BAT, XRT, UVOT | Low earth orbit | Re-entry 4 Nov 2026 | Neil Gehrels

## 4 SPACE Neil Gehrels Swift Observatory Re-enters After 22 Years

**PRELIMS PRACTICE MCQ**

The Neil Gehrels Swift Observatory, which re-entered the atmosphere in November 2026, was primarily designed to study which one of the following?

a. Atmospheres of exoplanets

**b. Gamma-ray bursts**

c. The solar wind

d. The cosmic microwave background

**ANSWER: (b)**

**SOLUTION EXPLAINED**

**THROUGH LOGICAL ANALYSIS**

The three instruments named in the mission are a burst alert telescope, an X-ray telescope and a UV/optical telescope. Alert telescopes catch sudden flashes, and the only sudden high-energy flashes among the options are gamma-ray bursts.

**THROUGH FACTUAL KNOWLEDGE**

Swift carries BAT, XRT and UVOT to detect gamma-ray bursts and study their afterglows. It was launched in 2004 and also observed supernovae, black holes and comets.

SPACE

5

# Gaia Data Reveal UBC 63 as a Double Star Cluster

## NEWS IN BRIEF



- An Indian-led team used data from ESA's Gaia mission to show that the open cluster UBC 63 is actually two clusters, UBC 63A and UBC 63B. The finding was reported by the Department of Science and Technology on 5 November 2026.
- UBC 63 lies about 4,892 light-years away. The two clusters have very different ages, about 21 million years for 63A and about 562 million years for 63B.
- The team used Gaia's third data release (DR3), measuring positions, parallax and proper motion, and a colour-magnitude diagram that showed two separate stellar sequences.
- Orbits worked backwards suggest a close flyby about 6 million years ago, when the centres were about 7 parsecs apart. The clusters are inferred to be unbound and moving apart.
- Gaia was launched by ESA in 2013, sits at the Sun-Earth L2 point and was retired in March 2025 after mapping nearly 2 billion stars.

## KEY CONCEPTS EXPLAINED

### Open cluster

A group of stars formed together from the same gas cloud, loosely held by gravity. Members share a similar age and chemical makeup.

### Astrometry

Precise measurement of positions and motions of stars. Gaia's repeated measurements give parallax (distance) and proper motion (sky motion).

### Lagrange point L2

A point about 1.5 million km from Earth, on the side away from the Sun, where a spacecraft can stay in a stable position with a clear and cold view of space.

**UNIQUE FACT**

Gaia carried twin telescopes and a camera of nearly 1 billion pixels, the largest flown in space, along with an astrometer, a photometer and a spectrometer.

**EXAM TRAP**

Gaia is an ESA mission, not NASA or ISRO. It was retired in 2025, but its archive data keep producing new results. The flyby is a modelled inference from present motions, not something Gaia recorded directly.

## PRELIMS MEMORY BANK

ESA Gaia | Launch 2013 | L2 orbit | Retired Mar 2025 | UBC 63A and 63B | 21 Myr and 562 Myr | Gaia DR3

## 5 SPACE Gaia Data Reveal UBC 63 as a Double Star Cluster

**PRELIMS PRACTICE MCQ**

### Read the two statements and answer the question that follows.

**STATEMENT I** Gaia data show that UBC 63 consists of two star clusters with very different ages.

**STATEMENT II** Two clusters with very different ages are unlikely to have formed in the same episode of star formation.

**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**

Stars in a cluster form together, so they share a similar age. Clusters of about 21 million and 562 million years cannot be one formation event. That is why II explains why they are two clusters in I.

**THROUGH FACTUAL KNOWLEDGE**

UBC 63A is about 21 million years old and UBC 63B about 562 million years old. The team used Gaia DR3 astrometry, which makes statement I correct, and the age gap supports separate origins, as in statement II.

DEFENCE

6

# INS Sahyadri: Shivalik-Class Frigate on Back to Back Deployments

## NEWS IN BRIEF



- INS Sahyadri (F49), a guided missile stealth frigate of the Eastern Fleet, arrived at Yokosuka, Japan, on 4 November 2026 to take part in Exercise Malabar 2026.
- Just before this, the ship took part in the India and South Korea bilateral naval exercise at Busan, which ended on 29 October 2026.
- Sahyadri is the third ship of the Shivalik class (Project 17), after INS Shivalik and INS Satpura, and was built by Mazagon Dock in Mumbai.
- It was commissioned on 21 July 2012 into the Eastern Naval Command at Visakhapatnam.
- Earlier deployments include RIMPAC 2014, INDRA 2015, Malabar 2016, Malabar 2025 at Guam and INDRA 2026 at Vladivostok.

## KEY CONCEPTS EXPLAINED

**Stealth frigate**

A warship designed with a reduced radar, infrared and acoustic signature, which makes it harder to detect and track.

**CODOG propulsion**

Combined diesel or gas. Diesel engines give economical cruising, and gas turbines give high speed. Sahyadri's top speed is about 32 knots.

**Project 17**

The Indian Navy's programme for the Shivalik class, the first stealth frigates built in India. Its follow-on is Project 17A (Nilgiri class).

**UNIQUE FACT**

Sahyadri carries BrahMos supersonic anti-ship and land-attack missiles in vertical launch cells, along with Barak and Shtil air defence missiles and two helicopters.

**EXAM TRAP**

Sahyadri belongs to Project 17 (Shivalik class), not Project 17A (Nilgiri class). It was built by Mazagon Dock, not Goa Shipyard or GRSE. It serves in the Eastern Fleet.

## PRELIMS MEMORY BANK

Pennant F49 | Shivalik class | Project 17 | Built by MDL | Commissioned 2012 | Eastern Fleet | Malabar 2026

## 6 DEFENCE INS Sahyadri: Shivalik-Class Frigate on Back to Back Deployments

**PRELIMS PRACTICE MCQ**

### Consider the following statements about INS Sahyadri:

1. It is the third ship of the Shivalik class.
2. It was built by Mazagon Dock Limited, Mumbai.
3. It serves in the Western Fleet of the Indian Navy.
4. It was built under Project 17.

**Which of the statements given above are correct?**

(a) 1 and 2 only

**(b) 1, 2 and 4 only**

(c) 2, 3 and 4 only

(d) 1, 2, 3 and 4

**ANSWER: (b)**

**SOLUTION EXPLAINED**

**THROUGH LOGICAL ANALYSIS**

Statement 3 is the odd one out, since the ship was commissioned at Visakhapatnam, which is on the east coast. Removing it leaves 1, 2 and 4, which are consistent with a Shivalik-class ship from Project 17.

**THROUGH FACTUAL KNOWLEDGE**

INS Sahyadri (F49) is the third Shivalik-class frigate (Project 17), built by Mazagon Dock and commissioned on 21 July 2012 into the Eastern Naval Command, so statements 1, 2 and 4 are correct.

DEFENCE

7

# Pralay: Quasi-Ballistic Missile Passes User Evaluation Trial

## NEWS IN BRIEF



- DRDO flight-tested the indigenous Pralay quasi-ballistic missile from Dr APJ Abdul Kalam Island off the Odisha coast on 5 November 2026.
- The Defence Ministry said all test objectives were fully met, as confirmed by range data from the Integrated Test Range, Chandipur.
- The flight was part of user evaluation trials, with DRDO, industry and Armed Forces representatives present. The Ministry said induction is now imminent.
- Pralay was developed by Research Centre Imarat (RCI), Hyderabad, with other DRDO laboratories.
- It is a road-mobile, solid-fuel, surface-to-surface missile with a range of about 150 to 500 km and a manoeuvrable reentry vehicle.

## KEY CONCEPTS EXPLAINED

**Quasi-ballistic**
Follows a flatter and lower path than a normal ballistic missile and can manoeuvre during flight, which makes interception harder.

**User evaluation trial**
Final stage of testing in which the intended users operate the system, to confirm it meets user requirements before induction.

**Solid propellant**
Fuel is already packed in the motor. Such missiles are stored ready, fired quickly and are easier to move than liquid-fuelled ones.

**UNIQUE FACT**

Pralay's guidance combines inertial navigation with terminal guidance and its accuracy is reported to be within about 10 m. Orders have been approved for both the Army and the Air Force.

**EXAM TRAP**

Pralay is a surface-to-surface tactical missile. It is not a cruise missile, a surface-to-air missile or a submarine-launched missile. It is developed by DRDO, not by ISRO or HAL.

## PRELIMS MEMORY BANK

DRDO / RCI | Dr APJ Abdul Kalam Island | Quasi-ballistic | 150 to 500 km | Solid fuel | ITR Chandipur | Induction imminent

## 7 DEFENCE Pralay: Quasi-Ballistic Missile Passes User Evaluation Trial

**PRELIMS PRACTICE MCQ**

The Pralay missile, recently tested off the Odisha coast, is best described as which one of the following?

(a) A subsonic land-attack cruise missile

(b) A ship-launched surface-to-air missile

(c) A solid-fuel, surface-to-surface quasi-ballistic missile

(d) A submarine-launched strategic missile

**ANSWER: (c)**

### SOLUTION EXPLAINED

**THROUGH LOGICAL ANALYSIS**

A test from an island base against land targets rules out the ship-launched air defence and submarine options. The word quasi-ballistic in the news rules out a cruise missile, so only option c remains.

**THROUGH FACTUAL KNOWLEDGE**

Pralay is a DRDO (RCI Hyderabad) road-mobile, solid-fuel, surface-to-surface missile of about 150 to 500 km range, with a manoeuvrable reentry vehicle.

DEFENCE

8

# INS Amini: Fifth Anti-Submarine Shallow Water Craft Delivered

## NEWS IN BRIEF



- Garden Reach Shipbuilders and Engineers (GRSE), Kolkata, delivered the anti-submarine warfare shallow water craft (ASW SWC) Amini to the Indian Navy on 5 November 2026.
- Amini is the fifth of eight ASW SWC ships being built for the Navy and has over 80 percent indigenous content.
- It is about 77.6 m long with a displacement of about 900 tonnes and is propelled by waterjets.
- It carries an advanced combat management system, lightweight torpedoes, anti-submarine rocket launchers, sonars and an indigenous 30 mm naval gun developed by GRSE.
- The ship is named after Amini Island in Lakshadweep. It is GRSE's 119th warship designed and built and the 81st delivered to the Navy.

## KEY CONCEPTS EXPLAINED

**Shallow water craft**
Small warship made for coastal anti-submarine work in shallow waters, where larger ships cannot operate well.

**Waterjet propulsion**
Water is drawn in and thrown out through a nozzle. It gives good manoeuvrability and works in shallow depths.

**Arnala class**
The ASW SWC class, which replaces the older Abhay-class anti-submarine corvettes. Its lead ship is INS Arnala.

**UNIQUE FACT**

The ASW SWC project is split between GRSE (eight ships) and Cochin Shipyard (eight ships), for a total of sixteen vessels.

**EXAM TRAP**

Amini was built by GRSE in Kolkata, not by Cochin Shipyard or Mazagon Dock. The name comes from an island in Lakshadweep, not the Andaman and Nicobar Islands. It is delivered, which is different from commissioned.

## PRELIMS MEMORY BANK

GRSE Kolkata | ASW SWC | Arnala class | Fifth of eight | Over 80% indigenous | Amini Island | Delivered 5 Nov 2026

## 8 DEFENCE INS Amini: Fifth Anti-Submarine Shallow Water Craft Delivered

**PRELIMS PRACTICE MCQ**

### Consider the following statements about INS Amini:

1. It is an anti-submarine warfare shallow water craft.
2. It was built by Garden Reach Shipbuilders and Engineers, Kolkata.
3. It is named after an island in the Andaman and Nicobar group.
4. It belongs to the Abhay class of corvettes.

**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**

Statement 4 is a trap since the new ASW SWC ships replace the Abhay class, so they cannot belong to it. Statement 3 is also doubtful because the ship is a coastal craft whose name points to a coastal island group. Two statements hold.

**THROUGH FACTUAL KNOWLEDGE**

Amini is the fifth ASW SWC (Arnala class), built by GRSE and named after Amini Island in Lakshadweep, not the Andaman and Nicobar group. The Arnala class replaces the Abhay class, so statements 1 and 2 are correct.

DEFENCE

9

# Exercise Malabar 2026: Quad Navies Meet at Yokosuka

## NEWS IN BRIEF



- The multilateral naval exercise Malabar 2026 began at Yokosuka Naval Base, Japan, with participation from India, Japan, the United States and Australia.
- INS Sahyadri represented India. It arrived at Yokosuka on 4 November 2026, and the Ministry of Defence announced it on 5 November.
- The exercise has a harbour phase of professional exchanges and operational planning, followed by a sea phase of coordinated maritime drills.
- The stated aims are better operational coordination, interoperability and exchange of professional expertise among the four navies.
- Malabar began in 1992 as a bilateral India and US exercise. The 2025 edition was held at Guam.

## KEY CONCEPTS EXPLAINED

**Interoperability**
Ability of different navies to operate together using common procedures, communications and tactics.

**Harbour and sea phase**
The harbour phase builds planning and professional links alongside the pier. The sea phase tests them through live drills.

**Quad**
A grouping of India, Japan, the United States and Australia. Malabar is the naval exercise in which all four take part.

**UNIQUE FACT**

Japan became a permanent participant in Malabar in 2015, and Australia rejoined in 2020, which created the present four-nation format.

**EXAM TRAP**

Malabar is not a bilateral drill today. It started as an India and US exercise and is now a four-nation exercise. Do not confuse it with the India and South Korea IN-RoKN, which ended at Busan on 29 October 2026.

## PRELIMS MEMORY BANK

Yokosuka, Japan | India, Japan, US, Australia | Started 1992 | Japan permanent 2015 | Australia rejoined 2020 | INS Sahyadri | Malabar 2025 Guam

## 9 DEFENCE Exercise Malabar 2026: Quad Navies Meet at Yokosuka

**PRELIMS PRACTICE MCQ**

Exercise Malabar 2026, in which INS Sahyadri is taking part at Yokosuka, began in 1992 as a bilateral naval exercise between India and which one of the following?

a Japan

**b The United States**

c Australia

d France

**ANSWER: (b)**

### SOLUTION EXPLAINED

**THROUGH LOGICAL ANALYSIS**

The exercise now has a Quad format with Japan and Australia added later. Of the options, the United States is the founding partner, and the others joined as the grouping widened.

**THROUGH FACTUAL KNOWLEDGE**

Malabar started in 1992 between India and the United States. Japan became a permanent participant in 2015 and Australia rejoined in 2020. The 2026 harbour phase is at Yokosuka, Japan.