

Daily Current Affairs



जनसत्ता



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10 MCQ QUIZ

A blurred photograph of a modern office interior. In the background, several people are seated around a long wooden table, appearing to be in a meeting. The scene is brightly lit, likely from large windows, creating a soft, out-of-focus atmosphere. The text is overlaid in the center of the image.

Top 10 MCQ from the session for
every exam

- Which state ranked first in fiscal health with an index score of 99.0?
- कौन सा राज्य 99.0 के सूचकांक स्कोर के साथ वित्तीय स्वास्थ्य में पहले स्थान पर रहा?
- A. Maharashtra / महाराष्ट्र
- B. Odisha / ओडिशा
- C. Chhattisgarh / छत्तीसगढ़
- D. Goa / गोवा

- Which states were the worst-performing in fiscal health due to high fiscal deficits?
- कौन से राज्य उच्च राजकोषीय घाटे के कारण वित्तीय स्वास्थ्य में सबसे खराब प्रदर्शन करने वाले थे?
- A. Maharashtra, Telangana, Karnataka / महाराष्ट्र, तेलंगाना, कर्नाटक
B. Punjab, Andhra Pradesh, West Bengal, Kerala / पंजाब, आंध्र प्रदेश, पश्चिम बंगाल, केरल
C. Gujarat, Rajasthan, Haryana / गुजरात, राजस्थान, हरियाणा
D. Tamil Nadu, Uttar Pradesh, Madhya Pradesh / तमिलनाडु, उत्तर प्रदेश, मध्य प्रदेश

- What is the primary reason for poor fiscal health in Kerala and Punjab?
- केरल और पंजाब में खराब वित्तीय स्वास्थ्य का मुख्य कारण क्या है?
- A. High industrial growth / उच्च औद्योगिक विकास
- B. Low expenditure quality and weak debt sustainability / कम व्यय गुणवत्ता और कमजोर ऋण स्थिरता
- C. High foreign direct investment (FDI) / उच्च विदेशी प्रत्यक्ष निवेश (FDI)
- D. Surplus budget management / अधिशेष बजट प्रबंधन

- What did the study on 10,475 adolescents in India and the U.S. reveal?
- भारत और अमेरिका में 10,475 किशोरों पर किए गए अध्ययन से क्या निष्कर्ष निकला?
- A. Early smartphone use improves mental well-being / शुरुआती स्मार्टफोन उपयोग मानसिक स्वास्थ्य में सुधार करता है
- B. Mental well-being declines with earlier smartphone use / पहले स्मार्टफोन उपयोग से मानसिक स्वास्थ्य में गिरावट आती है
- C. Smartphone use has no impact on mental health / स्मार्टफोन उपयोग का मानसिक स्वास्थ्य पर कोई प्रभाव नहीं पड़ता
- D. Mental well-being improves with social media engagement / सोशल मीडिया जुड़ाव से मानसिक स्वास्थ्य में सुधार होता है

- Which significant constitutional ruling was reaffirmed in Puttaswamy vs. Union of India (2017)?
- पट्टास्वामी बनाम भारत संघ (2017) में कौन सा महत्वपूर्ण संवैधानिक निर्णय पुनः पुष्टि किया गया?
- A. Right to Internet / इंटरनेट का अधिकार
- B. Fundamental Right to Privacy / गोपनीयता का मौलिक अधिकार
- C. Right to Equal Pay / समान वेतन का अधिकार
- D. Right to Reservation / आरक्षण का अधिकार

- Which Indian company is constructing the world's largest data center in Jamnagar?
- कौन सी भारतीय कंपनी जामनगर में दुनिया का सबसे बड़ा डेटा सेंटर बना रही है?
- A. Infosys / इंफोसिस
- B. Wipro / विप्रो
- C. Reliance Industries Ltd (RIL) / रिलायंस इंडस्ट्रीज लिमिटेड (RIL)
- D. Tata Consultancy Services (TCS) / टाटा कंसल्टेंसी सर्विसेज (TCS)

- **What is the estimated capacity of RIL's upcoming data center in Jamnagar?**
- **जामनगर में RIL के आगामी डेटा सेंटर की अनुमानित क्षमता क्या है?**
- **A. 500 megawatts**
- **B. 1 gigawatt**
- **C. 2 gigawatts**
- **D. 3 gigawatts**

- Why is January 21 celebrated as Statehood Day in Manipur, Tripura, and Meghalaya?
- 21 जनवरी को मणिपुर, त्रिपुरा और मेघालय में राज्यत्व दिवस क्यों मनाया जाता है?
- A. It marks their merger with India in 1950 / यह 1950 में भारत में उनके विलय को दर्शाता है
- B. They were granted full statehood on this day in 1972 / उन्हें 1972 में इस दिन पूर्ण राज्य का दर्जा दिया गया था
- C. They became union territories on this day / इस दिन वे केंद्र शासित प्रदेश बने थे
- D. They were declared special economic zones / उन्हें विशेष आर्थिक क्षेत्र घोषित किया गया था

- **What is the target set by India for Geographical Indication (GI) Tags by 2030?**
- **2030 तक भारत ने कितने भौगोलिक संकेत (GI) टैग प्राप्त करने का लक्ष्य रखा है?**
- **A. 5,000**
- **B. 7,500**
- **C. 10,000**
- **D. 15,000**

- What is the “Digital Tree Aadhaar” initiative launched in Jammu & Kashmir?
- जम्मू और कश्मीर में शुरू की गई "डिजिटल ट्री आधार" पहल क्या है?
- A. A project to track and conserve Chinar trees / चिनार पेड़ों को ट्रैक करने और संरक्षित करने की परियोजना
- B. A mobile application for farmers / किसानों के लिए एक मोबाइल एप्लिकेशन
- C. A digital mapping system for all trees / सभी पेड़ों के लिए एक डिजिटल मैपिंग प्रणाली
- D. A blockchain-based land registry for forests / वनों के लिए ब्लॉकचेन आधारित भूमि पंजीकरण

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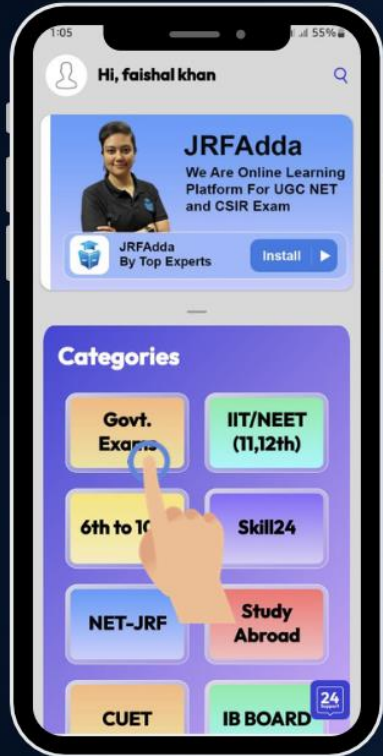
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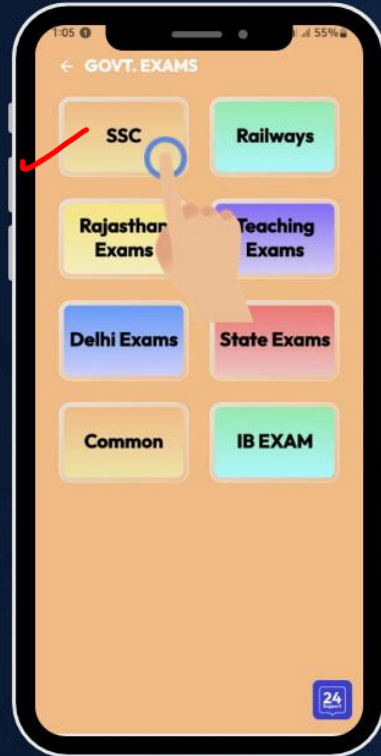
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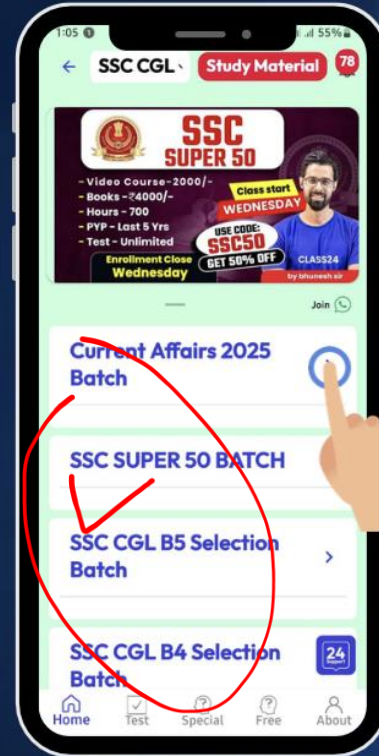
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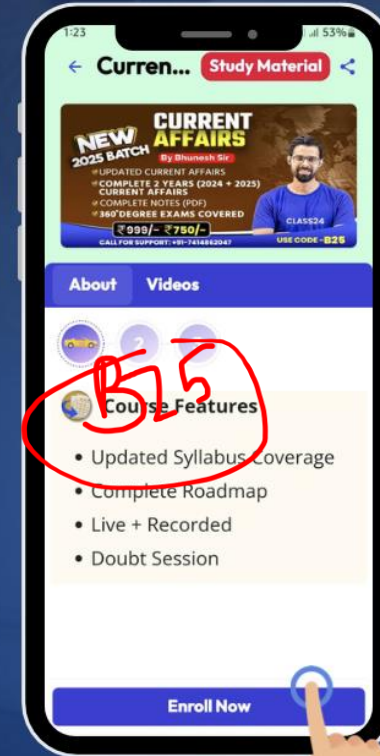
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Step 3



Step 4



"निंदा"

से घबराकर अपने

"लक्ष्य"

को ना छोड़े क्योंकि..

"लक्ष्य"

मिलते ही निंदा करने वालों की

"राय"

बदल जाती है।

Seven get Padma Vibhushan, 19 named for Padma Bhushan

23 of the 139 Padma awards announced on the eve of Republic Day go to women; Bibek Debroy, Pankaj Udhas, Shekhar Kapur, P.R. Sreejesh, Anant Nag, Jatin Goswami to get Padma Bhushan

The Hindu Bureau
NEW DELHI

Former Chief Justice of India Justice Jagdish Singh Khehar (retired), who gave a dissenting opinion in the Supreme Court Bench that outlawed triple talaq in 2017, was selected for Padma Vibhushan, the country's second highest civilian award, as the Padma awards were announced on Saturday, the eve of Republic Day.

Gastroenterologist D. Nageshwar Reddy, Kathak dancer Kumudini Rajnikant Lakhia, and violinist L. Subramaniam were among the Padma Vibhushan winners. Iconic writer M.T. Vasudevan Nair, Japan's Suzuki Motor leader Osamu Suzuki, and Bhojpuri and Maithili singer Sharda Sinha have been named for Padma Vibhushan posthumously.

Economist Bibek Debroy, ghazal singer Pankaj Udhas, former Maharashtra Chief Minister Manohar Joshi and former Bihar Deputy Chief Minister Sushil Kumar Modi have been named for the Padma

Distinguished service

The Padma awards celebrate the contribution of stalwarts in various fields. Below are the Padma Vibhushan winners:



Duvvur Nageshwar Reddy

Field: Medicine

State:

Telangana



Justice J.S. Khehar (retd.)

Public Affairs

Chandigarh



Kumudini Rajnikant Lakhia

Art

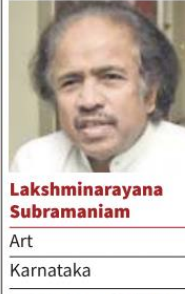
Gujarat



M.T. Vasudevan Nair (Posthumous)

Literature

Kerala



Lakshminarayana Subramaniam

Art

Karnataka



Osamu Suzuki (Posthumous)

Trade

Country: Japan



Sharda Sinha (Posthumous)

Art

Bihar

Bhushan posthumously. Filmmaker Shekhar Kapur, double Olympic bronze medal-winning hockey player P.R. Sreejesh, actor Anant Nag, Assam's folk








culture exponent Jatin Goswami, and Indian-American engineer Vinod Dham, widely known as the "Father of the Pentium chip", are among those selected

for Padma Bhushan. Sadhvi Rithambhara, who participated in the Babri Masjid demolition, has been named for Padma Bhushan.

Pawan Kumar Goenka, Chairman of the Indian National Space Promotion and Authorisation Centre; malaria researcher Chetan Chitnis; Ashutosh Sharma, President of the Indian National Science Academy; Ajay V. Bhatt, creator of the Universal Service Bus (USB); physicist M.D. Srinivas; agriculture scientist Surinder Kumar Vasal; Sethuraman Panchanathan, Director of the U.S. National Science Foundation; singer Arijit Singh; cricketer R. Ashwin; and Libia Lobo Sardesai, who played an important role in Goa's freedom movement; will get Padma Shri.

For 2025, the President has approved 139 Padma awards – seven Padma Vibhushan, 19 Padma Bhushan and 113 Padma Shri awards. Twenty-three awardees are women and the list includes 10 persons from the category of foreigners/NRI and 13 posthumous awardees.

- 
- Overview of Padma Awards 2025 (पद्म पुरस्कार 2025 का अवलोकन)
 - Total Awards (कुल पुरस्कार): 139
 - Padma Vibhushan (पद्म विभूषण): 7 recipients
 - Padma Bhushan (पद्म भूषण): 19 recipients
 - Padma Shri (पद्म श्री): 113 recipients
 - Women Awardees (महिला पुरस्कार विजेता): 23
 - Foreign/NRI Recipients (विदेशी/एनआरआई प्राप्तकर्ता): 10
 - Posthumous Awards (मरणोपरांत पुरस्कार): 13

-
- Padma Vibhushan Awardees (पद्म विभूषण विजेता)
 -  J.S. Khehar (Retd.) / जे.एस. खेहर (सेवानिवृत्त) (Public Affairs / लोक सेवा)
 -  D. Nageshwar Reddy / डी. नागेश्वर रेड्डी (Medicine / चिकित्सा)
 -  Kumudini Lakhia / कुमुदिनी लाखिया (Art / कला)
 -  Lakshminarayana Subramaniam / लक्ष्मीनारायण सुब्रमण्यम (Art / कला)
 -  M.T. Vasudevan Nair (Posthumous) / एम.टी. वासुदेवन नायर (मरणोपरांत)
(Literature / साहित्य)
 -  Osamu Suzuki (Posthumous) / ओसामु सुजुकी (मरणोपरांत) (Trade / व्यापार)
 -  Sharda Sinha (Posthumous) / शारदा सिन्हा (मरणोपरांत) (Art / कला)

-
- Padma Bhushan Awardees (पद्म भूषण विजेता)
 - Bibek Debroy / बिबेक देबरॉय (Economist / अर्थशास्त्री)
 - Pankaj Udhas / पंकज उधास (Ghazal Singer / ग़ज़ल गायक)
 - Shekhar Kapur / शेखर कपूर (Filmmaker / फ़िल्म निर्माता)
 - P.R. Sreejesh / पी.आर. श्रीजेश (Hockey Player / हॉकी खिलाड़ी)
 - Anant Nag / अनंत नाग (Actor / अभिनेता)
 - Jatin Goswami / जतिन गोस्वामी (Cultural Expert / लोक संस्कृति विशेषज्ञ)
 - Vinod Dham / विनोद धाम (Engineer, "Father of Pentium Chip" / इंजीनियर, "पेंटियम चिप के जनक")
 - Sadhvi Rithambhara - Connected to the Babri Masjid Demolition (राजनीतिक रूप से विवादास्पद)
 - Pawan Kumar Goenka - Indian Space Promotion Leader
 - Arijit Singh - Renowned Playback Singer
 - Ajay V. Bhatt - Inventor of USB (यूनिवर्सल सर्विस बस के जनक)

Origins of Padma Awards (पद्म पुरस्कार की उत्पत्ति): Established in 1954 by the Government of India.

Recognizes contributions in **Art, Public Affairs, Science, Trade, and Literature.**

Global Recognition (वैश्विक मान्यता): Awards have been granted to **international figures** like Osamu Suzuki.

Posthumous awards honor individuals with **lasting historical impact.**

- **Controversial Figures (विवादास्पद व्यक्ति):**
 - **Sadhvi Rithambhara** played a role in the **Ram Janmabhoomi** movement, adding a **political dimension**.
 - Recognizing **Babri Masjid demolition figures** highlights **government ideological inclinations**.

- **Foreign Awardees (विदेशी प्राप्तकर्ता):**
 - **Osamu Suzuki (Japan), Vinod Dham (USA-India) show international collaboration in industry and technology.**
- **Geopolitical Relevance (भू-राजनीतिक संबंध):**
 - **Recognizing Pawan Kumar Goenka links to India's space program.**
 - **Honoring Ajay Bhatt (USB inventor) shows technological advancement.**

- **Government Influence on Awards (सरकार का प्रभाव):** Selection of **Sadhvi Rithambhara** suggests **BJP-aligned ideology**.
- Former **CJI J.S. Khehar**, linked to **Triple Talaq Judgement**, reflects **legal-political recognition**.

Udaipur, Indore crowned India's first Ramsar wetland cities

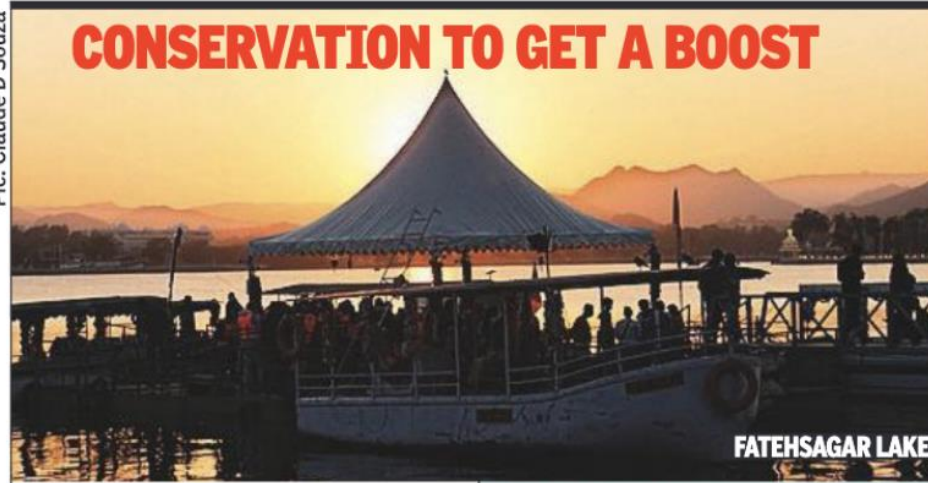
Claude D'Souza &
Ajay Singh Ugras | TNN

Udaipur/Jaipur: Rajasthan's Udaipur and Madhya Pradesh's Indore have become India's first two cities to receive international accreditation as 'Wetland Cities' under Ramsar Convention. Globally, only 31 cities hold the prestigious title.

Announcing the milestone on Friday night on X, Union minister for environment, forest and climate change Bhupendra Yadav said, "Double joy! A testimony to PM Shri @narendramodiji's vision of marching ahead, aligning economy and ecology."

On Saturday, Modi wrote on X, "Congratulations to Indore and Udaipur! This recognition reflects our strong commitment to sustainable development and nurturing harmony between nature

Pic: Claude D'Souza



➤ Udaipur is surrounded by 5 lakes, which also conserve many fish species and attract migratory birds

➤ Ramsar Conference of the Parties in 2015 (COP12) passed the establishment of Wetland City Accreditation system globally

➤ First batch of wetland cities from China, France and Sri Lanka, among others, was notified in 2018

➤ Second batch of cities from Japan, Morocco, Iraq, Spain, and others was declared in 2022

and urban growth. May this feat inspire everyone to keep working towards creating greener, cleaner, and more eco-friendly urban spaces across our nation."



Ramsar Convention,


signed in 1971 in Iran's Ramsar, is an international treaty dedicated to the conservation and sustainable use of wetlands.


► Continued on P 4

79	Chilika Lake	Odisha	October 1981
80	Keoladeo National Park	Rajasthan	October 1981
81	Nagi Bird Sanctuary	Bihar	June 2024
82	Nakti Bird Sanctuary	Bihar	June 2024
83	Nanjarayan Bird Sanctuary	Tamil Nadu	August 2024
84	Kazhuveli Bird Sanctuary	Tamil Nadu	August 2024
85	Tawa Reservoir	Madhya Pradesh	August 2024

- **Introduction (परिचय)**
- **Udaipur (Rajasthan) and Indore (Madhya Pradesh) have become India's first cities to receive 'Wetland Cities' accreditation under the Ramsar Convention.**
- **Globally, only 31 cities hold this prestigious title.**

-  **International Recognition (अंतरराष्ट्रीय मान्यता)**
- Udaipur and Indore **recognized under Ramsar Convention** for their wetland conservation efforts.
- **Only Indian cities** among **31 global wetland cities**.
-  **Significance of Udaipur (उदयपुर का महत्व)**
- **Surrounded by 5 lakes**, including **Fatehsagar Lake**.
- Supports **rich fish biodiversity** and **migratory birds**.

-  **Historical Ramsar Conference (इतिहासिक रामसर सम्मेलन)**
- In **2015 (COP12)**, Ramsar Convention passed the **Wetland City Accreditation System** globally.
- The first batch of wetland cities was **recognized in 2018 (China, France, Sri Lanka, etc.)**.
- The **second batch (Japan, Morocco, Iraq, Spain, etc.)** was added in **2022**.

-)
-  **Wetland Ecosystem (आर्द्रभूमि पारिस्थितिकी तंत्र)**
- **Udaipur's interconnected lakes:** Fatehsagar, Pichola, Udaisagar, Swaroop Sagar, and Doodh Talai.
- **Indore's rejuvenated rivers and wetlands:** Sirpur Lake, Bilawali Lake, and Khan River.

- **Economic Aspects (आर्थिक पहलू)**
-  **Tourism & Economy (पर्यटन और अर्थव्यवस्था)**
- **Udaipur & Indore attract eco-tourism due to their lake systems and biodiversity.**
- **Sustainable wetland conservation boosts local economy and job creation.**
-  **Urban Planning & Investment (नगरीय योजना और निवेश)**
- **Smart City projects integrating wetland conservation.**
- **Eco-friendly urban growth attracting international funding.**



ASSAM TEA WORKERS
Fungal infection affects TB survivors: study
NEWS » PAGE 6



PEOPLE SEEK ACTION
Tiger attacks member of search team in Wayanad
NEWS » PAGE 3



MILKIPUR BYPOLL
Caste, community equations play out
NEWS » PAGE 4



REMEMBERING THE PAST
Genocide and averted gaze
Leaders must think why 'never again' continues to be breached
EDITORIAL » PAGE 8



DOMINANT DISPLAY
Sinner outclasses Zverev, retains title
SPORT » PAGE 16

INSIDE



Cardiac surgeon K.M. Cherian passes away at 82

CHENNAI India's renowned cardiac surgeon K.M. Cherian, who performed the country's first coronary bypass surgery, passed away in Bengaluru on Saturday at age 82. His son, shared that Dr. Cherian collapsed after attending a wedding reception. » PAGE 6



Revanth says Centre trying to take over varsities

HYDERABAD Telangana CM A. Revanth Reddy urged Prime Minister Narendra Modi to reject proposed UGC amendments on Vice-Chancellor appointments, calling them an attack on the Constitution. He raised concerns over the Centre trying to usurp State control over universities. » PAGE 3



₹10 lakh cr. debt of billionaires waived by BJP

NEW DELHI AAP chief Arvind Kejriwal said on Sunday the BJP waived ₹10 lakh crore in debt for 400-500 billionaires. He urged people to choose between 'AAP model', which focuses on public welfare, and 'BJP model', which is the rule of the wealthy. » PAGE 4

Republic Day showcases diversity, military might

President Droupadi Murmu leads the celebrations, with Indonesian President Prabowo Subianto as special guest; tableaux celebrating 150 years of tribal activist Birsa Munda and 75 years of the enactment of Constitution were the key highlights; more than 72,000 passes issued, with 32,000 passes sold to citizens, according to the Defence Ministry

Samridhi Tewari
Savitika Mahajan
NEW DELHI

India showcased its military might and cultural diversity with a parade keeping special focus on the 75 years of the enactment of the Constitution and *Jan Bhagatari*, at the Republic Day celebration here on a cold winter morning that continued into a bright sunny afternoon on Sunday.

President Droupadi Murmu led the celebrations, with Indonesian President Prabowo Subianto as the special guest.

The theme for this year was "Svarnini Bharat: Vitarat aur Vikas" (Golden India: heritage and development).

The parade began at 10.30 a.m., with the visit of Prime Minister Narendra Modi to the National War Memorial, where he led



Stately celebrations: President Droupadi Murmu arrives for the Republic Day parade with Indonesian President Prabowo Subianto on Kartavya Path in New Delhi on Sunday; an aerial view of the marching contingents and Army tanks, *ANI & PPTI*

the nation in paying solemn tributes to the fallen heroes. The President and her Indonesian counterpart were escorted by the President's Bodyguard, the senior most Regiment of the Army. While the invi-

tees stood still, the National Anthem was performed by the playing of the National Anthem with a thunderous 21-gun salute using 105-mm light field guns, an indigenous weapon system. The Indian



Army graced the event with a music band. Tableaux celebrating 150 years of tribal activist Birsa Munda and 75 years of the Constitution spotlighted the "Father of the Indian Constitution" Dr.

B.R. Ambedkar were key highlights. Nearly 10,000 special guests from various parts of life were invited. According to the Defence Ministry, over 7,000 passes were issued, with 32,000



passes having been sold for citizens. The parade was heralded by 300 cultural artists playing "Sare Jahan Se Achha" with musical instruments. Lieutenant-General Bhavish Kumar, General Officer Command-

ing, Delhi Area, commanded the parade.

Slowly, the Brigade of the Guards, the Jat Regiment, the Garhwal Rifles, the Mahar Regiment, the Jammu and Kashmir Rifles Regiment, the Corps of Signals, and others marched down Kartavya Path, with patriotic music and beats. Over 31 tableaux added colour to the show. For the first time, a tri-services tableaux rolled down Kartavya Path, displaying the spirit of jointness and integration.

The ceremony culminated with the National Anthem and the release of balloons carrying banners with the official logo depicting 75 years of enactment of the Constitution in both English and Hindi.

'REPUBLICAN JOURNEY'
» PAGE 8
RELATED REPORTS
» PAGE 5

Trump moots 'clean-out' of Gaza, allows transfer of bombs to Israel

Associated Press
ABOARD AIR FORCE ONE

U.S. President Donald Trump said he would like to see Jordan, Egypt and other Arab nations increase the number of Palestinian refugees they are accepting from the Gaza Strip, potentially moving out enough of the population to "just clean out" the war-torn area to create a virtual clean slate.

During a 20-minute question-and-answer session on Saturday with presspersons aboard Air Force One, Mr. Trump also said he has ended his predecessor's hold on sending 2,000-pound bombs to Israel. That lifts a pressure point meant to reduce civilian casualties during the war's waning phase.



Happy homecomings: A Palestinian who spent 19 years in Israeli prison, greeting his family in West Bank, *APR*

Gaza, which is now halted by a tenuous ceasefire. "We released them to day," Mr. Trump said of the bombs. "They have been waiting for them for a long time." Asked why he lifted the ban on those bombs, Mr. Trump responded, "Because they bought them."

Mr. Trump has built his

political career around being unapologetically pro-Israel. On his vision for Gaza, Mr. Trump said he had a call earlier in the day with King Abdullah II of Jordan and would speak on Sunday with President Abdel Fattah el-Sisi of Egypt.

Such a drastic displacement of people would openly contradict Palesti-

nian identity and deep connection to Gaza. Still, Mr. Trump said the part of the world that encompasses Gaza, has "had many, many conflicts" over centuries. He said resettling "could be temporary or long term."

"Something has to happen," Mr. Trump said. "But it's literally a demolition site right now. Almost everything's demolished, and people are dying there."

Israeli Prime Minister Benjamin Netanyahu, in a statement on Sunday, thanked Mr. Trump for "keeping your promise to give Israel the tools it needs to defend itself." He did not mention Mr. Trump's suggestion on Palestinian refugees. **PALESTINE RESPONSES**
» PAGE 14

Extremists call to boycott celebrations fails; ULFA claims 'blast' in Guwahati

The Hindu Bureau
GUWAHATI

People across eight northeastern states defied a boycott call by some extremist groups, including the United Liberation Front of Assam (Independent), to celebrate the country's 76th Republic Day on Sunday.

An aberration in the festival-like atmosphere was a "bomb blast" the ULFA claimed to have detonated on a truck parking lot in the Beharbari area on the outskirts of Guwahati in the morning. Another bag, suspected to contain an improvised explosive device, was found at the Inter-State Bus Terminus nearby.

The police downplayed the outlawed outfit's claim. "It was a loud sound, not an explosion. We have launched an operation to catch the miscreants involved," Guwahati's Commissioner of Police, Partha Sarathi, said.

Earlier, the Faresh Baruah-led ULFA claimed it carried out blasts in Gubhati and other parts of Assam but sent a message to the people to not participate in artificial suppression of independence Day and Republic Day programmes in the future.

In an email, a spokesperson of the group said the "blast" was also to remind New Delhi of what it is capable of doing on a larger scale. Adhering to a decades-old template, the ULFA and some other extremist groups in the northeast called for the boycott of the Republic Day celebrations. They have often struck on or before Janu-



Assam Chief Minister Himanta Biswa Sarma during the 76th Republic Day celebration in Dibrugarh on Sunday. *ANI*

ary 26 and August 15 to show they mean business. The gravest of such attacks was on August 15, 2004, killing 13, including 10 children, in eastern Assam's Dhemajai.

Assam's second capital Speaking at a Republic Day programme in Dibrugarh, Chief Minister Himanta Biswa Sarma said the government was developing infrastructure to turn Dibrugarh, Tezpur and Silchar towns into cities. "Dibrugarh will have an Assembly complex by 2027 and will be Assam's second capital. Tezpur will emerge as the cultural capital and Silchar will house a mini-secretariat and the Chief Secretary's Office," he said.

He also announced the inclusion of chess in Assam's school curriculum and a rollout of the New Pension Scheme for State government employees from April 1.

Manipur Chief Minister N. Biren Singh hoped the celebrating would mark the beginning of the return of peace in the ethnic violence-scarred State. "On this historic day, as we commemorate the adoption of our glorious Constitution in

1950, let us reaffirm our commitment to upholding the values and principles that define India - its unity, integrity, and vibrant spirit," he posted on X.

His Mizoram counterpart Lalduhoma said the public Day is a reminder of our collective commitment to democracy, equality, and progress. It is a day to reflect on how far we have come and the work still ahead in building an inclusive and just society." Mr. Lalduhoma has been critical of Mr. Singh's handling of the ethnic conflict.

In Nagaland, Governor La Ganesan said the State government had made every effort to resolve the "Naga political issue", a euphemism for the peace talks between the Centre and various factions of the National Socialist Council of Nagaland. He recalled Chief Minister N. Biren Singh's decision to appoint Union Home Minister Amit Shah last year of the people's yearning for an early solution. He also said substantial progress has been made on the proposed Frontier Nagaland Territory and hoped the remaining concerns of the Eastern Nagaland Peoples' Organisation are addressed in the spirit of brotherhood. **A 82**

No additional funds for MGNREGS; wages delayed

Sobhana K. Nair
NEW DELHI

The Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS), the Union government's flagship scheme to provide guaranteed employment of 100 days for rural workers, has not received an additional budgetary allocation in 2024-25 despite a deficit, resulting in delay in disbursement of wages to workers.

Sources said the Rural Development Ministry was short of ₹4,315 crore for the wages for which fund transfer order had been generated. Section 3 (3) of the MGNREGS Act says "the disbursement of daily wages shall be made on a weekly basis or in any case not later than a fortnight after



Uncertain times: MGNREGS workers at a reconstruction site on the outskirts of New Delhi, *PTI*

the date on which such work is completed. The material component has a domino effect which impacts future projects.

When there is a continued delay in material component payout, the local vendors who supply the raw material become reluctant to supply, break-

ing the work cycle. In February 2024, in the last Budget of the Narendra Modi government's second term, ₹86,000 crore was allotted for the scheme. Despite the deficit and repeated requests forwarded by the Union Rural Development Ministry to the Finance Ministry, no additional funds were provided.

This is breaking from the past trend of allocating additional funds. To criticism on low allocation for the programme, the government has maintained that it is a demand-driven scheme and additional allocation is made whenever needed. For example, in 2020-21, when the pandemic drove reverse migration to the villages and the demand for work soared,

the government revised the original allocation of ₹1,15,500 crore, one of the highest bumps. Academics and activists closely monitoring the programme say the budgetary allocation leads to artificial suppression of demand. This problem was also flagged by the Parliamentary Standing Committee on Rural Development in its report tabled in February 2024.

"The pruning of funds at Budget Estimate (BE) stage itself does have a cascading effect on some important aspects such as timely release of wages, release of material, etc., which have a telling impact on the progress of the Scheme," the panel noted in its report.

IN BRIEF



Akhilesh Yadav takes dip at Sangam during Maha Kumbh

Samajwadi Party (SP) president Akhilesh Yadav visited the Maha Kumbh and took a dip at the Sangam in Prayagraj on Sunday. Talking to the media, Mr. Yadav said he aimed to bring harmony, peace and tolerance in society so that the country will continue to move forward for these values for the betterment of the people. "On Republic Day, on this auspicious occasion, I got the opportunity to take 11 dips in the Sangam as per the tradition. Today, we take a pledge that there should be harmony, goodwill and everyone should keep moving forward with tolerance," said Mr. Yadav. Taking a swipe at Uttar Pradesh Chief Minister Yogi Adityanath, he said the Maha Kumbh was a spiritual event and not a water-sport event.

Ashwini Vaishnav interacts with invitees of Mann Ki Baat

Union Minister of Information and Broadcasting Ashwini Vaishnav on Sunday interacted with special invitees of Prime Minister Narendra Modi's Mann Ki Baat programme who were selected as distinguished guests for the Republic Day parade. They were invited by Akshayniti to its New Delhi office. "On the special invitation of the Prime Minister, individuals and representatives of organisations who have undertaken remarkable work, had been invited to witness the Republic Day parade. These individuals have been personally mentioned by the Prime Minister over the past 10 years in the iconic Mann Ki Baat programme broadcasted on Akshayniti," read a press release.

Assam tea workers prone to post-TB fungal disease: study

Chronic pulmonary aspergillosis, or CPA, is a life-threatening infection that strikes individuals with immunodeficiency; an earlier study had flagged prevalence of epidemic dropsy in States tea belt

Rahul Karmakar GUWAHATI

Two years after a study flagged the epidemic dropsy threat, a new research paper has identified a life-threatening fungal infection mostly in the damaged lungs of tuberculosis survivors among Assam's tea plantation workers.



Persistent problem: TB has been a major public health issue across the tea belts in Assam's Brahmaputra and Barak valleys. An

Two years after a study flagged the epidemic dropsy threat, a new research paper has identified a life-threatening fungal infection mostly in the damaged lungs of tuberculosis survivors among Assam's tea plantation workers.

A team of researchers from the Assam Medical College and Hospital, Dibrugarh has now put the focus on chronic pulmonary aspergillosis (CPA), an infection caused by Aspergillus fumigatus, a fungus that strikes individuals with immunodeficiency. CPA is a chronic lung disease that occurs commonly in pre-existing chronic conditions. It mostly occurs in post-TB or active TB patients and shares similar clinical features with

tuberculosis. The study, the first of its kind among tea workers, was published in the journal PLOS Neglected Tropical Diseases. Its authors are Aishwarya Schweskar, Reema Nath, Gourange Gogoi, and Pronami Borah. The team examined 128 patients visiting three tea garden hospitals and two referral hospitals in Dibrugarh district, which has 177 of Assam's 803 major tea estates and a high TB burden. These patients - tea workers and their dependents from four tea estates - experienced chronic cough, haemoptysis (coughing blood), weight loss or fatigue, and other respiratory symptoms for

three months or more. Using advanced serological imaging, the researchers recorded a CPA prevalence of 17.18% in the year-long study. CPA seropositivity was 18.5% in active TB patients but spiked to 48.9% in those who had completed treatment, underlining the fungal infection as a post-TB health issue. Worse than Africa The mean age of the patients was 41.9 and CPA was found to be more common in middle-age male workers (80 against 48 females). According to the study, Assam's high CPA preva-

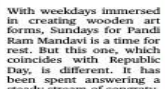
lence of 60 cases per 1,00,000 people exceeds the global average of 4.2. This scenario is worse than in African countries such as Nigeria and the Democratic Republic of Congo, where the prevalence ranges from 10 to 20%. The researchers suggested testing for Aspergillus antibodies in patients who come with respiratory symptoms and a positive test of TB treatment to diagnose the cases early and treat them subsequently.

"This will help to decrease the morbidity and mortality due to this neglected and diagnosed disease in tea garden hospitals as well as other TB hospitals," they said. The researchers advised campaigns to train healthcare providers to recognise CPA symptoms and educate workers about respiratory health, nutrition and hygiene practices.

In the context of nutrition, health experts pointed to a two-year-old study on epidemic dropsy published in the Currents Journal of Medical Science. Epidemic dropsy is caused by the consumption of edible oils contaminated with the oil from Argemone mexicana, a poppy of Mexican origin.

Flute-maker hopes Padma award will open up new avenues

Shubhomya Sikdar NARAYANPUR



Pandi Ram Mandavi

With weekdays immersed in creating wooden art forms, Sundays for Pandi Ram Mandavi is a time for rest. But this one, which coincides with Republic Day, is different. It has been spent answering a steady stream of congratulatory calls from across the country and beyond, on his humble telephone. Mr. Mandavi has been chosen for the Padma Shri, India's fourth-highest civilian award, for his contribution to the field of wood craftsmanship and is particularly known for popularising a specially designed flute.

The 68-year-old began his love affair with the art at the tender age of 15. The artist, whose works have travelled across India and beyond, feels the recognition will inspire others to take up the art. He says it will also create opportunities for existing artists in his village of Gadhinagar in Narayanpur district of Chhattisgarh and the larger Bastar region. "There are various forms of painting and terracotta art also in Gadhinagar and many more Bastar. But most of the folk marketing skills are still struggle to find markets. I hope the recognition I have achieved helps others too," says Mr. Man-

davi, who was born into a Gondli-respecting family from the Murliya tribe and learnt the woodwork from his father. From wooden art that ranges from tiny combs to gigantic statues of Murli tribal men and women and even doors and pillars with engravings, it is the flute that earned Mr. Mandavi much recognition. "In the early 1990s, when it was being exhibited in Delhi, it caught the fancy of a group of visiting Japanese school-children, each wanting to buy more than a piece. I realised its potential and over the years, I have lost count of the number of pieces I have sold," he says. His flute differs from traditional flute. Sound is produced by holding it in the hand like a wand and spinning it, a process that uses the air entering the long cylinder through a combination of three metallic washers stacked together at one end.

Cardiac surgeon who performed India's first coronary bypass surgery passes away

The Hindu Bureau CHENNAI

India's pre-eminent cardiac surgeon K.M. Cherian, who performed India's first coronary bypass surgery, died in Bengaluru on Saturday. He was 82.

His son, Sanjay Cherian, shared a note that said, "It is with profound grief that I inform you all that my beloved father, Dr. K.M. Cherian, passed away around 11:55 p.m. last night (January 25). Dad and I had attended a wedding reception in Bengaluru and as we were leaving, he collapsed..." He also said that Dr. Cherian was rushed to Manipal Hospital where he was declared dead. The funeral will be held on January 30.

Only a couple of days ago was his autobiography, Just an Instrument, launched at the Kerala Literature Festival.

Born on March 8, 1942,

in Kerala, Dr. Cherian worked for over 50 years in the field of cardiology, training under world-renowned leaders in the field. He was also credited with performing the first heart-lung transplant in India, the second cardiac transplant, and strangely for a profession where people pick to their chosen specialisation, was also a pioneer in paediatric cardiac surgery. He set up Frontier Lifeline Hospital in Chennai and Frontier MediVile, a large medical science park on the outskirts of the city, to help spur research into indigenous cardiac valves and other technologies.

During the book launch in Kerala, Dr. Cherian said each surgeon should consider the patient part of his own family. Some of the experiences he shared on the occasion include how he performed heart surgeries on 20 Iraqi children and

how he played the diplomat in the release of four Indian drivers who were imprisoned in Iraq. He went on to explain his association with Mother Teresa, upon whose request he performed a surgery on a poor boy in Kolkata at minimal cost.

After having completed his medical education in Kasturba Medical College, Manipal, he went on to teach at Christian Medical College, Vellore, before heading out to the far shores of Australia and New Zealand to train further in cardiac surgery. He chose to come back to India to serve the people and the country. In his 50-plus years he served in the field, he also had a term as honorary cardiac surgeon to the President and worked extensively with patients who came from foreign nations for treatment, and was awarded the Padma

Shri. Prime Minister Narendra Modi, in a post in X, said, "Pained by the passing of Dr. K.M. Cherian, one of the most distinguished doctors of our country. His contribution to cardiology will always be monumental, not only saving many lives but also mentoring doctors of the



DR. K.M. CHERIAN (1942 - 2025)

future. His emphasis on technology and innovation always stood out. My thoughts are with his family and friends in this hour of grief."

Simple childhood Dr. Cherian recalled his simple childhood, from walking barefoot to school to playing marbles on the street with friends, and a love to don paint to participate in the tiger dance during Onam. He confessed to getting into mathematics in Class 5, but the school managed to give grace marks to all students who the exam was unusually tough.

K.B. Balakrishnan, chairman-cardiac sciences and director of the Institute of Heart Lung Transplant and Mechanical Circulatory Support in MGM Healthcare, recalled coming to Chennai in November 1995 when he joined the hospital. Dr. Cherian was a mentor, with whom he conducted experiments during his stint at the Railway Hospital. "We did exciting stuff that time," he said.

He has travelled all over the world, planning for Madras Medical Mission (MMM). When I was working in Auckland in New

Zealand, he stayed with me and we visited hospitals. I was the first cardiac surgeon to work with him. This is before he became famous. He was instrumental in me getting a fellowship in the United States. He was very generous to young people who worked with him. His contributions to cardiac surgery in India are legendary."

Ajit Mullanarai, director of cardiology at the Institute of Cardio-vascular Disease and chairperson of M.M. Swaminathan Research Foundation, said he met Dr. Cherian in 1995 when he joined the hospital.

"The first bypass surgery, coronary artery bypass surgery, the heart transplantation in the private sector, a lot of paediatric surgeries were pioneering efforts in this country. He had a great vision of the future," he said. Dr. Cherian "believed standardisation centres will have no

dilution of cardiac care. Subsequently a lot of people followed. But he was always one step ahead." Dr. Mullanarai said, adding: "He put effort into research, which usually doesn't happen in a private centre. He was pushing you to research, be it stem cell or lab work. He would push us to write an encourage us to present in international congresses."

Sowmya Swaminathan, former chief scientist of World Health Organisation and chairperson of M.M. Swaminathan Research Foundation, said he met Dr. X, said, "Deeply saddened to hear of Dr. K.M. Cherian's passing. His memoir was just released and we had long conversations recently about the future of innovation and health technology development in India. Certainly a source of inspiration to many, apart from the countless lives he saved! RIP!"

THIRU CROSSWORD 14392

Crossword puzzle grid with clues and a QR code for online access.

- 14 Student stands up to describe origin of oldest primates (7)
15 Republican actually about to break a law (7)
17 Pouring rum for exclusive circle (7)
18 Device used for stimulation by degenerate found in passage (7)
21 Express disapproval, start to unpeck, short skirt (4)
22 First-class chef's double com salad (6,4)
25 Like a romantic dinner and dance? It's rock (9)
26 Eventually remove 2 clothes, although (2, 3)
27 Gulp with regret, so irritated about wife's fight for dominance (5,6)
Down:
2 Device measuring electric current in programme, terrific (7)
3 Where one has a close shave as robber takes to plunder house desperately (10)
4 Singer at opera describing drek meat (5)
5 Knife killing is sickening (9)
6 Viewpoint of spiteful nationalist ignored (4)
7 Short fictional work by star cartoonist of the Spanish European (7)
8 Lose one's temper as party controlled by selfish Leicester pulls out (2,5)
10/ 11 What matador might do to boldly tackle difficulty (4,4,2,3,5)
12 Insulting ignorant rogue suppressing fine female (10)
13 Posh models dancing close to Greek dramatist (9)
15 Romeo involved in attempt to hire English cast (1,4)
20 High after consuming ecstasy, couple of ladies reveal everything (4,3)
23 Check patient's butt bitten by animal (5)
24 Sheet of floating ice in stream, reportedly (4)

SUDOKU

Sudoku puzzle grid with numbers and a QR code for solution.

Additional Sudoku puzzles and solutions.

FAITH

Greatness of Ramanuja

Sri Vedanta Desika, in his work "Yathiraja Saphatika," venerates and commends the nobility of acharya Sri Ramanujam, the founder of Vishishtadvaita philosophy. Thirukkurandhali Dr. Venkatesh said in a discourse that Swamy Desika dedicated the first 10 shlokas to invoking the blessings of various acharyas (Guru Parampara). He begins with Lord Narayana, who revealed the Vedas to the world and formulated Agama Sastras to be followed to worship Him. That Lord is the first Guru. For any good work like the performance of homas and yagnas, a person must do the same with his spouse, and then only the ritual will be complete. Lord has taken a resolve to protect us, and in the Yagna of dharma, His divine consort, Goddess Lakshmi, remains always with Him. She comes next to the Lord. Then comes the chief of the celestial Vishwakarma. The Vedas have tried to reveal the qualities of God. The apostle Nammazhwar has given the essence of the Vedas through his work "Thiruvaymoli" in Tamil, which is easily understandable. Swamy Desika pays his obeisance to Nammazhwar. Then, the acharyas Nathamuni, Uyyakkondar, and Manakkal Nambis are revered. After Peria Nambis Swamy Desika starts praising the great acharya Sri Ramanujam. Sri Ramanuja used to keep "thiruvandanam" (a staff with three sticks). This symbolises the worship of Narayana through mind, word, and deed. He is the king of sacciti (Yaath Raja). He is the manifestation of the five divine weapons (panchachudra) of Lord Vishnu. Swamy Desika prates Ramanuja as the central gem of the preceptor lineage, a priceless pendant.

Assam tea workers prone to post-TB fungal disease: study

Chronic pulmonary aspergillosis, or CPA, is a life-threatening infection that strikes individuals with immunodeficiency; an earlier study had flagged prevalence of epidemic dropsy in State's tea belt

Rahul Karmakar
GUWAHATI

Two years after a study flagged the epidemic dropsy threat, a new research paper has identified a life-threatening fungal infection mostly in the damaged lungs of tuberculosis survivors among Assam's tea plantation workers.

TB has been a major public health issue across the tea belts in Assam's Brahmaputra and Barak valleys, afflicting 217 per 1,00,000 population according to the National TB Prevalence Survey of 2019-2021. The risk factors include poverty, poor nutrition, kitchen smoke, close contact with smear-positive patients, and living in congested environments.

A team of researchers from the Assam Medical College and Hospital in Dibrugarh has now put the focus on chronic pulmonary aspergillosis (CPA), an infection caused by *Aspergillus fumigatus*, a fungus that strikes individuals with immunodeficiency. CPA is a chronic lung disease that occurs commonly in pre-existing lung cavities. It mostly occurs in post-TB or active TB patients and shares similar clinical features with



Persistent problem: TB has been a major public health issue across the tea belts in Assam's Brahmaputra and Barak valleys. ANI

tuberculosis.

The study, the first of its kind among tea workers, was published in the journal *PLOS Neglected Tropical Diseases*. Its authors are Aishwarya Selvasekhar, Reema Nath, Gourangie Gogoi, and Pronami Borah.

The team examined 128 patients visiting three tea garden hospitals and two referral hospitals in Dibrugarh district, which has 177 of Assam's 803 major tea estates and a high TB burden. These patients – tea workers and their dependents from four tea estates – experienced chronic cough, haemoptysis (coughing blood), weight loss or fatigue, and other respiratory symptoms for

three months or more.

Using advanced serological testing and radiological imaging, the researchers recorded a CPA prevalence of 17.18% in the year-long study. CPA seropositivity was 18.5% in active TB patients but spiked to 48.9% in those who had completed treatment, underlining the fungal infection as a post-TB health issue.

Worse than Africa

The mean age of the patients was 41.9 and CPA was found to be more common in middle-age male workers (80 against 48 females).

According to the study, Assam's high CPA preva-



lence of 60 cases per 1,00,000 people exceeds the global average of 42. The scenario is worse than in African countries such as Nigeria and the Democratic Republic of Congo, where the prevalence ranges from 20 to 50. The researchers suggested testing for *Aspergillus* antibodies in patients who come with respiratory symptoms after completion of TB treatment to diagnose the cases early and treat them subsequently.



"This will help to decrease the morbidity and mortality due to this neglected and under-diagnosed disease in tea garden hospitals as well as other TB hospitals," they said. The researchers advised campaigns to train healthcare providers to recognise CPA symptoms and educate workers about respiratory health, nutrition, and hygiene.


In the context of nutrition, health experts pointed to a two-year-old study on epidemic dropsy published in the *Cureus Journal of Medical Science*.


Epidemic dropsy is caused by the consumption of edible oils contaminated with the oil from *Argemone mexicana*, a poppy of Mexican origin.





- . **Overview of the Study (अध्ययन का अवलोकन)**
- **Research on chronic pulmonary aspergillosis (CPA)** among tuberculosis survivors in Assam's tea belt.
- CPA is caused by the **fungal infection Aspergillus fumigatus** and primarily affects immunodeficient individuals.
- A study conducted in Assam's **Brahmaputra and Barak valleys** revealed **high TB prevalence**.

-  **High TB Prevalence (उच्च टीबी प्रसार)**
- **417 per 1,00,000 cases** reported, exceeding global averages.
- Tea plantation workers are at higher risk due to **poor nutrition, kitchen smoke, and congested living conditions.**
-  **Fungal Disease after TB (टीबी के बाद फंगल रोग)**
- CPA was found in **17.18%** of tea workers tested.
- CPA seropositivity was **higher in those who had completed TB treatment (48.9%).**

-  **Comparison with Global Data (वैश्विक आंकड़ों की तुलना)**
- Assam's CPA prevalence of **60 cases per 1,00,000** exceeds the **global average of 42**.
- Worse than **Nigeria and the Democratic Republic of Congo (20-50 cases per 1,00,000)**.
-  **Demographic Findings (जनसांख्यिकीय निष्कर्ष)**
- The **mean age** of affected patients was **41.9 years**.
- **Males more affected (80 cases vs. 48 in females)**.

- **Geographical Aspects (भौगोलिक पहलू)**
-  **Region-Specific Factors (क्षेत्र विशेष कारक)**
- Assam's **humid and tropical climate** supports **fungal infections** like Aspergillosis.
- **Tea plantations in Brahmaputra and Barak valleys** are **densely populated**, increasing disease transmission risk.
- **Poor medical infrastructure in tea estates** contributes to late diagnosis.

- **Economic Aspects (आर्थिक पहलू)**
-  **Impact on Assam's Tea Industry (असम की चाय उद्योग पर प्रभाव)**
- Assam's tea industry employs **millions of workers**, with health crises reducing productivity.
- **Medical expenses for long-term diseases like CPA** create financial burdens on low-income workers.
- **Economic dependence on tea plantations** means workers **continue to work despite illness**, worsening the disease spread.

- **Recommendations (सिफारिशें)**
-  **Medical Testing & Screening (चिकित्सा परीक्षण और जांच)**
- **Testing for Aspergillus antibodies** in post-TB patients with respiratory symptoms.
- **Early diagnosis and treatment** to reduce mortality and morbidity rates.
-  **Public Health Measures (सार्वजनिक स्वास्थ्य उपाय)**
- Awareness campaigns on **CPA and respiratory hygiene**.
- **Nutritional interventions** to improve immunity among workers.
-  **Policy Changes (नीतिगत परिवर्तन)**
- **Integrating CPA into India's TB program**.
- Strengthening **healthcare in Assam's tea belt**.
-  **Workplace Health Reforms (कार्यस्थल स्वास्थ्य सुधार)**
- Improving **living conditions** and reducing exposure to risk factors like **kitchen smoke and poor sanitation**.

Cardiac surgeon who performed India's first coronary bypass surgery passes away

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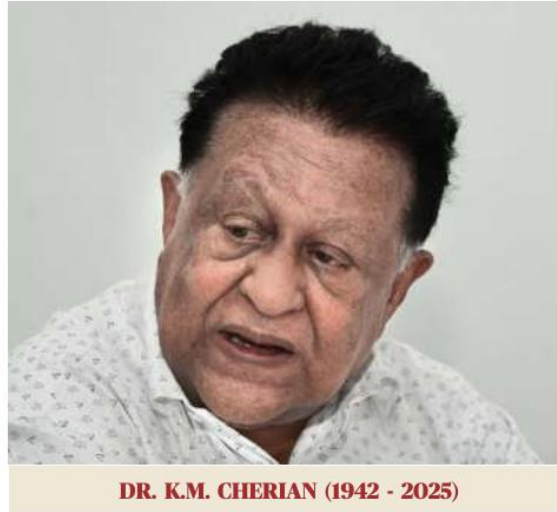
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Simple childhood

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barefoot to school to playing marbles on the street with friends, and a love to don paint to participate in the tiger dance during Onam. He confessed to getting zero in mathematics in Class 5, but the school managed to give grace marks to all students as the exam was unusually tough.

K.R. Balakrishnan, chairman-cardiac sciences and director of the Institute of Heart and Lung Transplant and Mechanical Circulatory Support in MGM Healthcare, recalled coming to Chennai in November 1984 "fresh from training in Bombay". Dr. Cherian was a mentor, with whom he conducted experiments during his stint at the Railway Hospital. "We did exciting stuff at that time," he said.

"He has travelled all over the world, planning for Madras Medical Mission (MMM). When I was working in Auckland in New

Zealand, he stayed with me almost a week, visiting hospitals. I was the first cardiac surgeon to work with him. This is before he became famous. He was instrumental in me getting a fellowship in the United States. He was very generous to young people who worked with him. His contributions to cardiac surgery in India are legendary."



Ajit Mulasari, director of cardiology at the Institute of Cardio-vascular diseases at the MMM, said his association with Dr. Cherian began in 1995 when he joined the hospital.

"The first bypass surgery, coronary artery bypass surgery, the heart transplantation in the private sector, a lot of paediatric surgeries were pioneering efforts in this country. He had a great vision of the future," he said. Dr. Cherian "believed standalone centres will have no

dilution of cardiac care. Subsequently a lot of people followed. But he was always one step ahead," Dr. Mulasari said, adding: "He put effort into research, which usually doesn't happen in a private centre. He was pushing you to research, be it stem cell or lab work. He would push us to write and encourage us to present in international congresses."

Sowmya Swaminathan, former chief scientist of World Health Organisation and chairperson of M.S. Swaminathan Research Foundation, in her post on X, said, "Deeply saddened to hear of Dr. KM Cherian's passing. His memoir was just released and we had long conversations recently – about the future of innovation and health technology development in India. Certainly a source of inspiration to many, apart from the countless lives he saved! RIP."

- **Introduction (परिचय)**
- **Dr. K.M. Cherian, India's pioneer cardiac surgeon, passed away at age 82.**
- **Performed India's first coronary bypass surgery and was a Padma Shri awardee.**
- **Founder of Frontier Lifeline Hospital in Chennai, known for innovations in indigenous cardiac valves.**

- **Contributions to Medicine (चिकित्सा में योगदान)**
-  **Key Achievements (प्रमुख उपलब्धियाँ)**
- **Performed India's first heart-lung transplant.**
- **Conducted second cardiac transplant in India.**
- **Pioneered pediatric cardiac surgery.**
-  **Training & Experience (प्रशिक्षण और अनुभव)**
- **Studied at Kasturba Medical College, Manipal.**
- **Trained in Australia and New Zealand before returning to India.**
- **Served as honorary cardiac surgeon to the President of India.**

- **Evolution of Cardiac Surgery in India (भारत में हृदय शल्य चिकित्सा का विकास)**
- In the **1980s**, cardiac surgery was still developing in India.
- Dr. Cherian was instrumental in bringing **advanced techniques** from abroad.
- His work **paved the way for future heart transplants and pediatric surgeries** in India.

- **Affordable Cardiac Care (सस्ती हृदय चिकित्सा)**
- Promoted **cost-effective heart surgery** in India.
- Helped reduce dependence on **imported heart valves** by developing indigenous alternatives.
- His work contributed to **India becoming a hub for cardiac surgery tourism.**

- **Dr. Ajit Mallasari:** "He led the first coronary bypass and heart transplant in the private sector."
 - ◆ **Sowmya Swaminathan (WHO Scientist):** "His memoir was released just before his passing, discussing future medical innovations."

Indian space programme breaks into 2025 in 'mission mode'

The PSLV-C60 mission laid the foundations for Chandrayaan-4 and the Bharatija Antariksh Station. Forthcoming test flights will move India closer to human spaceflight, soon to receive a helping hand from a third launch pad at Sriharikota, continuing work on NGLV, and a change of guard at ISRO

INDIA IN SPACE

Pradeep Mohandas

Just as 2024 was the year India developed a vision for its space programme, 2025 is likely to have the programme in mission mode. The PSLV-C60 mission, underway as the year began, laid the foundations for Chandrayaan-4 and the Bharatija Antariksh Station.

Forthcoming test flights will move India closer to human spaceflight, soon to receive a helping hand from a third launch pad approved for construction at Sriharikota, continuing work on the Next-Generation Launch Vehicle (NGLV), and a change of guard at ISRO.

SpaDeX, a team effort
 On December 30, 2024, the PSLV-C60 mission lifted off from the Satish Dhawan Space Centre (SDSC) in Sriharikota. About 15 minutes after liftoff, the rocket delivered the Space Docking Experiment (SpaDeX) satellites at slightly different velocities into a 478-km circular orbit.

Then ISRO chairman S. Somnath said the nominal date for the docking attempt would be January 7, 2025. M. Sankaran, director of the UR Rao Satellite Centre (URSC), said this was to allow the satellites to power up their solar cells.

Indian private company Kepler Aerospace provided ground station air-to-air support for the mission alongside ISRO. It was able to simultaneously command the two SpaDeX satellites and provided "comprehensive mission support in under a month."

Swiss space situational awareness company s2a system also shared details of the distance between the two satellites on the orbital plane.

This separation reached far rendezvous conditions, i.e., 10-20 km, on January 2, 2025, and started moving closer on January 6. ISRO had originally planned a webcast for January 7 but rescheduled by two days before the test flight.

On January 8, the organisation said when the inter-satellite distance was reduced from 300 m to 225 m, the drift between the satellites was greater than expected. So it re-increased the separation to 6-8 km on January 9 and started over.

On January 10, the satellites were put on 'hold' mode to maintain an inter-satellite distance of 1.5 km then moved closer together on January 11 and 'held' at 230 m. On January 12, the inter-satellite distance was reduced further to 105 m, subsequently to 15 m, and then to 3 m. At this point, ISRO decided to move the satellites apart once again so it could analyse data from the satellites' sensors before the next attempt.

According to s2a systems, the inter-satellite separation grew to 10.9 km on January 12, and from there the next docking attempt was launched. They came within 2.6 km of each other on January 13 and to 300 m on January 15.

Finally, on January 16, ISRO issued a statement saying the two satellites had successfully docked and stabilised themselves in orbit. ISRO thus made history by completing its first in-orbit rendezvous and docking. Later that day, both satellites were controlled together from one of them, a feat necessary for lunar and space-station docking.

ISRO said the next steps involved transferring power from one satellite to the other and, later, undocking.

POEM4, the orbital testbed
 After the PSLV-C60 mission deployed the SpaDeX satellites, the rocket's fourth stage was moved to a 350-km circular orbit and had its fuel dumped (a process called passivation, done so that the fuel doesn't explode and create a debris field). In this form, it was ready for the PSLV Orbital Experimental Module (POEM4) phase of its mission, when the fourth stage was to orbit the earth like a satellite. It carried 24 payloads: 14 from ISRO and 10 from academia and private industry.

ISRO's Relocatable Robotic Manipulator Technology Demonstrator tested its movement and relocation capability by moving from one part of POEM4 to another. The Debris Capture Robotic Arm Manipulator also moved its arm, but ISRO wasn't clear about whether it managed to capture the piece of debris tethered to the payload. The Compact Research Module for Orbital Plant Studies (CROPS) had cowpea seeds germinate in orbit and studied the leaves.
 On December 31, 2024, Manastu Space's Vyom 2U payload fired its green



ISRO launches the PSLV-C60 from the Satish Dhawan Space Centre in Sriharikota on December 30, 2024. AP/PTI

propulsion system for 30 seconds, tilting the POEM4 stage by 24°. The system used the company's proprietary green fuel MS289. Manastu fired the system once again on January 13, this time having POEM4 perform a somersault with an angular velocity of 1.5° per second.

Similarly, Bellatrix Aerospace fired its RUDRA payload for 60 seconds to impart an angular velocity of 1.4° per second and turn POEM4 around by 90°.

N Space Tech's payload, SwachhSATV0, established communications with its ground station. The payload, designed and built in-house, tested communications in the UHF to Ku bands.

The SPK Institute of Technology and the Upgraha Amateur Radio Club at URSC said they had successfully received data from IG5-ARFT, their jointly-developed amateur radio messaging payload. Many amateur radio operators also shared images received from IG5-ARFT on amateur radio mailing lists.

Galaxiye also announced the successful performance of its payload, GLX-SQ. The company said it had

achieved all mission objectives, including using GLX-SQ to create a synthetic-aperture radar (SAR) image. TakeMe2Space successfully conducted an in-orbit demonstration of its MOI-FD payload. An artificial intelligence unit, it uploaded "large models from the ground station, [executed] external code on the satellite, and [downloaded] the ... results." The company said it faced "a critical failure in the camera hardware," however.

Amity University said its Amity Plant Experimental Module in Space (APMIS) yielded positive results in its attempt to grow a plant in controlled conditions onboard POEM4.

Change of guard
 While the SpaDeX and POEM4 missions were being executed in space, V. Narayanan took over from Somnath as ISRO chairman on January 14.

Narayanan was director of the Liquid Propulsion Systems Centre, Thiruvananthapuram, and led work on the cryogenic and semi-cryogenic engines. He also chaired a committee to examine the failure of the Chandrayaan-2

On January 16 the two satellites docked and stabilised in orbit. Later both satellites were controlled together from one of them, a feat necessary for lunar and space-station docking. ISRO said next steps involved transferring power from one to the other and undocking moon-landing attempt.

Aboard Transporter 12
 Three Indian companies flew their payloads onboard Space's Transporter 12 mission on January 15. They were part of another 131 payloads that the Falcon 9 rocket delivered to orbit.

First, Pixel Space's three Firefly hyperspectral satellites became the first private Indian satellite constellation; three more are to fly in the future. The company announced on social media that all three satellites had deployed their solar arrays and had started generating power, were stabilised, and had established two-way communication links.

Second, Digantara launched its Space Camera for Object Tracking for space situational awareness and to augment its ground capabilities. The company said the satellite was generating solar power and had stabilised. The satellite will now move to its commissioning phase to prepare for its mission to precisely track objects in low-earth orbit.

Third, XDLINK Labs' Elevation 1 miniature communications satellite, built for US-based Almagest Space Corporation on its XDSATNS platform, was assembled, integrated, and tested by Ananth Technologies. The satellite has a small E-band satellite communications payload that sent a "hello from space" message to mark the start of its mission.

Space tech and science
 The Union cabinet approved the construction of a third launch pad at SDSC at a cost of ₹3984.86 crore. It's expected to be built by 2029, to serve as a backup for the second launch pad as well as support for human spaceflight facilities and ISRO's NGLV.

ISRO also successfully tested its Vikas engine's ability to restart, i.e., stop firing, then start again, at its propulsion complex in Mahendragiri. The engine was fired for 50 seconds, shut off for 20 seconds, and fired again for seven seconds. ISRO has more tests planned of certifying the engine's readiness to operate in this way in the atmosphere. The fourth-stage liquid engine of the PSLV already has restart capability in the vacuum of space.

Finally, on January 6, ISRO released the first tranche of data collected by its Aditya-L1 mission, exactly a year after the mission had started to study the sun and its effects on the inner solar system.

Pradeep Mohandas is a technical writer and a student in Pune. pradeep.mohandas@gmail.com



Aditya-L1 is India's first space-based observatory to study the sun. This artist's impression shows the spacecraft in its deployed and stowed configurations. ISRO



Remains of *Mbreresaurus rothi*, which was only about one metre tall, with a long tail, and weighed up to 30 kilograms, were found in Zimbabwe in 2019. AP/PTI

Where did dinosaurs first evolve?

Reuters

Dinosaurs long dominated the earth's land ecosystems with multiple forms, including plant-eating giants like Argentinosaurus, meat-eating brutes like Tyrannosaurus, and weirdos like Therizinosaurs, with its Wolverine-like claws. But the origin of dinosaurs — precisely when and where they first appeared — remains a bit of a puzzle.

Researchers are now proposing a surprising location for the birthplace of dinosaurs, based on the locations of the currently oldest-known dinosaur fossils, the evolutionary relationships among these early forms, and the earth's geography during the Triassic Period. This locale spans the modern-day Sahara desert and Amazon rainforest regions, now separated by thousands of kilometres and an ocean thanks to a geological process called plate tectonics.

"When dinosaurs first appear in the fossil record, all the earth's continents were part of the giant supercontinent Pangaea. Dinosaurs emerged in the southern portion of this landmass, known as Gondwana," said Joel Heath, a palaeontology doctoral student at University College London and the Natural History Museum in London and lead author of the study, published on Thursday in the journal Current Biology. "Our research suggests they likely originated in the low-latitude regions of Gondwana near the equator, an area that today includes northern South America and northern Africa," Heath added.

The earliest-known dinosaur fossils date to roughly 230 million years ago, including Eocursor and Herrerasaurus.

Research suggests dinosaurs likely originated in low-latitude regions of Gondwana near the equator, an area that today includes northern South America and northern Africa

from Argentina, Saturnalia from southern Brazil, and Mbreresaurus from Zimbabwe. While sharing certain traits defining them as dinosaurs, they had sufficient differences that suggest millions of years of dinosaur evolution had already occurred.

While earlier research has focused on southern South America and southern Africa as the area of origin of the dinosaurs, based on where their fossils first appeared, we suggest that significant gaps in the fossil record, particularly in regions that today include the Sahara desert and the Amazon rainforest, may hold the potential to reveal where the earliest dinosaurs were living," Heath said.

The researchers said dinosaurs probably emerged approximately 245-230 million years ago, when these equatorial regions were extremely hot and dry. "It likely included deserts, savannah-like habitats, and possibly forested areas prone to seasonal wildfires. Previously, it was believed that dinosaurs were absent from these harsh environments," Heath said.


Fossils from this time and region are rare. This might be because the conditions were not ideal for preserving the remains of land animals or because the rocks containing these fossils haven't been discovered yet, Heath said.

The Amazon and the Sahara are also difficult for palaeontologists to explore due to the logistical challenges.

Dinosaurs evolved from more primitive reptiles after the earth's biggest mass-extinction event caused by extreme volcanism at the end of the Permian Period, about 252 million years ago.

For feedback and suggestions for 'Science', please write to science@thehindu.co.in with the subject 'Daily page'

- **Introduction (परिचय)**
- India's **space programme enters mission mode** in 2025 with key advancements.
- PSLV-C60 laid the foundation for **Chandrayaan-4** and **Bharatiya Antariksh Station**.
- **Human spaceflight tests**, a **third launch pad** at Sriharikota, and **Next-Gen Launch Vehicle (NGLV)** are key focus areas.



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- Key Missions & Achievements (मुख्य मिशन और उपलब्धियाँ)
 -  PSLV-C60 Launch (PSLV-C60 प्रक्षेपण)
 - Launched from **Satish Dhawan Space Centre** on December 30, 2024.
 - Delivered **Space Docking Experiment (SpaDeX)** into orbit.
 - SpaDeX successfully **docked and stabilized two satellites**, a **key step for future space station missions**.

Orbital Test: POEM-4 (कक्षा परीक्षण: POEM-4)

Carried **24 payloads** from ISRO and international agencies.

Included **robotic arm** and **debris capture technology**.

Successfully demonstrated **orbital docking** and **maneuvering**

-
-  **SpaceX Collaboration (स्पेसएक्स सहयोग)**
 - Indian companies sent payloads on SpaceX's **Transporter-12** mission.
 - Pixxel deployed its **first hyperspectral satellite constellation**.
 - Digantara launched **Space Camera for Object Tracking**.
 -  **Aditya-L1 & Lunar Research (आदित्य-एल1 और चंद्र अनुसंधान)**
 - First **data from Aditya-L1 mission** was received.
 - Chandrayaan-4 mission plans under review.

Future Plans (भविष्य की योजनाएँ)



Upcoming Missions (आगामी मिशन)

Gaganyaan human spaceflight test in 2025.

Chandrayaan-4: Lunar sample return mission.

Bharatiya Antariksh Station development.

India's participation in global space exploration projects.

TOO GOOD

Sinner is the best player in the world by far, says Zverev



"It hurts to be standing next to this thing (trophy) and not being able to touch it," said Alexander Zverev after losing the final. "But congratulations to Jannik. You're the best player in the world by far" Zverev has lost 13 times to a top-five opponent at a Slam, with his only win coming against Carlos Alcaraz in Melbourne last year.

MILESTONE

Siniakova clinches 10th Grand Slam women's doubles crown



Czech Republic's Katerina Siniakova, right, won her 10th Grand Slam women's doubles title on Sunday when she and American partner Taylor Townsend clinched the Australian Open crown. The top seeds and reigning Wimbledon champions dived Chinese Taipei's Hsieh Su-wei and Latvian Jelena Ostapenko 6-2, 6-7(4), 6-3.

DREAM RUN

Tilak sets world record during knock against England



Tilak Varma set a new world record during his unbeaten 72 against England in the second T20I in Chennai. The 22-year-old has scored 318 runs in T20Is without being dismissed and went past New Zealand batter Mark Chapman's record of 273 runs between dismissals set in 2023.

ON A ROLL

India cruises past Bangladesh, continues merry run in U-19 WC



Reigning champion India continued its dominant run in the ICC Women's U-19 World Cup with an eight-wicket win over Bangladesh in its Super Six encounter in Kuala Lumpur on Sunday. The scores: Bangladesh 6/8 in 20 overs (Vaishnavi Sharma 3/35) lost to India 66/2 in 7.1 overs (Trisha Gongad 40). **Post:** Vaishnavi.

SNAPSHOTS

City downs Chelsea

MANCHESTER: Erling Haaland inspired a Manchester City fightback from 0-1 down to beat Chelsea 3-1 and move into the Premier League top four at the Blues' expense on Saturday.

Top results: Premier League: Manchester City 3 (Gvardiol 42, Haaland 60, Rodon 67) bt Chelsea 1 (Madueke 3), Crystal Palace 1 (Eze 85) lost to Brentford 2 (Mbeumo 66-pen, Scharke 80); Tottenham 1 (Richarlison 33) lost to Leicester 2 (Wendie 46, El Khannoussi 50).

Ligue 1: Sevilla 1 (Bade 63) drew with Espanyol 1 (Kumbulla 15); Valencia 0 lost to Real Madrid 3 (Mabappe 30, 57, 90+1-pen); Rayo Vallecano 2 (Nieto 80, 83) bt Girona 1 (Gil 58).

Serie A: Napoli 2 (Anguissa 57, Lukaku 69-pen) bt Juventus 1 (Kolo Muani 43); Udinese 1 (Luca 38) lost to Roma 2 (Pellegrini 50-pen, Doozyk 65-pen).

Gukesh takes joint lead WIKI AAN ZEE: D. Gukesh moved into joint lead at the Tata Steel Masters, outplaying his World Championship second P. Harikrishna in the seventh round. It was Gukesh's third win and put him on course for his maiden title here as he shared the lead with R. Praggnanandhaa and Nodirbek Abdurattorov (five points).

Top results: D. Gukesh (Ind, 5) bt P. Harikrishna (I 35); Wei Yi (Chn, 2.5) drew with Leon Luke Mendonca (Ind, 1.5); Max Wasmersdorf (Ger, 3.5) bt Arjun Erigasi (Ind, 1.5); Jordan van Foreest (Ned, 2.5) drew with R. Praggnanandhaa (Ind, 5); Anish Giri (Ned, 3) drew with Nodirbek Abdurattorov (Uzb, 5).

Challengers: R. Varshini (Ind, 4) drew with Benjamin Bole (Ind, 4); Minkyu Lu (Chn, 4.5) beat Dnyda Dubynina (Ukr, 1.5); Oro (Arg, 2.5) lost to Nguyen Thai Duong (Vie, 5); Swinerton (5) drew with Aydin Sulejmani (Aze, 3).

Ice-cool Sinner towers over Zverev, retains title

The World No. 1 becomes the first Italian — man or woman — to win three Grand Slams. Zverev's long wait for a maiden Major continues, falling short once again in his third big final

AUSTRALIAN OPEN

Agence France-Presse MELBOURNE

A clinical Jannik Sinner swept past Alexander Zverev to retain his Australian Open title on Sunday and cement his status as the world's dominant player in men's tennis.

The 23-year-old Italian came through a tense final between the two highest-ranked players 6-3, 7-6(4), 6-3 on Rod Laver Arena, raising his arms in the air and looking to the sky in celebration.

In doing so he became the first Italian, man or woman, to win three Grand Slams, surpassing Nicola Pietrangeli.

In elite company The emphatic victory also thrust him alongside Andre Agassi, Roger Federer and Novak Djokovic, as the only men to successfully defend their Melbourne Park titles this century.

But it proved more misery for Germany's Zverev, who remains one of the world's best players never to taste Grand Slam glory, falling short once again in his third big final.

"We worked a lot to be again in this position. It's an amazing feeling to share this moment with all of you," Sinner said, referring to his coaching team. He also had words of consolation for Zverev.

Sky-rocketing success

1 Becomes the first Italian to IR three Slam trophies

1 The first man to successfully defend his maiden Major title since Nadal at the 2006 French Open

3 Only the third active player after Alcaraz and Wawrinka to triumph in his first three Grand Slam finals

5 The fifth man to win three straight hard court Majors, and the first since Djokovic (2015-16)

10 He now has 10 successive victories over top-10 opponents, the first player to do so since the end of the open era introduced



ALL STATS ARE FROM THE OPEN ERA. ILLUSTRATION BY ANIRUJH/VLMARUM

Ice-cool Sinner proved to be a tower of mental strength again in Australia, with his defence coming against the backdrop of an ongoing doping case after he twice tested positive for traces of the steroid clostebol last year.

Behind the scenes Hanging over his head has been a World Anti-Doping Agency appeal against his exoneration, with the global body seeking a long ban. A hearing is scheduled at the Court of Arbitration for Sport (CAS) for April.

Tilak's modus operandi — targeting England's best



Productive shot: Tilak used the pull to good effect in the second T20I. R. 866U

S. Deepak Ragav CHENNAI

In cricket, transitions from one era to another are often tricky and involve a phase during which the new crop takes time to grow.

India, though, has been lucky in that regard in T20 cricket. The youngsters have found their feet and comfortably filled the shoes left by Rohit Sharma, Virat Kohli, and Ravindra Jadeja, all whom exited the scene after winning last year's World Cup.

Tilak Varma is one such player from the next-gen who has made a telling impact in a short time at the crucial No. 3 spot.

His last four scores in T20Is reads as 107 not out, 120 not out, 19 not out and 72 not out. The most recent one, which came against England on Saturday here at the M.A. Chidambaram Stadium, could be one of the best knocks he has played in his brief career so far.

Tilak showed bravery in taking on England's pace spearhead, Jofra Archer, and did so with conviction by making the requisite technical adjustments.

"If you see, I want to target their best bowlers," said Tilak. "If you take on their best bowlers, the others will be under pressure. So, even when the wickets were falling, I wanted to do that as it is easier for the batsman at the other end."

"I backed myself and took chances against him. Whatever shot I have scored for Archer, I have worked in the nets. Mentally, I was ready for that. So, it has given me a good result," he explained.

The left-handed batter smashed Archer for 30 runs, including four sixes, off just nine balls. On a day when the pull shot proved to be the undoing of batters from both sides because the ball held off the surface, Tilak gave insights into how he executed it so well and was the most assured batter out in the park.

"They were consistently bowling short, and Archer and (Mark) Wood were bowling 150kph, I think. With that pace, I think it will be slightly tougher if you want to hit it square of the wicket. So, I wanted to use the pace and hit it behind (fine) as much. That's what I have done, and it has given me success."

Another striking aspect of his innings was how seamlessly he switched gears, attacking when needed but also being circumspect at times.

"That is what I discussed with Gautam sir in the last match. He said that 'you can score at over 10 (an over) and below that also. When the team requires, you should be flexible,'" said the Hyderabad-born player.

"During the drinks break, he said that 'is the time you can show people you can play both ways.' I said whatever happens, I will stay till the end and finish the game."

Rituja ensures Odisha Warriors gets its name engraved on glitzy trophy

III. Santadeev RANCHI

The 5,000-seater Marang Gomke Jaipal Singh Stadium here was packed to the rafters on Sunday to witness history unfold as Odisha Warriors took on JSW Soorma Hockey Club in the summit clash of the inaugural season of the only commercial women's hockey league in the world.

The teams didn't disappoint, trading blows in equal measure, but it was eventually Rituja Phal who ensured Warriors got their name engraved on the glitzy Women's Hockey India League trophy with a thrilling 2-1 win.

Neha Goyal, the winning captain, was the first to find an opening through the left, linking up with Freeke Moes at the baseline. However, the latter was



All smiles: Warriors players and support staff savour their triumph. SHASHI SHYKAR/ASAAP

denied by Soorma's defence. Soorma's Charlotte Englebert spent five minutes of the first quarter on the naughty step after clattering into Victoria Sanyal, like a Chandhary, looking to take advantage of Vaishnavi Phalke's stick before but wasn't able to test Savita Punia.

In the 13th minute, Neha was in the thick of things again, adhering into the circle before passing the

baton to Rituja. Maria Verschoor had to jump into action on that occasion to keep the ball out.

However, Rituja couldn't be warded off for long. Sanyal's lightning quick swipe found a lucky deflection off Vaishnavi Phalke's stick before the 22-year-old lobbed it over Savita.

As the trend this season, Soorma made a meal out of the first penalty corner, but when the second opportunity came about, Penny Squibb stepped up to the plate with an angry drive.

Jade Menezes' girls stepped on the gas in the second half, threatening to take the lead on a couple of occasions. But instead it was Rituja who broke the deadlock when Englebert lost possession inside her circle.

The result: Odisha Warriors 2 (Rituja 2) 1-0 JSW Soorma Hockey Club 1 (Squibb 28).

Manush proves too strong for Payas; Diya stuns Sreeja to emerge champion

Amol Karhadkar SURAT

Manush Shah and Diya Chitale joined the elite list of men's and women's national champions after outclassing Payas Jain and top seed Sreeja Akula in the singles final of the 89th senior table tennis championship, which concluded at the Pandit Dinkar Lal Upadhyay Indoor Stadium on Sunday.

Manush, the bespectacled southpaw who hails from Vadodra — not too far from the diamond city, but representing his employer Reserve Bank of India (RBI) — continued his clinical run to overcome Payas in five games, having clinched the doubles crown on Saturday.

Both Manush and Diya took home a kerry of ₹3.20 lakh each. But more than the purse, it was the glittering trophy that the duo was thrilled with. After all, having been crowned sub-



Thrilled: Manush and Diya ecstatic after laying their hands on the trophy they had their eyes on for a decade. AMOL KARHADKAR

junior, junior and youth national champions in their formative years, both the stylish paddlers were ecstatic to have laid their hands on the trophy that they had their eyes on for a decade.

Manush continued from where he had left off during his 4-0 drubbing of the in-form Ankur Bhattacharjee in the semifinal and gave Payas little chance by combining his power and

angles to precision. Diya, on the other hand, changed her gameplan midway through the match and started using her backhand topspin more effectively to put Sreeja under pressure.

The results: Men: Final: 3-Manush Shah (RBI) bt 8-Payas Jain (Ind) 11-9, 11-4, 11-8, 11-8. **Semifinals:** Payas bt Dityansh Srivastava (UP) 11-9, 11-8, 11-8, 11-7; Manush bt 2-Ankur Bhattacharjee (PSPB) 13-11, 11-9, 13-10.

Women: Final: 7-Diya Chitale (RBI) bt 1-Sreeja Akula (RBI) 12-12, 8-11, 13-11, 12-10, 11-8, 9-11, 11-9. **Semifinals:** Sreeja bt 4-Vaishwika Ghoshale (PSPB) 11-5, 9-11, 11-9, 11-9, 11-9; Diya bt Sindhya Das (Bihar) 11-5, 11-8, 11-5, 11-6.

Mixed doubles: Final: Akash Pal & Poojanee Bhatia (PSPB) bt Jash Modi & Tameesha Kotcha (Mah) 11-9, 13-11. **Semifinals:** Akash & Poojanee bt Payas Jain & Saharaj Saini (Mah) 11-7, 14-12, 7-11, 11-2; Jash & Tameesha bt Abhishek Yadav (Bihar) & Aarti Chaudhary (UP) 11-2, 9-11, 13-11, 11-9.

Sky-rocketing success



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1 The first man to successfully defend his maiden Major title since Nadal at the 2006 French Open

3 Only the third active player (after Alcaraz and Wawrinka) to triumph in his first three Grand Slam finals

5 The fifth man to win three straight hard court Majors, and the first since Djokovic (2015-16)

10 He now has 10 successive straight-sets victories over top-10 opponents, the first player to do so since the rankings were introduced



👏 This one was joy. We managed to do something incredible this time, because the situation I was in was completely different from a year ago here. I had more pressure

JANNIK SINNER

47 The Italian has pulled level with Borg and Connors for most wins (47) in their first 50 matches as ATP World No. 1

60 Since the start of the 2024 season, he has won 60 of his 63 hard court matches, the best on the men's circuit

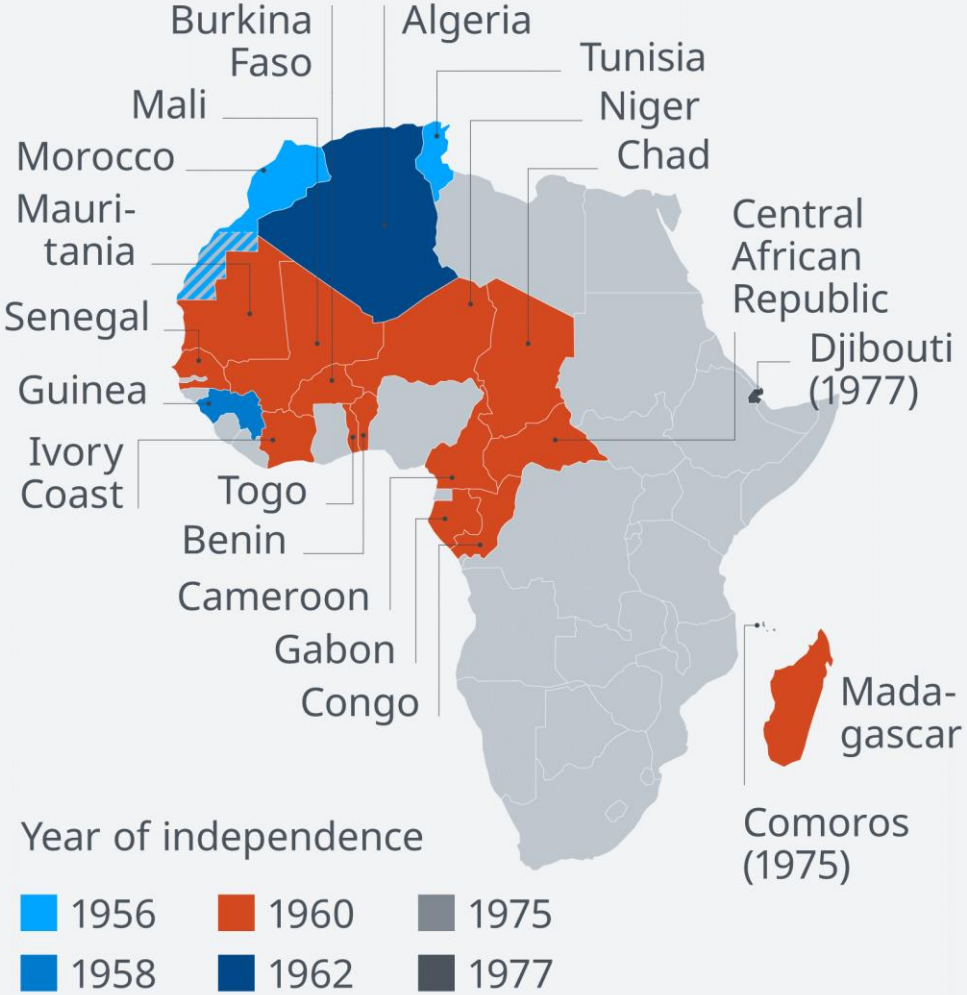
France colonization
Africa

-
- West African countries are moving away from traditional colonial ties with France, seeking partnerships with global powers for security and economic cooperation.



Former French colonies in Africa

by year of independence



Source: DW, NED

- How France Colonized Africa?

1. Early Ventures (1830): France began its colonization with the capture of **Algiers** in 1830, marking the expansion of French influence in North Africa.
2. Expansion in West Africa: Territories such as **Gambia, Ivory Coast, and Senegal** were brought under French control.
3. Berlin Conference (1884-85): France formalized its territorial claims, acquiring vast regions in **North, West, and Central Africa**.
4. Direct Rule: France imposed a centralized administrative system modelled on European governance, weakening traditional power structures in African colonies.
5. Economic Exploitation: Extensive use of forced labour and resource extraction, especially in **gold, cocoa, groundnuts, and timber**, ensured that colonies served as economic hubs for France

Consequences of French Colonization:

Economic:

- **Resource Extraction:** African resources were exported to France, leaving minimal local development.
- **Monoculture Economies:** Colonies were forced to rely on single crops like groundnuts (Senegal) and cocoa (Ghana).
- **Taxation:** Harsh fiscal policies drained local economies, exacerbating poverty.

3. Political

- **Artificial Borders:** Arbitrary boundaries drawn by colonial powers created ethnic divisions, fuelling post-independence conflicts.
- **Exploitation of Labor:** Forced labour systems led to mass displacements and population decline in many regions.



Independence
Movements: Countries
like **Senegal, Algeria, and**
Guinea gained independence
through negotiation or conflict.



Continued Influence: Despite
granting independence, France
maintained strong economic and
political ties through
the **Françafrique system**,
ensuring African nations
remained reliant on France.

- **Present Role of France in Africa:**

- **1. Military:**

- **Troop Presence:** French troops were stationed in **Chad, Senegal, and Ivory Coast**, aiming to combat insurgencies.
- **Recent Withdrawals:** Anti-French sentiments and failures in addressing regional terrorism led to troop withdrawals from several nations.



2. Economic:

- **Economic Dependence:** Many African countries still trade heavily with France. However, competition from **China's Belt and Road Initiative** and **Russia's military alliances** is reducing French dominance.



3. Declining Influence:

- **Shift in Alliances:** African nations are partnering with global powers like **Russia and China**, moving away from colonial ties.
- **Françafrique in Crisis:** The model of dependency is being rejected as nations demand sovereignty and equitable partnerships.

Black Panther



-
- Indian Forest Service (IFS) officer recently shared a video of a rare black panther strolling in lush greenery of north Bengal







- What is a Black Panther?

- The **black panther**, a colloquial term for melanistic (dark-colored) large felines in the genus *Panthera*, is known for its striking black fur and mysterious allure.

-

- **Habitat:**

- Found across **three continents**: Asia, Africa, and the Americas.
- Commonly inhabit **dense tropical rainforests**, grasslands, and mountainous regions.
- **Global Range:** Southwest China, Southern India, Nepal, Malaysia, Indonesia, Burma.
- **Indian Range:** Found in Kabini Forest (Karnataka), Nagarhole National Park, Periyar Wildlife Sanctuary, Silent Valley, and Sundarbans.

- Characteristics:

- Physical Features: Glossy black or dark brown fur with faint spotted patterns visible in sunlight.

- **Eyes:** Striking emerald green, giving a fierce and elegant look even in darkness.

- Behavioural Traits:

- Solitary and **territorial hunters**.

- Known for exceptional **intelligence, sharp eyesight**, and strong sense of smell.

- Males are **polygamous** in nature.

- **Conservation Status:**

- **IUCN Red List:** Vulnerable.
- **CITES:** Appendix I (strictly regulated trade).
- **Indian Wildlife (Protection) Act, 1972:** Schedule I (maximum protection).
- **Threats:** Habitat loss, poaching, and declining prey populations.

Sachetisation Plan



-
- The Securities and Exchange Board of India (SEBI) is introducing a sachetisation plan to enable small-ticket systematic investment plans (SIPs) starting at ₹250 per month.
 - **Need for Sachetisation:**
 - **Financial Inclusion:** Targets underserved, low-income groups to enable investment in mutual funds.
 - **Addressing Barriers:** Overcomes the high entry costs of traditional mutual fund SIPs.
 - **Market Deepening:** Expands the retail investor base in equity markets, stabilizing market flows against foreign investor volatility.

- **How it works:**

- **Minimum SIP Amount:** ₹250/month (targeted at new mutual fund investors).

- **Eligibility Criteria:**


- Available for new investors only.

- Maximum of three ₹250 SIPs per investor across asset management companies (AMCs).

A misty landscape at sunrise. The scene is dominated by a river in the foreground, which reflects the soft, golden light of the rising sun. The river is surrounded by dense trees, some of which have turned shades of yellow and orange, indicating autumn. In the background, rolling hills are shrouded in a thick layer of mist, with the sun's rays breaking through the haze, creating a dramatic and ethereal atmosphere. The overall color palette is muted and soft, with a lot of greens, yellows, and greys.


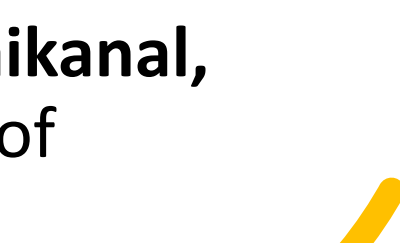
Sunrise Sector

-
- As per the Indo European Business Forum (IEBF), India needs to ‘immediately’ recognise **sunrise industries such as e-sports, gaming and music, and develop world-class infrastructure** to tap the potential of the Indian youth.
 - **About**
 - **One-fifth of India’s incremental GDP growth** is expected to come from gaming and e-sports.
 - States such as Maharashtra, Uttar Pradesh and Andhra Pradesh **look to double their GDP in next few years.**
 - **20%** of this **incremental growth** will come from the **digital economy.**

- 
- **Sunrise Sectors of India:** Electronics and Semiconductors, Electric Vehicles (EV), Renewable Energy, Pharmaceuticals, Agro and Food Processing (A&FP) etc.

Kodaikanal Solar Observatory



- 
- To commemorate the 125th anniversary year of the **Kodaikanal Solar Observatory**, the **Indian Institute of Astrophysics (IIA)**, organized the conference on ‘**Sun, Space Weather, and Solar-Stellar Connections**’.
 - **About**
 - **Establishment:** The Kodaikanal Solar Observatory (KSO) was established on **1 April 1899**.
 - **Location:** It is situated near **Kodaikanal, Tamil Nadu**, on the southern tip of the **Palani Hills**.
- 



The Kodaikanal Tower Tunnel Telescope: It features a 3-mirror Coelostat system comprising:

Primary mirror (M1): Tracks the Sun,

Secondary mirror (M2): Redirects sunlight downward,

Tertiary mirror (M3): Aligns the beam horizontally for solar observation.



Discovery of the Evershed Effect (1909): KSO first detected the effect, which is the radial outflow of gas from sunspots, marking a major contribution to solar physics.

ISRO's 100th
Launch: GSLV-
F15 NVS-02



In its 100th launch, the Indian Space Research Organisation (ISRO) is set to send off the NVS-02 satellite aboard the GSLV-F15 mission.



NVS-02 Satellite



It is the latest addition to the NavIC constellation with advanced features that aim to enhance the system's accuracy and reliability. Key features of NVS-02 include:

-
- **Advanced Navigation Payload:** Operating in three frequency bands—L1, L5, and S—to ensure high positional accuracy.
 - **Rubidium Atomic Frequency Standard (RAFS):** A precise atomic clock that ensures accurate timekeeping, a critical component for navigation services.
 - The satellite will serve applications such as navigation, precision agriculture, emergency response, fleet management, and mobile device location services.

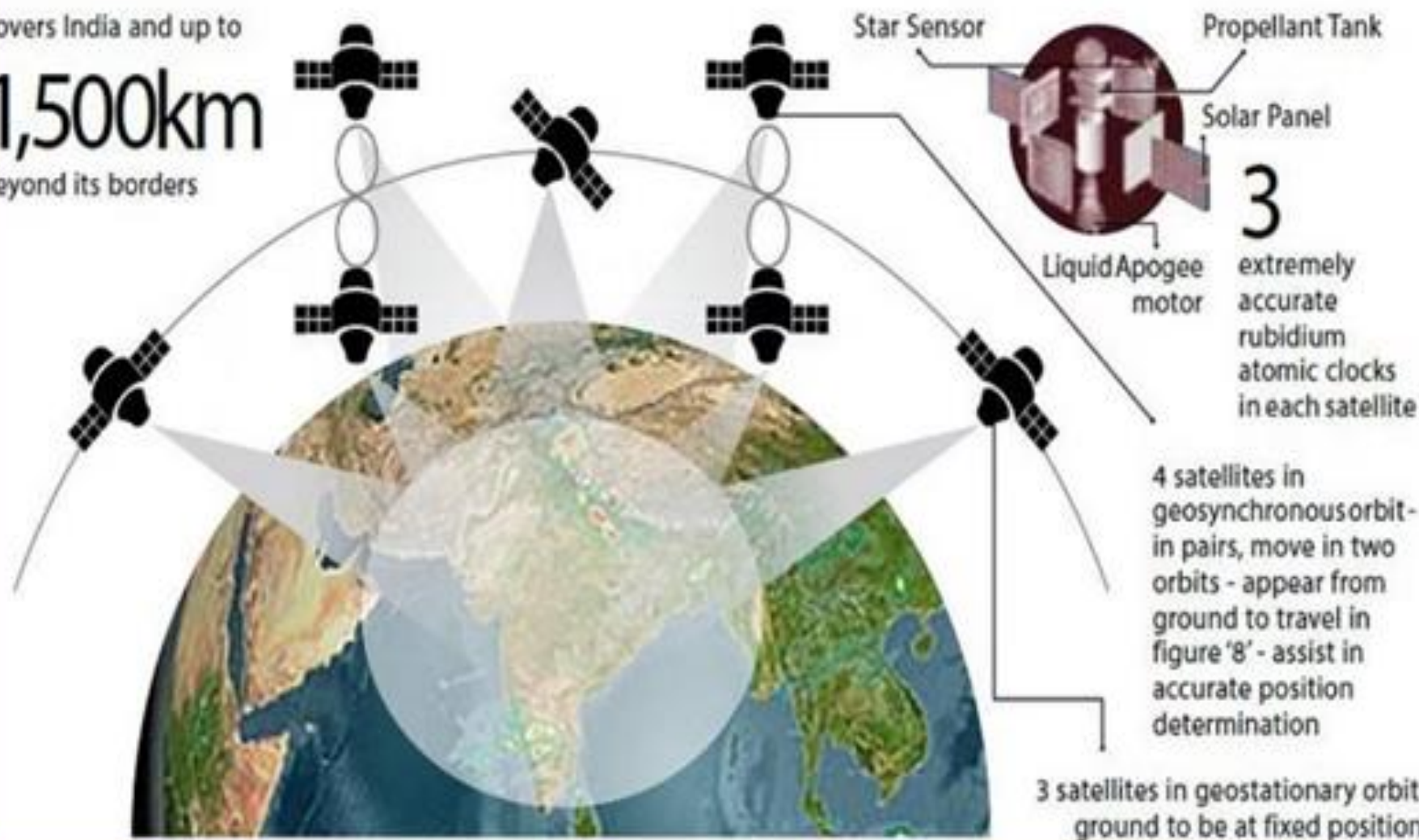
The seven sisters in space

The NAVIC or Navigation Indian Constellation is an independent regional navigation satellite system which works through seven eyes in the sky. It is designed to provide position information in India and 1500 km around the Indian mainland. Here's a look at how it works

Covers India and up to

1,500km

beyond its borders



3 extremely accurate rubidium atomic clocks in each satellite

4 satellites in geosynchronous orbit - in pairs, move in two orbits - appear from ground to travel in figure '8' - assist in accurate position determination

3 satellites in geostationary orbit - appear from ground to be at fixed positions in the sky

NavIC architecture has three different segments: space segment, ground and user

Open to all users

Accuracy better than

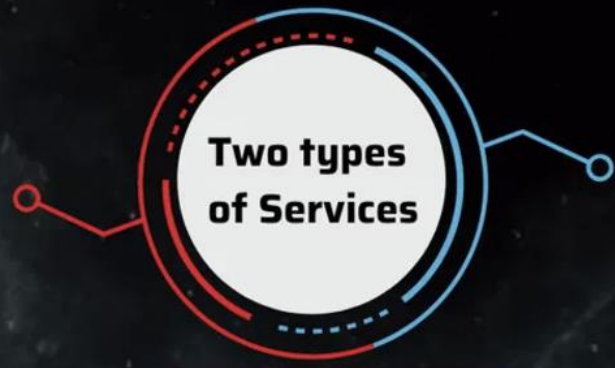
20

metres

Independent, stand alone navigation satellite system developed by ISRO.

Standard Positioning Service (SPS):

Provided to all the users



Restricted Service (RS):

Encrypted service provided only to the authorised users (like the military)

- Has a **position accuracy** of **better than 20 m.**
- **Applications:** Navigation, disaster management, precise timing, mapping, etc.



- Each of NavIC satellites have **three rubidium clocks.** Rubidium (Rb) clocks are type of atomic clocks. **Rubidium clocks** are smaller and less costly but slightly **less accurate than cesium clocks.**

Navigation Systems of the World



2 Regional Navigation Systems:

- NavIC (India)
- QZSS (Japan)



4 Satellites

are in inclined (29° to the equatorial plane)

Geosynchronous Orbit (GSO)

Word of the day

Fastidious:

giving careful attention to detail; hard to please

Synonyms: Perfectionist, critical, particular

Usage: *She is very fastidious about keeping her room clean.*

Pronunciation: newsth.live/fastidiouspro

International Phonetic Alphabet: /fæstɪdiəs/

- How many total Padma Awards were given in 2025?
- 2025 में कुल कितने पद्म पुरस्कार दिए गए?
- A. 120
- B. 130
- C. 139
- D. 150

- Who among the following received the Padma Vibhushan award posthumously in 2025?
- निम्नलिखित में से किसे 2025 में मरणोपरांत पद्म विभूषण पुरस्कार दिया गया?
- A. J.S. Khehar / जे.एस. खेहर
- B. Osamu Suzuki / ओसामा सुजुकी
- C. Arijit Singh / अरिजीत सिंह
- D. P.R. Sreejesh / पी.आर. श्रीजेश

- Which cities in India were recognized as "Wetland Cities" under the Ramsar Convention?
- रामसर कन्वेंशन के तहत भारत के किन शहरों को "वेटलैंड सिटी" के रूप में मान्यता दी गई?
- A. Bhopal and Jaipur / भोपाल और जयपुर
B. Lucknow and Hyderabad / लखनऊ और हैदराबाद
C. Udaipur and Indore / उदयपुर और इंदौर
D. Chennai and Pune / चेन्नई और पुणे

- What disease was found to be prevalent among Assam's tea plantation workers?
- असम के चाय बागान श्रमिकों में कौन सी बीमारी व्यापक रूप से पाई गई?
- A. Tuberculosis / तपेदिक (टीबी)
B. Chronic Pulmonary Aspergillosis (CPA) / क्रॉनिक पल्मोनरी एस्पेरगिलोसिस (CPA)
C. Silicosis / सिलिकोसिस
D. Dengue / डेंगू

- What was the cause of Assam's high CPA prevalence?
- असम में CPA की उच्च दर का कारण क्या था?
- A. Air pollution / वायु प्रदूषण
- B. Poor nutrition and kitchen smoke exposure / खराब पोषण और रसोई के धुएं के संपर्क में आना
- C. Contaminated drinking water / दूषित पेयजल
- D. Lack of vaccination programs / टीकाकरण कार्यक्रमों की कमी

- Who was Dr. K.M. Cherian, who passed away recently?
- हाल ही में दिवंगत डॉ. के.एम. चेरियन कौन थे?
- A. A space scientist / एक अंतरिक्ष वैज्ञानिक
- B. India's pioneer cardiac surgeon / भारत के अग्रणी हृदय शल्य चिकित्सक
- C. A nuclear physicist / एक परमाणु भौतिक विज्ञानी
- D. A mathematician / एक गणितज्ञ

- What was the key achievement of the PSLV-C60 mission?
- PSLV-C60 मिशन की प्रमुख उपलब्धि क्या थी?
- A. First Indian satellite docking experiment / पहला भारतीय उपग्रह डॉकिंग प्रयोग
- B. India's first private satellite launch / भारत का पहला निजी उपग्रह प्रक्षेपण
- C. First manned spaceflight / पहला मानवयुक्त अंतरिक्ष मिशन
- D. Chandrayaan-4 lander test / चंद्रयान-4 लैंडर परीक्षण

- Which African region is seeing a decline in French influence?
- अफ्रीका के किस क्षेत्र में फ्रांस का प्रभाव घट रहा है?
- A. East Africa / पूर्वी अफ्रीका
- B. North Africa / उत्तरी अफ्रीका
- C. West Africa / पश्चिम अफ्रीका
- D. Central Africa / मध्य अफ्रीका

- What is a Black Panther?
- ब्लैक पैंथर क्या है?
- A. A rare species of panther / पैंथर की एक दुर्लभ प्रजाति
- B. A melanistic big cat / एक मेलानिस्टिक बड़ी बिल्ली
- C. A different species from leopards and jaguars / तेंदुए और जगुआर से अलग एक प्रजाति
- D. A fictional superhero / एक काल्पनिक सुपरहीरो

- What is SEBI's Sachetisation Plan?
- SEBI की सैचेटाइजेशन योजना क्या है?
- A. A new e-wallet system for digital payments / डिजिटल भुगतान के लिए एक नया ई-वॉलेट सिस्टम
- B. A stock market regulation for small traders / छोटे व्यापारियों के लिए शेयर बाजार विनियमन
- C. A plan to allow small-ticket mutual fund investments / छोटे टिकट म्यूचुअल फंड निवेश की अनुमति देने की योजना
- D. A tax-saving scheme for salaried individuals / वेतनभोगी व्यक्तियों के लिए एक कर-बचत योजना

Fun fact





- First Country to Introduce Free Healthcare and Education in Africa

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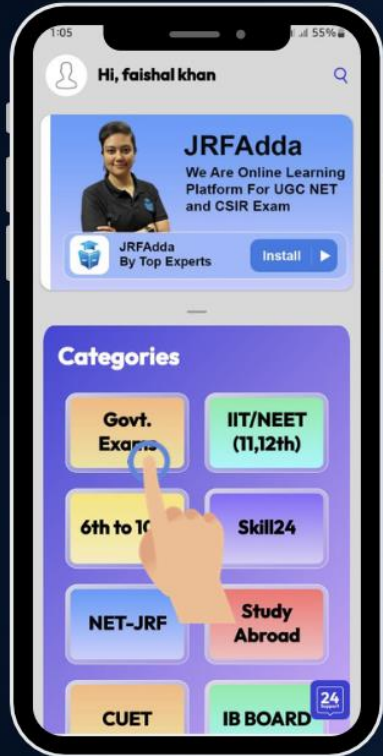
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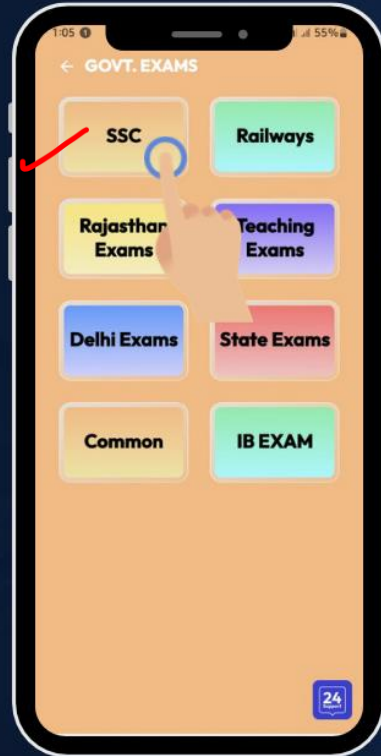
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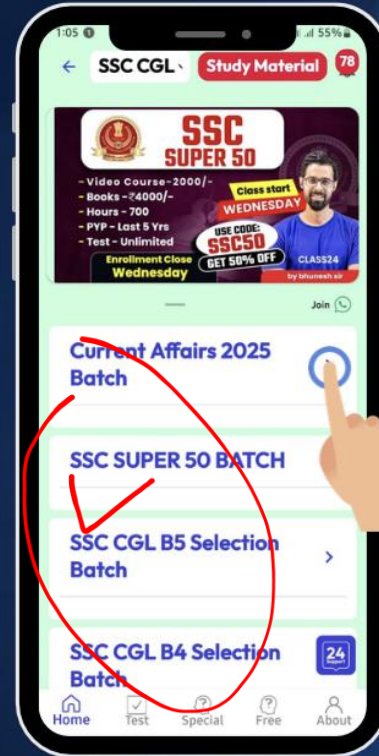
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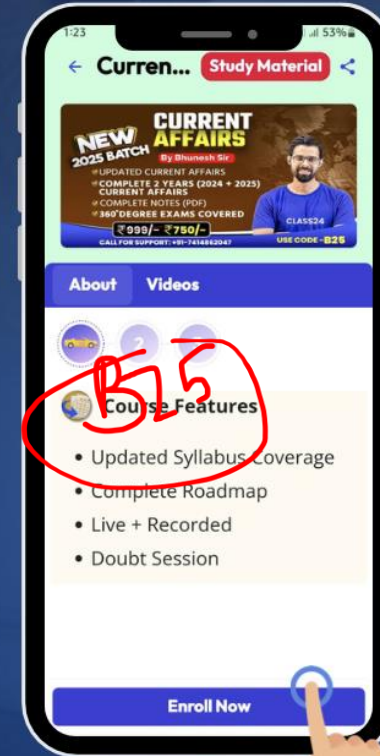
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Step 3



Step 4



A group of people are clapping in a dimly lit room. The focus is on the hands and forearms of several individuals, some in the foreground and some blurred in the background. The lighting is soft and moody, with a blueish tint. In the top left corner, there is a solid orange horizontal bar and a cluster of small, glowing red dots. The text 'Thank you guys.' is overlaid on the left side of the image in a white, sans-serif font, with a thin white horizontal line underneath it.

Thank you
guys.
