

# Daily Current Affairs





3  
**The Hindu**



1  
**PIB, PRS & Other  
newspaper**



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**The Indian  
Express**



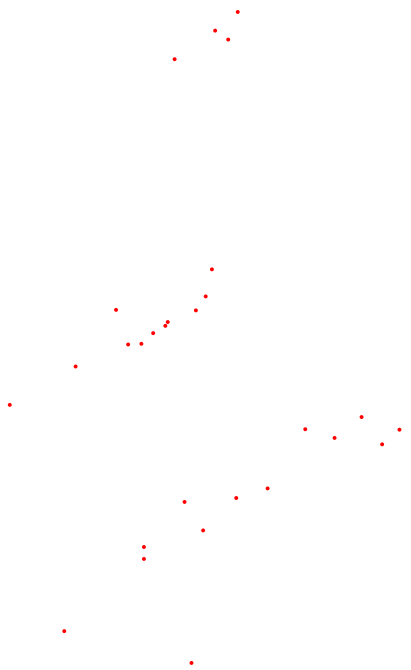
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10 MCQ QUIZ



- "Imagination is more important than knowledge." — *Albert Einstein*





**U.K. PM'S INDIA VISIT**  
**Starmer leads a 100-member team**  
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**Israel marks anniversary of Hamas attack**  
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**FIVE UNDER TREATMENT**  
**Cough syrup death toll rises to 20 in M.P.**  
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**Is the U.S. pushing out its STEM talent a miscalculation?**  
**Several other countries may be new magnets**  
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**EXPERIENCE TO THE FORE**  
**Knight guides England home in a tricky chase**  
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## INSIDE



### TDR suspends senior official in Sabarimala row

**TRIVANANTHAPURAM**  
The Travancore Devaswom Board has suspended senior official B. Murthy Babu, pending investigation, for mismanaging Ayappa temple's gold-plated Dwaparesha sculptures as copper plates, **• PAGE 4**

### 'Waiting for other nations to unveil digital currency'

**MUMBAI**  
The Reserve Bank of India is waiting for other countries to launch digital currencies and is not ruling out a nationwide retail Central Bank Digital Currency, Deputy Governor T. R. Srinivasan said, **• PAGE 12**

# Clear the air on final Bihar rolls, SC tells EC

Top court says there is confusion whether names added in final list are those deleted from draft roll | It asks if EC individually informed excluded voters, to aid their right to appeal against their exclusion | There has not been a single complaint against exclusion of names in the final list, says poll body

**Richhadas Rameshwar**  
NEW DELHI

**T**he Supreme Court on Tuesday reminded the Election Commission of its duty to ensure a degree of transparency and access to information from the electoral roll of an open democracy.

It also questioned the top poll body about the individual details of voters added to the final list of voters in Bihar after the special intensive revision (SIR) of the State's electoral roll. Over 21.8 lakh voters have been added in the final roll, and 3.66 lakh removed.

"There is a confusion about the names added on the final list... What is the identity of the people added on? Is it an add-on of names deleted from the 65 lakh voters deleted in the draft roll or are they new and independent voters?"

The final list shows an appreciation of the number of voters... This exercise we want you to do in aid of the electoral process, to maintain intact the faith in the electoral process," Justice Jyotsna Singh, who was part of the Bench headed by Justice Surya Kant, asked the EC.

**Final list**  
The final list shows that there are 7.42 crore eligible voters in the State. This was higher than the 7.24 crore voters listed in the draft electoral roll published after the first phase of the SIR, which had seen the removal of 66 lakh names, given that Bihar had 7.89 crore voters on June 24, the date of notification of the SIR exercise.

The court asked the EC whether a separate list of the names and details of the 3.66 lakh excluded voters had been published and made easily accessible at the grass roots level. Justice Singh



JUSTICE JYOTSNA SINGH

referred to Rule 21A of the Registration of Electors' Rules, 1960, which requires poll authorities to display the names and details of deleted voters on the notice boards of district electoral offices.

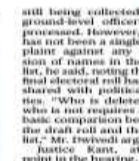
'No complaints'

Senior advocate Rakesh Dwivedi, for the EC, said the disaggregated data was



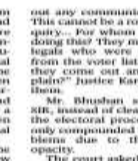
MR. PRASHANT BHUSHAN

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## 15 dead as landslide crushes bus in Himachal

**The Hindu Bureau**  
CHANDIGARH

At least 15 people were killed and several others are feared trapped after a private bus they were travelling in was struck by boulders and debris following a major landslide in Bilaspur district of Himachal Pradesh on Tuesday, officials said.

The casualties could rise as rescue operations were under way, they added. District administration teams rushed to the site to carry out rescue operations at night.

Authorities were directed to deploy all available machinery for relief efforts.

Chief Minister Sahvinder Singh Sukhu said the bus was trapped under a sudden massive landslide on Tuesday evening.

"The incident occurred at around 6:30 p.m., close to Bhalu bridge near Bhaghat area. The bus was reportedly carrying around 30 passengers when it was hit by boulders and debris that fell from the hill. The bus was on its way from Marwan to Chanderpur," Mr. Sukhu said.

**Children rescued**  
Three children were rescued alive and are being treated at a hospital in this village, officials said. Interventions have been lacking in the region since October 6.

Prime Minister Narendra Modi expressed grief over the loss of lives. He announced an ex gratia of ₹1 lakh from the Prime Minister's National Relief Fund for the next of kin of each deceased and ₹50,000 for those injured.



Heavy rain triggered a landslide in Himachal Pradesh on Tuesday, killing 15.

## Trio wins the Physics Nobel prize for building device that demonstrates 'quantum tunnelling'

**Jacob Koslitz**  
NEW DELHI

The Nobel Prize for Physics this year will be awarded to three scientists — John Clarke, Michel Denner and John Martinis, the Royal Swedish Academy of Sciences said on Tuesday. The three worked together and devised experiments to raise greater insight into the workings of the quantum world, the realm of the ultra-small where objects, broken down to simple, constituent particles, cease to behave in the way we ordinarily expect them to.

One of the mind-boggling behaviours that particles are capable of here is "tunnelling". Usually, the



Quantum magnified  
The quantum magnified behaviour of particles is shown in the diagram. The particles are shown as small dots, and the tunnelling effect is shown as a dashed line passing through a barrier.

particles and coerce them to exhibit "tunnelling" properties.

**Electrical circuits**  
Much like early insight into quantum mechanics paved the way for transistors and silicon chips in the 1950s, the three scientists devised an electrical circuit with two superconductors, components that can conduct a current without any electrical resistance.

They separated these with a thin layer of material called a Josephson junction — that did not conduct any current at all. In this experiment, they showed that they could control and investigate a phenomenon in which all the charged particles in the

superconductor behave in unison, as if they are a single "particle" that fills the entire circuit. Following this, they were able to demonstrate that such a particle could be made to move by modulating the flow of electricity, even without any physical contact with the flow of current.

"It is wonderful to be able to celebrate the way that century-old quantum mechanics continually offer us new surprises. It is also enormously useful, as it could be used in the foundation of all digital technology," said Ole Eriksson, Chair of the Nobel Committee for Physics.

Mr. Muttaqi, who is on the UN Security Council's list of banned terrorists, was given special permission to travel to India, and officials said he would arrive in Delhi on Tuesday for a five-day visit.

According to sources, Mr. Muttaqi will be accorded full protocol as a visiting Foreign Minister, including the use of the word "Ambassador" at the official venue, Hyderabad House, by External Affairs Minister S. Jaishankar for talks on October 10.

Amidst speculation over whether India will give the Taliban de facto recognition during the visit, foreign diplomats warned against any such move not sanctioned by the UN, while an official from the External Affairs Ministry said the visit must not be used to foster "regional and major power rivalries".

**Taliban on Tuesday**  
On Tuesday, India's Ambassador to Russia Vysay Kumar attended the 10-nation Moscow Format Conferences, a provision of humanitarian assistance, and regional development initiatives with Afghanistan, as well as steps to

## India takes a step closer to recognising Taliban ahead of Muttaqi's visit

**Subhash Halder**  
NEW DELHI

Two days before the visit of Amir Khan Muttaqi, Acting Foreign Minister of the Taliban regime ruling Afghanistan, the Indian government came one step closer to formally recognising the Taliban, as a regional all-grouping that India is a part of admitted Mr. Muttaqi as a "guest" for the first time.

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Amir Khan Muttaqi, Acting Foreign Minister of the Taliban regime, in Moscow, Russia, on Tuesday.

strengthen counter-terrorism cooperation. "They called unacceptable the attempts by countries to deploy their military infrastructure in Afghanistan and neighbouring states, since this does not serve the interests of regional peace and stability," the statement added, referring to U.S. President Donald Trump's demand that the Taliban hand back to the U.S. military.

Mr. Muttaqi is expected to reach India on Tuesday, arriving on October 9, when U.K. Prime Minister Rishi Starmer is set to meet Prime Minister Narendra Modi in Mumbai. It is unclear whether Mr. Muttaqi would also call on Mr. Modi later in the visit, the first such official visit by a senior Taliban Minister since 2021. During the five-day visit, Mr. Muttaqi, who received special permission to travel from the UN Sanctions committee on September 30, is expected to meet a number of officials from the Indian government and regional development initiatives with Afghanistan, as well as steps to

# India takes a step closer to recognising Taliban ahead of Muttaqi's visit

Suhasini Haidar  
NEW DELHI

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Mr. Muttaqi, who is on the UN Security Council's list of banned terrorists, was given special permission to travel to India, and officials said he would arrive in Delhi on Thursday for a five-day visit.

According to sources, Mr. Muttaqi will be accorded full protocol as a visiting Foreign Minister, including being hosted by the government. He will be received at the official venue, Hyderabad House, by External Affairs Minister S. Jaishankar for talks on October 10.

Amidst speculation over whether India will give the Taliban *de facto* recognition during the visit, former diplomats warned against any move not sanctioned by the UN, while an anti-Taliban former Afghan Minister said the visit must not be used to foster "regional and major power rivalries".

## Taliban flag

On Tuesday, India's Ambassador to Russia Vinay Kumar attended the 10-nation Moscow Format Consultations hosted by Russian Foreign Minister Sergey Lavrov. Others in attendance were Pakistan's special envoy on Afghanis-



Afghanistan's Foreign Minister Amir Khan Muttaqi with Russian Foreign Minister Sergey Lavrov in Moscow, Russia, on Tuesday. AP

tan Mohammad Sadiq and other representatives from China, Iran and Central Asian countries.

Apart from Russia, no country has recognised the Taliban government thus far, and since the Taliban takeover of Kabul in August 2021, representatives of the 'Acting government' in Afghanistan have attended the meeting as observers only. However, a photograph released after the meeting on Tuesday showed Mr. Muttaqi amongst other national delegates, and the Taliban's "black-and-white" flag instead of the red, black, and green tricolour of the previous Afghan republic still recognised by the United Nations.

"For the first time the Afghan delegation headed by Foreign Minister Amir Khan Muttaqi participated in the meeting as a member," said a joint statement issued by all the participants at the meeting, calling for more economic exchanges, provision of humanitarian assistance, and regional connectivity initiatives with Afghanistan, as well as steps to

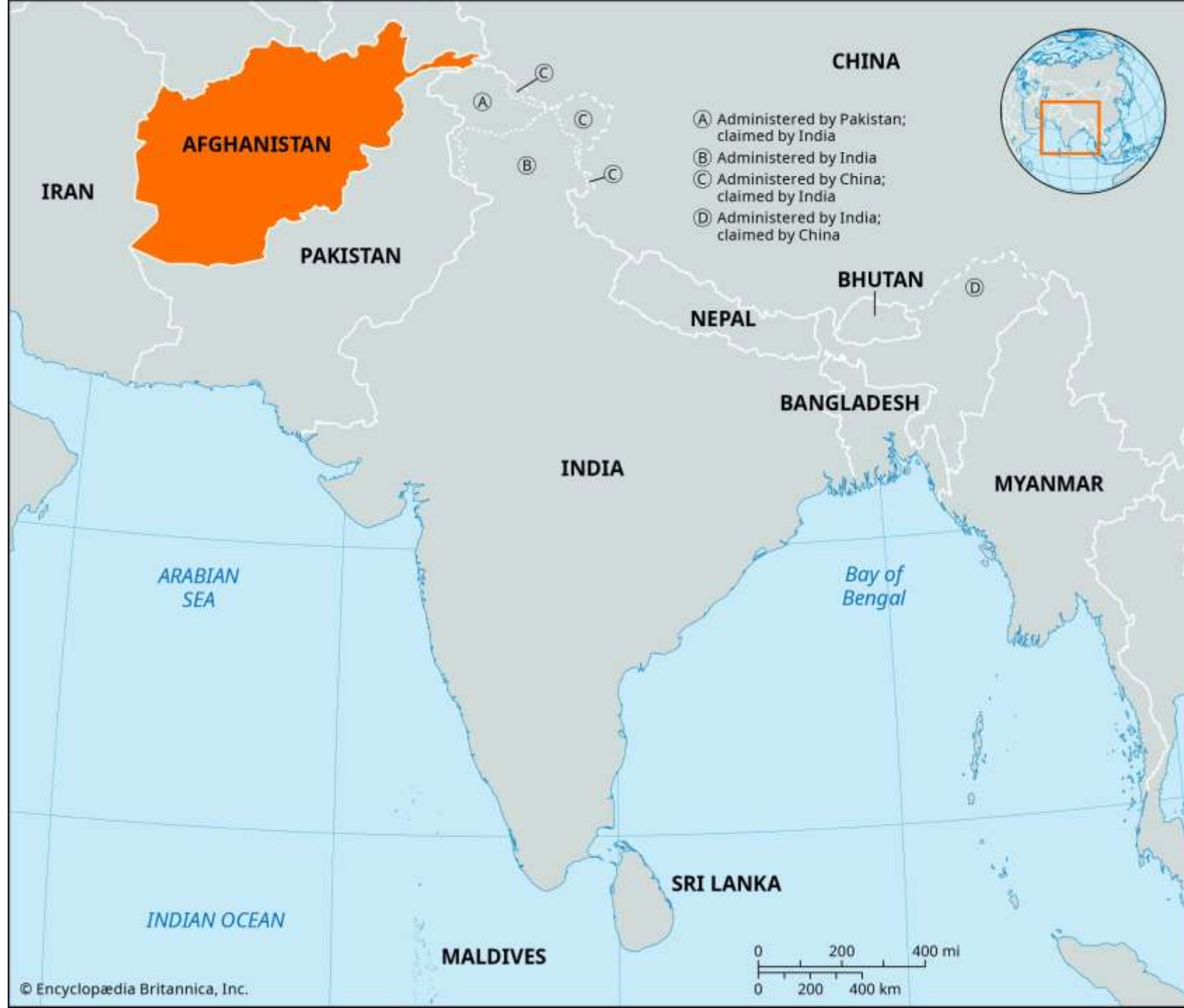
strengthen counter-terrorism cooperation.

"They called unacceptable the attempts by countries to deploy their military infrastructure in Afghanistan and neighbouring states, since this does not serve the interests of regional peace and stability," the statement added, referring to U.S. President Donald Trump's demand that the Bagram Air Base in Afghanistan be handed back to the U.S. military.

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|   |  |
|---|--|
| <b>Government</b>   | Unitary totalitarian <sup>[15]</sup><br>theocratic Islamic<br>emirate <sup>[16]</sup>  |
| <ul style="list-style-type: none"> <li>• Supreme Leader</li> <li>• Prime Minister</li> <li>• Chief Justice</li> </ul>   | <div>Hibatullah Akhundzada</div> <div>Hasan Akhund</div> <div>Abdul Hakim Haqqani</div>  |
| <b>Legislature</b>  | none <sup>[c]</sup>  |
| <b>Formation</b>  |  |
| <ul style="list-style-type: none"> <li>• Hotak Emirate</li> <li>• Durrani Empire</li> <li>• Barakzai Emirate</li> <li>• Dost Mohammad unites Afghanistan</li> <li>• Independence</li> <li>• Kingdom</li> <li>• Republic</li> <li>• Democratic Republic</li> <li>• Islamic State</li> <li>• Islamic Emirate</li> <li>• Islamic Republic</li> <li>• Restoration of Islamic Emirate</li> </ul> | <div>21 April 1709</div> <div>June 1747</div> <div>1823</div> <div>27 May 1863</div> <div>19 August 1919</div> <div>9 June 1926</div> <div>17 July 1973</div> <div>27–28 April 1978</div> <div>28 April 1992</div> <div>27 September 1996</div> <div>26 January 2004</div> <div>15 August 2021</div> |
| <b>Area</b>   |  |
| <ul style="list-style-type: none"> <li>• Total</li> <li>• Water (%)</li> </ul>  | <div>652,864<sup>[19]</sup> km<sup>2</sup><br/>(252,072 sq mi) (40th)</div> <div>negligible</div>  |
| <b>Population</b>   |  |
| <ul style="list-style-type: none"> <li>• July 2024 estimate</li> <li>• Density</li> </ul>   | <div>36–50 million<sup>[d]</sup> (36th)</div> <div>64/km<sup>2</sup> (165.8/sq mi)</div>   |
| <b>GDP (PPP)</b>  | 2023 estimate  |
| <ul style="list-style-type: none"> <li>• Total</li> <li>• Per capita</li> </ul>   | <div>▲ \$91.668 billion<sup>[20]</sup></div> <div>▲ \$2,174<sup>[20]</sup> (179th)</div>   |
| <b>GDP (nominal)</b>  | 2023 estimate  |
| <ul style="list-style-type: none"> <li>• Total</li> <li>• Per capita</li> </ul>   | <div>▲ \$17.329 billion<sup>[20]</sup></div> <div>▲ \$411<sup>[20]</sup> (190th)</div>   |

- **Who:** *Amir Khan Muttaqi*, the *Acting Foreign Minister* of the Taliban regime in Afghanistan.
  - **What:** India allowed Muttaqi's visit to New Delhi and officially treated him as a "*member*" in a regional dialogue (the Moscow Format Consultations).
  - **Significance:** Marks the **first time India has indirectly recognised** the Taliban regime in any multilateral grouping.
- 

## 2. About the Visit

- Muttaqi arrived in **Delhi for a 5-day visit**, starting Thursday.
- Granted **special travel permission** by the **UN Sanctions Committee**, as he remains on the **UN Security Council's list of banned terrorists**.
- India is expected to **accord full diplomatic protocol** — receiving him at **Hyderabad House** by **EAM S. Jaishankar** for bilateral talks on **October 10**.
- Muttaqi may also meet **Prime Minister Narendra Modi** in Mumbai (alongside UK PM Rishi Sunak's visit).

### 3. Shift in India's Policy towards the Taliban

#### ➤ Earlier Approach (2021–2024):

- India had maintained a *"non-recognition but engagement"* stance after the **Taliban takeover in August 2021**.
- Interaction limited to *humanitarian and technical channels* (e.g., food aid, medical assistance, and scholarships).
- India reopened its **technical mission in Kabul (2022)** but avoided political recognition.

#### ➤ Current Shift (2025):

- By attending the **Moscow Format Consultations** where the Taliban flag and delegation were officially recognized as *"members,"* India signaled a **soft shift** towards conditional acceptance.
- This move indicates **de facto engagement** — though not *de jure recognition*.



## 4. The Moscow Format Consultations

- Hosted by **Russia's Foreign Minister Sergey Lavrov** in Moscow.
  - Participants: India, Pakistan, China, Iran, and Central Asian states.
  - Focus: *Economic cooperation, humanitarian aid, connectivity, and counter-terrorism.*
  - For the **first time**, the **Taliban flag** (black-and-white Shahada banner) replaced Afghanistan's previous tricolor in an official setting.
  - India's Ambassador to Russia **Vinay Kumar** attended, marking **implicit acknowledgment** of the Taliban's participation as a state actor.
- 

## 5. Statements and Joint Declaration

- All participants, including India, agreed to:
  - Promote **economic exchanges** and **regional connectivity** with Afghanistan.
  - Provide **humanitarian assistance**.
  - Strengthen **counter-terrorism cooperation** and oppose any foreign military presence (implicitly targeting the U.S.).
- The statement criticized **"deployment of military infrastructure in Afghanistan or neighboring countries"**, aligning with Russia and China's view.

## 6. Diplomatic Repercussions

### Potential Advantages for India

- Strengthens India's *strategic presence* in Afghanistan against Pakistan and China's growing influence.
- Enhances India's image as a pragmatic actor open to *regional stability* and *anti-terror cooperation*.
- Ensures India's involvement in *connectivity projects* like **Chabahar Port, International North-South Transport Corridor**, etc.

### Concerns and Risks

- Taliban still faces **no formal recognition** from any country except Russia's engagement efforts.
- Critics warn that recognition could undermine India's stance on **terrorism and women's rights**.
- Domestically, it may raise concerns due to **Taliban's links with Pakistan-based terror groups** like LeT and JeM.

|                                  |   |  |
|----------------------------------|---|--|
| Connectivity                     | Sea & air corridors; land via Pakistan variable | India uses <b>Chabahar</b> and has used <b>air-freight corridors</b> historically; land routes depend on India-Pakistan border facilitation. <a href="#">The Economic Ti...</a> +1 |
| Development projects (2001–2021) | Completed/maintained where possible             | Flagship builds: <b>Afghan-India Friendship (Salma) Dam, Afghan Parliament, Zaranj–Delaram Highway</b> ; India's cumulative aid <b>\$3B+</b> . <a href="#">gprjournals.org</a> +2  |
| Visas & people-to-people         | Services gradually resuming                     | India restarted select <b>visa categories</b> (business, medical, education) and operates <b>e-Emergency X-Misc visas</b> for Afghans. <a href="#">www.ndtv.com</a> +2             |
| Security/terror concerns         | Core consideration for India                    | Engagement calibrated due to terrorism and regional stability risks; dialogues occur in formats like <b>Moscow consultations</b> . <a href="#">The Times of India</a>              |
| Multilateral stance              | Support for stable, inclusive Afghanistan       | India backs humanitarian aid, counter-terror guarantees, and economic normalisation without formal recognition. <a href="#">The Times of India</a>                                 |

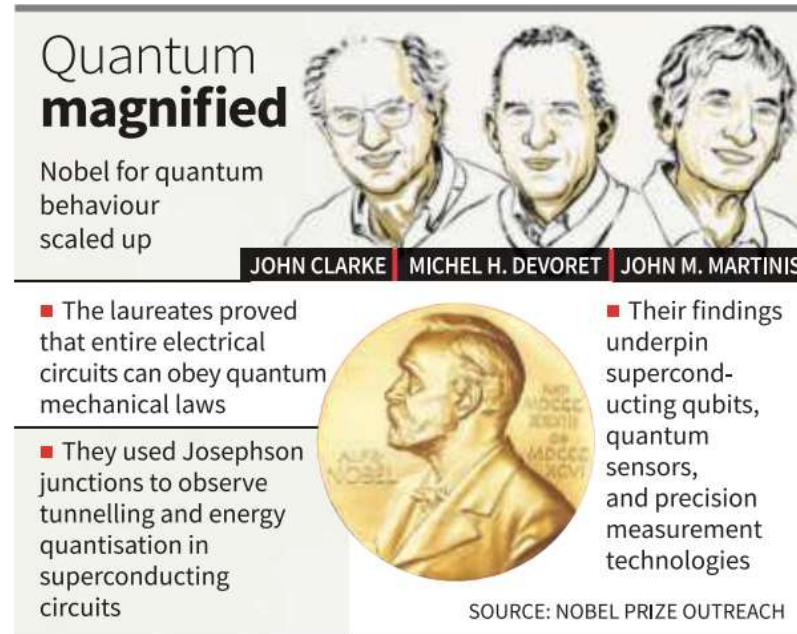


# Trio wins the Physics Nobel prize for building device that demonstrates ‘quantum tunnelling’

**Jacob Koshy**  
NEW DELHI

The Nobel Prize for Physics this year will be awarded to three scientists – John Clarke, Michel Devoret and John Martinis, the Royal Swedish Academy of Sciences said on Tuesday. The three worked together and devised experiments to tease greater insight into the workings of the quantum world: the realm of the ultra-small when objects, broken down to single, constituent particles, cease to behave in the way we ordinarily expect them to.

One of the mind-boggling behaviours that particles are capable of here is “tunnelling”, literally, the



ability of particles to pass through physical walls.

It is as if a cricket ball hitting the pitch will surely bounce up, but the odd cricket-ball particle will simply burrow into the

ground.

Such strange behaviour cannot be observed at the macroscopic level but these scientists showed that it was possible to organise a multitude of single

particles and coerce them to exhibit “tunnelling” properties.

## Electrical circuit

Much like early insight into quantum mechanics paved the way for transistors and silicon chips in the 1950s, the three scientists devised an electrical circuit with two superconductors, components that can conduct a current without any electrical resistance.

They separated these with a thin layer of material – called a Josephson junction – that did not conduct any current at all.

In this experiment, they showed that they could control and investigate a phenomenon in which all the charged particles in the

superconductor behave in unison, as if they are a single ‘particle’ that fills the entire circuit. Following this, they were able to demonstrate that such a particle could be made to behave simulating the flow of electricity even without voltage, a prerequisite for the flow of current.

“It is wonderful to be able to celebrate the way that century-old quantum mechanics continually offers new surprises. It is also enormously useful, as quantum mechanics is the foundation of all digital technology,” said Olle Eriksson, Chair of the Nobel Committee for Physics.

**EDITORIAL ON**  
» PAGE 8



## Laureates

- **John Clarke, Michel Devoret, and John Martinis**
  - Recognised for their **experimental work demonstrating macroscopic quantum tunnelling and energy quantisation** in electrical circuits.
- 



## About the Discovery

### 1. Field of Work

- The trio's research lies in **quantum mechanics**, particularly in **quantum tunnelling** — a phenomenon where particles cross barriers that classical physics says they shouldn't be able to.

### 2. The Experiment

- Conducted in the **1980s at the University of California**.
- They built an **electrical circuit** using:
  - **Two superconductors** (which can conduct current without resistance)
  - **Separated by a thin insulating barrier** called a **Josephson junction**.
- At **temperatures near absolute zero**, they observed **quantum tunnelling** — current could pass through the insulating barrier without sufficient classical energy.
- This showed that **entire electrical circuits** can obey **quantum mechanical laws**, not just subatomic particles.

Aspect

Contribution

**Quantum Tunnelling**

Demonstrated that current can flow through an insulating barrier — a purely quantum effect.

**Energy Quantisation**

Proved that energy in such circuits exists in **discrete levels** (quanta), not a continuous range.

**Superconducting Qubits**

Their findings underpin the technology behind **quantum computers** and **quantum sensors**.

**Applied Quantum Engineering**

Opened new possibilities for **precision measurement, quantum voltage standards,** and **magnetometers** used in astronomy and biomedicine.



## Josephson Junctions: The Core Device

- A **Josephson junction** is a device made of two superconductors separated by a very thin insulating barrier.
  - It allows **“tunnelling” of Cooper pairs** (pairs of electrons) even without applied voltage.
  - This tunnelling current oscillates at a frequency proportional to the voltage — a phenomenon known as the **Josephson effect**.
- 

## Quantum vs Classical Physics

| Concept          | Classical View                | Quantum View (as shown by laureates)   |
|------------------|-------------------------------|--|
| Current Flow     | Needs energy to cross barrier | Can “tunnel” without sufficient energy |
| Energy Levels    | Continuous                    | Discrete (quantised)                   |
| Circuit Behavior | Governed by Ohm’s law         | Obeys quantum mechanical rules         |

## Applications & Modern Impact

### 1. Quantum Computing:

- Their experiments laid the foundation for **superconducting qubits** — key elements in quantum computers.
- Companies like **Google, IBM, and Intel** use superconducting circuits based on this principle.

### 2. Precision Metrology:

- Enabled **quantum voltage standards** and **high-sensitivity magnetometers**.

### 3. Medical and Space Science:

- Quantum detectors are now used in **MRI scanners, astronomical sensors, and biomedical imaging**.

### 4. Quantum Engineering:

- Shifted focus from observing quantum effects to **engineering systems** that exploit them practically.

**Josephson Effect:** Discovered by Brian Josephson (Nobel Prize 1973).

**Superconductivity:** First observed in mercury (1911).


**Quantum Tunnelling:** Key in semiconductors, LEDs, and fusion reactions.

**India's Initiative:** *National Quantum Mission (NQM)* aims to build 50–1000 qubit quantum computers by 2031.



Fact

Detail / Example



|                       |  |
|-----------------------|--|
| First Awarded         | In 1901, awarded to Wilhelm Conrad Röntgen for discovering X-rays. <a href="#">Wikipedia</a> +2  |
| Total Laureates       | As of 2024, awarded 118 times to 227 laureates. <a href="#">NobelPrize.org</a> +1  |
| Only Twice Winner     | John Bardeen is the only person who has won the Physics Nobel <b>twice</b> (in 1956 and 1972). <a href="#">NobelPrize.org</a> +1   |
| Women Laureates Count | Only 5 women have won: Marie Curie, Maria Goeppert-Mayer, Donna Strickland, Andrea Ghez, and Anne L’Huillier. <a href="#">Wikipedia</a> +3   |
| Youngest Winner       | William Lawrence Bragg won at age 25 (in 1915), making him the youngest Physics laureate. <a href="#">Wikipedia</a> +2   |
| Oldest Winner         | Arthur Ashkin was 96 years old when he won the prize in 2018. <a href="#">Wikipedia</a> +1   |
| Recent 2025 Award     | In 2025, the Nobel Prize in Physics was awarded to John Clarke, Michel Devoret, and John Martinis for their work on macroscopic quantum mechanical tunneling in electric circuits. <a href="#">The Guardian</a> +2 |

Commercial rollout likely in early 2026; subsidy clarity key for rural coverage

# DoT eyes December timeline for satellite spectrum allocation

OJASVI GUPTA  
New Delhi, October 7

THE DEPARTMENT OF telecommunications (DoT) expects to allocate spectrum to satellite broadband operators such as Starlink, Eutelsat OneWeb, and Jio Satellite around December. This means that commercial roll-out of services can start only in the first quarter of 2026.

The process of finalising the administrative pricing of spectrum for rolling out the services is held up as the DoT has sought clarifications from the Telecom Regulatory Authority of India (Trai) on several of its recommendations related to spectrum pricing and subsidies.

Once the revised inputs are received, the department will examine them and make suit-

## INTERNET FOR ALL

■ Trai has recommended that govt explore using Digital Bharat Nidhi (DBN) fund to promote equitable access

■ DoT, while supportive of expanding rural coverage, is said to be cautious about the fiscal implications and has sought justification from Trai

■ Industry executives say subsidy component is critical for ensuring connectivity in rural and remote regions

■ They say high cost of satellite terminals, ranging from ₹20,000-50,000, would make large-scale adoption unviable

able amendments, if necessary, before placing the proposal before the Digital Communications Commission for approval.

One of the most closely watched points related to the clarifications sought is the proposed use of the Digital Bharat Nidhi (DBN) fund to subsidise user terminals for satellite

broadband services. Industry executives said the subsidy component is critical for ensuring connectivity in rural and remote regions where terrestrial networks cannot reach. Without it, the high cost of satellite terminals, often ranging from ₹20,000 to ₹50,000, would make large-scale adoption eco-

nomically unviable for most users. Trai had recommended that the government explore using the DBN fund, previously known as the Universal Service Obligation Fund (USOF), to partially offset equipment costs and promote equitable access.

Continued on Page 12

## 1. Background and Context

- The **Department of Telecommunications (DoT)** plans to **allocate spectrum for satellite broadband services by December 2025**, enabling **commercial rollout by early 2026**.
  - The move aims to boost **satellite-based internet services** in rural, remote, and border areas where fiber and mobile networks are not feasible.
  - Major players awaiting spectrum:
    - **Starlink (SpaceX)**
    - **Eutelsat OneWeb**
    - **Jio Satellite Communications**
- 

## 2. Current Status

- The **finalisation of administrative spectrum pricing and subsidy mechanisms** is pending due to clarifications sought from **TRAI (Telecom Regulatory Authority of India)**.
- TRAI had submitted recommendations in **May 2025**, but DoT has sought further **clarifications** on:
  - Pricing model,
  - Rural subsidies, and
  - Validity period for spectrum assignments.

### 3. Key TRAI Recommendations (May 2025)

| Parameter                | Recommendation   |
|--------------------------|--|
| Spectrum Charge          | 4% of Adjusted Gross Revenue (AGR) as annual spectrum usage charge.                                      |
| Minimum Floor Price      | ₹3,500 per MHz.  |
| Urban-Rural Differential | ₹500 per <i>urban subscriber</i> per year for non-geostationary operators to incentivize rural coverage. |
| Validity of Spectrum     | 5 years (subject to renewal and technology upgrades).  |



## 4. DoT's Concerns and Clarifications Sought

### (a) Fiscal Implications

- DoT is **supportive of rural expansion** but cautious about the **financial impact** of subsidies.
- It has sought TRAI's justification for how subsidies would be structured, targeted, and audited.

### (b) Practical Implementation

- The **urban-rural differentiation** is difficult to implement due to:
  - Challenges in identifying subscriber locations,
  - Enforcing location-based tariff systems,
  - Preventing misuse of subsidy benefits.

### (c) Pricing and Renewal

- DoT has also asked TRAI to review:
  - Adequacy of the proposed **floor price**,
  - Terms for **renewal**,
  - Rules to avoid **spectrum hoarding or inefficient use**.

### 5. Digital Bharat Nidhi (DBN) Fund Proposal

TRAI recommended that the **Digital Bharat Nidhi (DBN)** — formerly the **Universal Service Obligation Fund (USOF)** — be used to:

- **Subsidise user terminals** for satellite broadband,
- **Ensure equitable access** in rural and remote areas,
- Promote **digital inclusion** under India's "*Internet for All*" initiative.

### Industry feedback:

- Satellite terminals cost ₹20,000–₹50,000 each.
- Without subsidies, large-scale adoption in rural areas is **economically unviable**.

## 6. Economic and Strategic Significance

### For Connectivity

- Aims to **bridge the digital divide** in difficult terrains (mountainous, forested, and island regions).
- Complements BharatNet and 5G networks under the **Digital India mission**.

### For Industry and Investment

- Opens India's **satellite internet market**, estimated to exceed **\$13 billion by 2030**.
- Promotes participation of **global operators (Starlink, OneWeb)** and **domestic telecom majors (Jio, Airtel)**.

### For National Security

- Satellite-based broadband ensures **redundant communication links** crucial for disaster recovery and defense networks.

# Jaisalmer set to make state country's top cement producer

**Srikanta.Tripathy**  
@timesofindia.com

**Jaipur:** Rajasthan is on track to become the country's largest cement producing state, with Jaisalmer poised to emerge as a major production hub. Six new cement plants, backed by proposed investments of over Rs 17,000 crore, are set to come up in the desert district between 2026 and 2029. Together, these plants will add nearly 16 million tonnes of new cement capacity in the state.

Currently, Andhra Pradesh leads the country in cement production with an installed capacity of 62.5 million tonnes, with Rajasthan following at 55 million tonnes.



- **Rajasthan** is on course to become **India’s largest cement-producing state**, overtaking **Andhra Pradesh**, driven by new large-scale industrial projects in **Jaisalmer**.
- **Six new cement plants** with a total investment exceeding **₹17,000 crore** are scheduled for completion between **2026 and 2029**.
- Once operational, these plants are expected to **add nearly 16 million tonnes** of cement production capacity to the state.

## 2. Current Scenario of Cement Production in India

| State                                 | Installed Cement Capacity | Status   |
|---------------------------------------|---------------------------|--|
| Andhra Pradesh                        | 62.5 million tonnes       | Current leader                                   |
| Rajasthan                             | 55 million tonnes         | Second-largest, expected to become first by 2029 |
| Madhya Pradesh, Gujarat, Chhattisgarh | 35–45 million tonnes each | Major producers                                  |

- **Chittorgarh** currently hosts major cement units in Rajasthan by leading players like **Shree Cement**, **Ultratech**, and **Ambuja**.
- **Nagaur** and **Jaisalmer** are emerging as new industrial districts due to limestone reserves and better infrastructure.



### 3. Key Upcoming Cement Projects in Jaisalmer

| Company             | Completion Year | Investment (₹ crore) | Mining Lease Area |
|---------------------|-----------------|----------------------|-------------------|
| Star Cement         | 2027            | 6,200                | 9.6 sq km         |
| Dalmia Bharat Green | 2027            | 3,047                | 2.56 sq km        |
| Ambuja Cements Ltd  | 2029            | 3,500                | 3.7 sq km         |
| Shree Cement        | 2028            | 14,000               | 3.68 sq km        |
| J.K. Cement         | 2027            | 3,000                | 3 + 9.6 sq km     |
| Deccan Cements      | 2026            | 700                  | 4.2 sq km         |

🧱 Total Estimated Investment: ~₹17,000 crore

🧱 Total New Capacity: ~16 million tonnes

## 4. Natural Resource Advantage: Limestone Reserves

- Rajasthan has **2.5 billion tonnes of limestone reserves**, accounting for about **26% of India's total proven limestone deposits**.
  - Districts like **Jaisalmer, Nagaur, and Chittorgarh** are rich in high-quality limestone, essential for cement production.
  - The availability of raw material and connectivity to **northern and western Indian markets** makes Jaisalmer an ideal hub for cement manufacturing.
- 

## 5. Industrial Transformation of Jaisalmer

### Past Profile:

- Historically, Jaisalmer's economy revolved around **tourism** and **heritage**.

### Emerging Industrial Profile:

- In the past **15 years**, the district has attracted:
  - **Large-scale solar and wind energy investments**
  - **New limestone mining leases**
  - **Upcoming cement clusters** transforming it into a **diversified industrial zone**

| Parameter                  | Impact  |
|----------------------------|---|
| <b>Direct Employment</b>   | Thousands of skilled and semi-skilled jobs in plant construction and operations |
| <b>Indirect Employment</b> | Boost in logistics, housing, services, and retail sectors                       |
| <b>State GDP</b>           | Cement manufacturing to become a key contributor after tourism and energy       |
| <b>Exports</b>             | Potential for inter-state and international cement supply via ports in Gujarat  |



## Comparative Advantage for Rajasthan

**Proximity to markets:** Easy access to North India (Delhi NCR, Punjab, Haryana) and Western India (Gujarat, Maharashtra).

**Resource base:** Rich in limestone, gypsum, and renewable energy.

**Infrastructure:** Expanding rail and highway connectivity (Delhi–Jaisalmer Expressway, Dedicated Freight Corridor linkages)

# Fat-loss drug Mounjaro now India's No. 2 pharma brand

Rupali.Mukherjee  
@timesofindia.com

**New Delhi:** Soaring demand for weight-loss therapies has brought Eli Lilly's Mounjaro within striking distance of Indian pharma market's long standing market leader GlaxoSmithKline's Augmentin, an antibiotic.

During Sept, Mounjaro recorded sales of Rs 80 crore, becoming the second-largest brand in the pharma retail market, latest data culled by **TOI** from market research firm Pharmatrac showed. As against this, Augmentin generated sales of Rs 85 crore during the month. Typically, top-selling medicines in the pharmaceutical market are either

## BULGING SALES

➤ In Sept, **Mounjaro recorded sales of ₹80cr** while market leader **Augmentin did ₹85cr**

➤ Average **monthly cost of Mounjaro** starts at **₹14k**, while 10 tablets of antibiotic Augmentin cost under ₹200

➤ Launched in March, weight-loss drug Mounjaro generated **cumulative revenue of ₹233cr** till Sept

Augmentin or anti-diabetic therapy, Mixtard, which generates around Rs 75-80 crore in monthly sales. Launched in March this year, Mounjaro generated a cumulative revenue of Rs 233 crore by Sept.

► **Continued on P 13**

- *Mounjaro*, a **weight-loss and diabetes drug** developed by **Eli Lilly**, has rapidly become the **second-largest pharma brand in India**, just behind **GlaxoSmithKline’s Augmentin**.
- The rise reflects a **sharp surge in demand for anti-obesity medications**, a new trend in India’s pharma retail market.
- It also marks a shift from antibiotic-dominated sales toward **lifestyle and metabolic therapies**.

## 2. Key Figures and Market Data

| Parameter                          | Mounjaro                                  | Augmentin          |
|------------------------------------|---|--------------------|
| Company                            | Eli Lilly                                 | GlaxoSmithKline    |
| Category                           | Weight-loss / Anti-diabetic (GLP-1 class) | Antibiotic         |
| Sales (Sept 2025)                  | ₹80 crore                                 | ₹85 crore          |
| Cumulative Revenue (Mar–Sept 2025) | ₹233 crore                                | —                  |
| Average Monthly Cost for Patients  | ₹14,000–₹27,000                           | ~₹200 (10 tablets) |

- *Mounjaro* was **launched in India in March 2025** and reached No. 2 position within **six months**.
  - Total organised **pharma retail sales in India** in Sept 2025: over **₹20,000 crore**, showing **7.3% growth**.
- 

### 3. Factors Behind Mounjaro's Success

#### ◆ High Unit Value

- Despite **lower sales volume**, the **per-unit cost** of Mounjaro is much higher (₹14,000–₹27,000 per month per patient).
- The **KwikPen (pre-filled injection device)** introduced in August boosted convenience and sales.

#### ◆ Global Weight-Loss Trend

- Global popularity of GLP-1 class drugs (including Mounjaro and Novo Nordisk's Wegovy) for **obesity management** has influenced India's urban and affluent consumers.

#### ◆ Therapeutic Diversification

- Marks a **shift from infection-focused drugs** (like antibiotics) to **chronic lifestyle therapies** (obesity, diabetes, cardiovascular).



## 4. Competitors and Market Dynamics

- **Augmentin** remains the leader, but its **unit value** is far lower; a strip of 10 tablets costs under ₹200.
- **Wegovy** (Novo Nordisk’s rival drug) — Sales plateaued at ₹9 crore/month; the company has **cut sales jobs** due to slower growth.
- The *anti-obesity drug segment* is **highly competitive**, with more entrants expected in 2026.

## 5. Economic and Health Implications

| Aspect                | Analysis   |
|-----------------------|--|
| Health                | Indicates growing awareness and demand for medical weight management; raises debate over affordability and access. |
| Economic              | Reflects rising purchasing power and lifestyle-driven healthcare expenditure among India’s upper-middle class.     |
| Pharma Industry Shift | Traditional anti-infectives are giving way to high-margin metabolic and lifestyle therapies.                       |
| Public Policy Angle   | Raises ethical and regulatory issues over off-label usage of anti-diabetic drugs for cosmetic weight loss.         |

## 6. Global and National Context

- *Mounjaro's* active ingredient **Tirzepatide** targets both **GLP-1 and GIP receptors**, improving insulin regulation and appetite control.
- Approved by the **US FDA in 2022** and introduced in multiple global markets as a dual-benefit drug for **diabetes + obesity**.
- In India, it caters to a fast-growing obesity segment — **over 135 million overweight adults** (ICMR, 2023).

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## 7. UPSC Relevance

### GS Paper 3 – Science & Technology / Economy / Health

| Theme                 | Relevance  |
|-----------------------|--|
| Health and Technology | Role of biotech drugs in managing lifestyle diseases           |
| Economy               | Changing structure of pharma retail market in India            |
| Ethics in Health      | Off-label use, affordability, and regulation in drug marketing |
| Industry Trends       | Global pharma innovation influencing Indian demand             |

# UNESCO

- 
- UNESCO's executive board voted to appoint Khaled el-Enany, Egypt's former antiquities and tourism minister, as the organisation's next director-general.

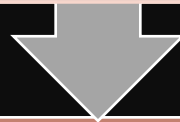
- **About UNESCO**

- UNESCO (United Nations Educational, Scientific and Cultural Organization) was established in 1945, with its constitution coming into force in 1946.
- It aims to promote peace and security through international cooperation in education, science, culture, and communication.
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Headquartered in Paris, France, UNESCO has 194 member states and 12 associate members as of July 2025.

In July 2025, the U.S. announced it would withdraw from UNESCO by December 2026.



India has been a **founding member since 1948**, hosting two UNESCO offices.



**Key Publications of UNESCO** are Global Education Monitoring Report, United Nations World Water Development Report, UNESCO Science Report: Towards 2030, and Global Ocean Science Report.

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# PM-SETU Yojana

The Prime Minister launched the **Pradhan Mantri Skilling and Employability Transformation through Upgraded ITIs- PM – SETU**.



About



**PM-SETU** will follow a hub-and-spoke model, with **200 hub ITIs linked to 800 spoke ITIs**.



It is a **centrally sponsored scheme** to transform 1,000 Government ITIs across India into modern, industry-aligned training institutions.

### The scheme will:

- Introduce new, demand-driven courses and revamp existing ones in collaboration with industry;
- Set up Special Purpose Vehicles (SPVs) with credible Anchor Industry Partners to manage clusters and ensure outcome-based training;
- Create pathways for long-term diplomas, short-term courses, and executive programs;
- Strengthen 5 National Skill Training Institutes in – Bhubaneswar (Odisha), Chennai (Tamilnadu), Hyderabad (Telangana), Kanpur (Uttar Pradesh), Ludhiana (Punjab), as Centres of Excellence with global partnerships.

Under the first phase of PM-SETU, **15 hub-and-spoke ITI clusters have been identified** across the country.

- Each cluster will serve as a centre of excellence in skills, equipped with advanced infrastructure, modern trades, and industry-led training, creating model ecosystems that can be replicated nationwide.

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# Word of the day

## **Compunction:**

a feeling of deep regret (usually for some misdeed)

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**Synonyms:** remorse, self-reproach

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**Usage:** *He had no compunction about deceiving her.*

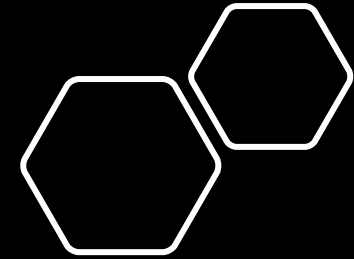
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**Pronunciation:** newsth.live/  
compunctionpro

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**International Phonetic  
Alphabet:** /kəm'pʌŋk.ʃən/

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Thank you 😊

