



VAJIRAM & RAVI
Institute for IAS Examination

The Analyst

CURRENT AFFAIRS Handout

6th October 2026

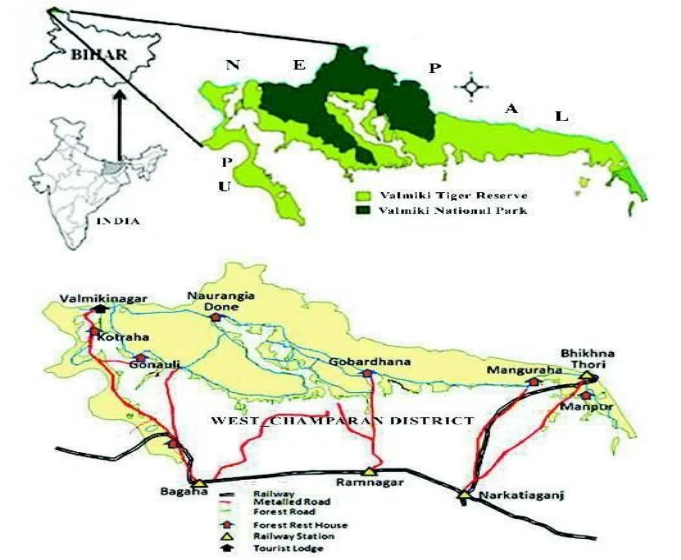


Buxa Tiger Reintroduction

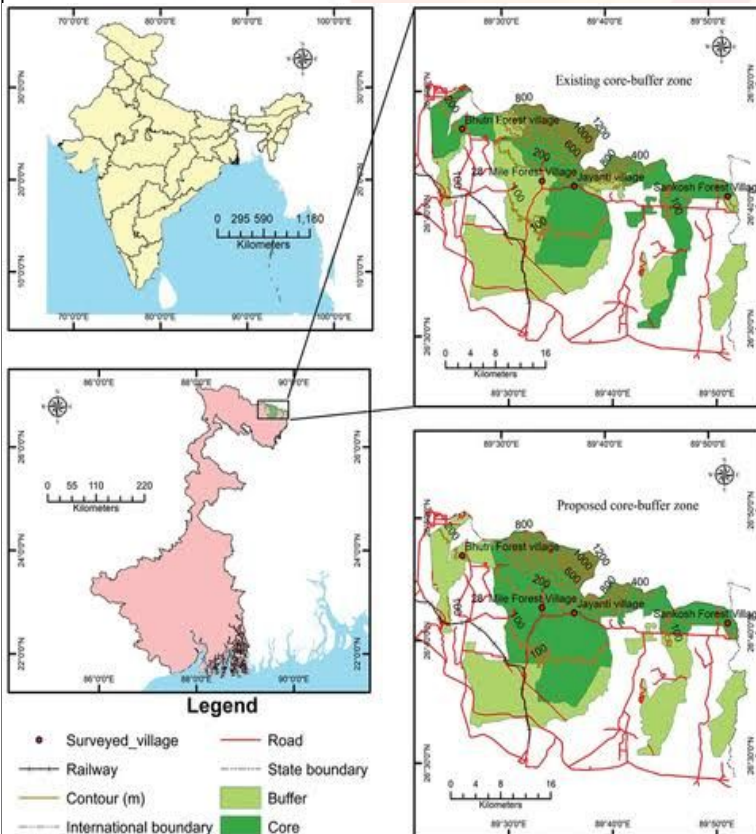
CONTEXT: On October 2, a tiger was introduced in Buxa Tiger Reserve in West Bengal

Causes of Decline in Buxa

- Increasing anthropogenic pressure
 - Settlements
 - Traffic
- Habitat degradation
- Habitat fragmentation
- Changes in land use
- Decline in prey base



Valmiki Tiger Reserve, Bihar



Buxa Tiger Reserve, West Bengal



Buxa Tiger Reintroduction

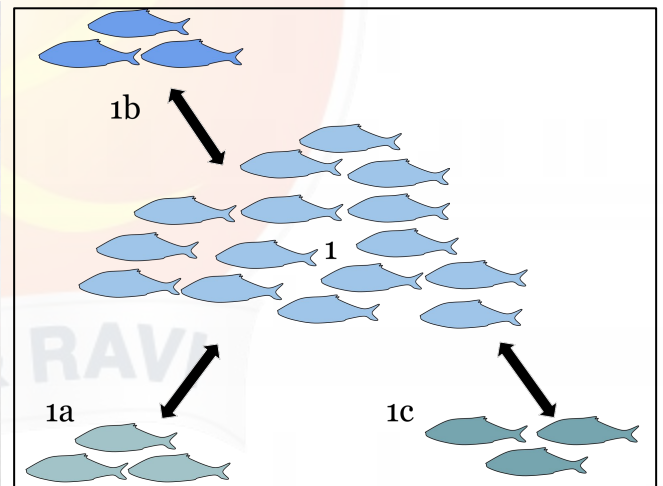
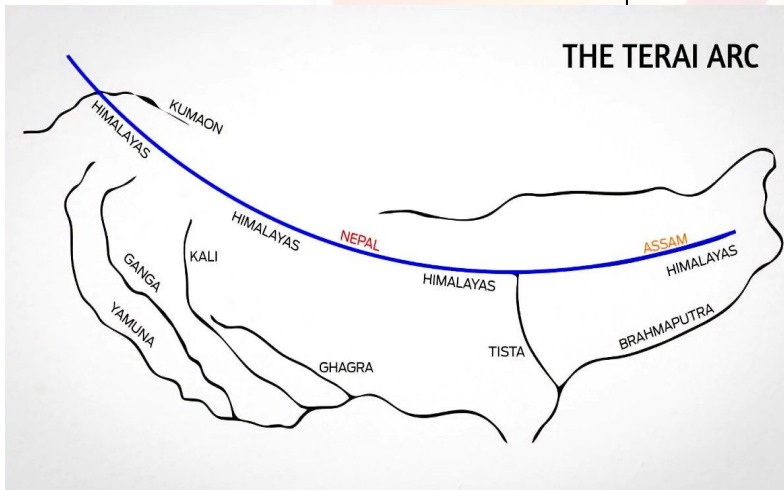
CONTEXT: On October 2, a tiger was introduced in Buxa Tiger Reserve in West Bengal

Why Valmiki as Source?

- Located in the easternmost **Terai Arc Landscape**, with terrain similar to Buxa.
- **Sundarbans rejected as a source**
- **Principle: Habitat/terrain matching between source and release site is key.**

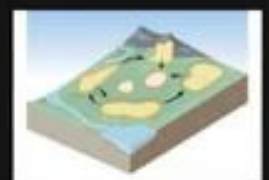
Why need for reintroduction?

- Restoring the historical range
- Natural recolonisation is unreliable
- A tiger reserve without tigers fails its purpose (1983; 15th tiger reserve)
- Landscape connectivity
 - Bhutan; Jaldapara; Kochugaon; Manas
- Reducing reliance on a single habitat type in the state
 - Creating **Metapopulation**



INTRODUCTION

- ✓ **Metapopulation** is known as "Population of population"
- ✓ A metapopulation is a group of same individual living in different places forming "patches", but movement of individuals from one population to another occurs regularly.
- ✓ The term was coined by Richard Levins in 1969.



Buxa Tiger Reintroduction



CONTEXT: On October 2, a tiger was introduced in Buxa Tiger Reserve in West Bengal

Previous tiger reintroductions in India

- **Sariska (Rajasthan), 2008:** The first scientific reintroduction
- **Panna (Madhya Pradesh), 2009:** Regarded as the most successful
- **Buxa (2026):** The first reintroduction in West Bengal

Unsuccessful "release" attempts:

- Dongarpur in Rajasthan
- **Satkosia (Odisha), 2018:** The first inter-state reintroduction, and a failure.

Tiger Reintroductions are done by NTCA
+ State Govt + WII

Challenges in tiger reintroduction

- Community acceptance
- Weak prey base
- Habitat fragmentation and poor connectivity
 - Issue in Rajaji (Uttarakhand)
- Human-wildlife conflict
- Source-site matching and animal selection

- Long-term, resource-intensive effort
- Protection and infrastructure threats

Way Forward

- Treat reintroduction as a last resort, after rigorous assessment
- Involve communities from the outset
- Pair translocation with habitat and prey recovery
- Conflict mitigation on the ground
- Continuous scientific monitoring
- Use a landscape and metapopulation approach
- Multi-agency, transboundary cooperation



CONTEXT: On October 2, a tiger was introduced in Buxa Tiger Reserve in West Bengal

Tigers in India and their Conservation

- India houses **3,682 wild tigers as of 2022**, representing nearly 70% of the global wild tiger population

Key Conservation Milestones:

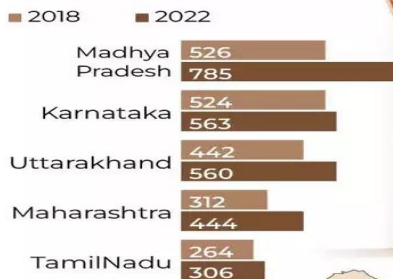
- Project Tiger (1973)** (Ministry of Environment, Forest and Climate Change)
- NTCA Establishment (2006):** Formed under the Wildlife Protection Act of 1972 to provide statutory oversight, funding, and management guidelines for reserves.
- Tiger Task Force** to re-examine conservation policies and recommend reforms

The Tiger Count

Tiger numbers in India:

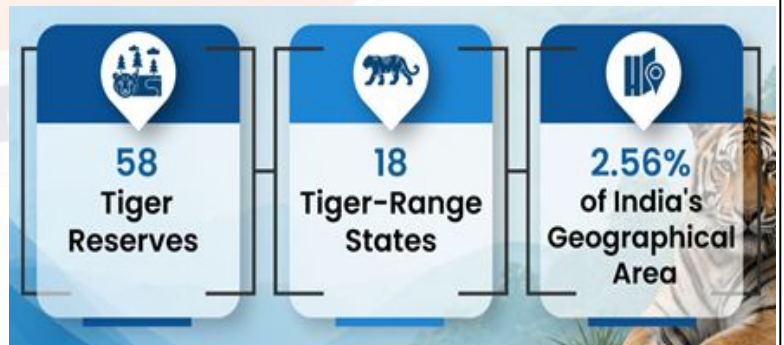
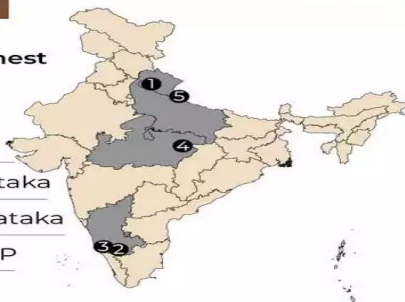


States with highest tiger numbers



Reserves with highest tiger population

- 1 Jim Corbett, Uttarakhand
- 2 Bandipur, Karnataka
- 3 Nagarhole, Karnataka
- 4 Bandhavgarh, MP
- 5 Dudhwa, UP



All India Tiger Estimation: The World's Largest Biodiversity Survey

- Conducted **every four years**, it is **led by the NTCA in collaboration with the Wildlife Institute of India (WII)**
- Monitoring System for Tigers – Intensive Protection and Ecological Status (**M-STripES**) uses **GPS, GPRS and remote sensing technologies for field monitoring**
- Camera Trap Data Repository and Analysis Tool (**CaTRAT**) **classify camera trap images by species**
- ExtractCompare** identifies individual tigers using their unique stripe patterns.



Buxa Tiger Reintroduction

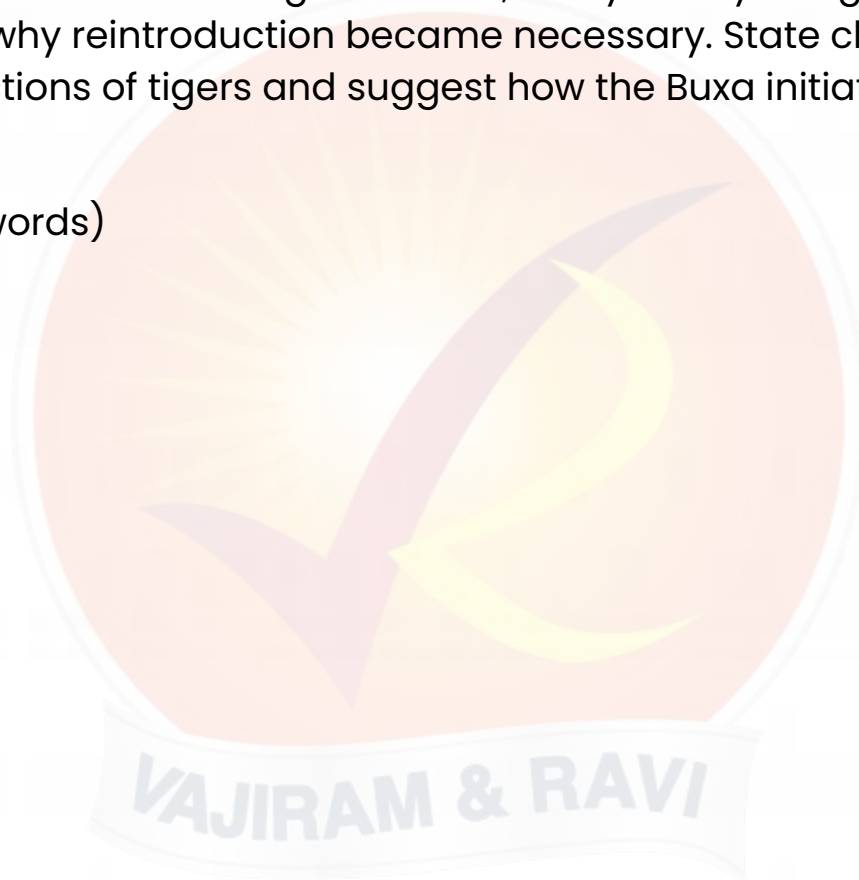


CONTEXT: On October 2, a tiger was introduced in Buxa Tiger Reserve in West Bengal

Mains Practise Question

Ques. With reference to Buxa Tiger Reserve, analyse why its tiger population collapsed and why reintroduction became necessary. State challenges in such reintroductions of tigers and suggest how the Buxa initiative can succeed.

(15 Marks, 250 words)



CONTEXT: The 9th India International Water Week 2026, held in New Delhi from September 22–25 under the theme “Climate Resilient Water Management”

Basics of Water in India

- India holds about **18% of world population but only about 4% of global freshwater**.
- **Average annual water resource is about 2,000 BCM (CWC). Utilisable resource is about 1,120 BCM** (roughly 690 surface + 430 ground)
- **Precipitation is about 4,000 BCM**, with about 75% falling in the four monsoon months (June–September). **Ganga–Brahmaputra–Meghna basins hold roughly 60% of the resource**
- **Per capita availability (CWC): 5,177 m³ (1951) → 1,816 (2001) → 1,545 (2011) → 1,486 (2021) → 1,367 (2031 projected)**. India is already below the 1,700 stress line.
- **Sectoral use: about 80% agriculture; the remaining 20% domestic and industrial.**
- **Groundwater dependence:** India is the world's largest extractor; **groundwater serves over 60% of irrigation, about 85% of rural drinking water and about half of urban supply.**

Institutions

- **Ministry of Jal Shakti (2019):** merged the Ministry of Water Resources, River Development and Ganga Rejuvenation with Drinking Water and Sanitation.
- **CWC:** apex technical body for surface water.
- **CGWB:** groundwater assessment and management.
- **CGWA:** regulates groundwater extraction (notified under the Environment Protection Act, 1986).

Issues

Natural and physical

- Spatial and temporal skew
- Climate change
- Falling per-capita availability

Governance and institutional

- Fragmentation
- Infrastructure without service
- Weak data
- Perverse incentives
- Low water-use efficiency

Legal and constitutional

- Federal split
 - water is a State subject (State List Entry 17: water supply, irrigation, canals, drainage, embankments, storage, power),
 - subject to Entry 56 of the Union List: regulation and development of inter-State rivers and valleys



CONTEXT: The 9th India International Water Week 2026, held in New Delhi from September 22–25 under the theme “Climate Resilient Water Management”

Issues

- **Groundwater rights:** the Indian Easement Act, 1882 ties groundwater to land ownership
- **No national water framework law**
- **Right to water:** read into Article 21
- **11th Schedule Entry 11 (drinking water) (Panchayat)**
- **12th Schedule Entry 5 (water supply) (ULB)**

Environmental and water quality

- **River pollution**
- **Loss of e-flows**
- **Overuse of RO purifiers**

What Has Been Done

- **Ministry of Jal Shakti (2019) to integrate water governance**
- **Bureau of Water Use Efficiency**
- **National Water Policy, 2012:** Treat water as an economic good to promote conservation and efficient use after meeting basic needs
- **Data and monitoring: National Hydrology Project; NAQUIM (National Aquifer Mapping)**
- **Jal Jeevan Mission – Har Ghar Jal (August 2019):**
 - **Status as of July 2026:** 15.89 crore of 19.36 crore rural households with tap connections (82.09%)

- **AMRUT 2.0 (October 2021): universal tap water in statutory towns, sewerage and septage management**
- **Jal Shakti Abhiyan (2019): water conservation campaign in stressed districts**
- **Catch the Rain (2021)**
- **Mission Amrit Sarovar (2022): water bodies rejuvenation (75 per district).**
- **Jal Sanchay Jan Bhagidari (2024): community-led artificial recharge, with a Gujarat launch**

Gujarat Model (2001–2014 and after)

Core components

- **Political prioritisation**
 - **Chintan Shivirs**
- **State-wide water grid**
- **WASMO (2002):** Water and Sanitation Management Organisation to enable community-led rural water management, with **Pani Samitis (village water committees)** planning, running and maintaining schemes.

Source sustainability and recharge: check dams; cost-sharing (government/community)

- **Demand-side and energy reform: Jyotigram Yojana (2003) separated agricultural and village power feeders**



CONTEXT: The 9th India International Water Week 2026, held in New Delhi from September 22–25 under the theme “Climate Resilient Water Management”

- **4 Ps (Delhi Declaration, October 2018; PM Modi and UN Secretary-General Guterres)**
 - Political leadership that prioritises water.
 - Public financing
 - Partnerships across Centre, State, local governments, community organisations, knowledge institutions and multilateral banks.
 - People's participation in decision-making and local water security plans.

Other state and community models

- **Maharashtra:** Hiware Bazar and Ralegan Siddhi (village-level watershed and crop discipline)
- **Rajasthan:** Rajendra Singh's johad revival in Alwar
- **Telangana:** Mission Kakatiya (tank restoration)
- **Tamil Nadu:** mandatory rainwater harvesting (2003).
- **Global:** Israel (drip, reuse), Singapore (NEWater, pricing), Cape Town (Day Zero demand management).

Way Ahead

- Adopt integrated water-resource management
- Strengthen local water institutions
 - Pani Samiti model should inform JJM's next stage
- Shift JJM from connection-counting to service-quality measurement
- Integrate groundwater and surface-water governance
 - CWC + CGWB + States + basin authorities + local institutions.
- Give water reuse an economic value
- Align agriculture with water availability
- Use water data as public infrastructure
 - rainfall + river flows + groundwater + reservoirs + water quality + demand + wastewater

Mains Practise Question

Ques. "Water security is as much a challenge of governance and institutions as of engineering." Examine this statement in light of India's experience with community-led water management, including the Gujarat model.

(15 marks, 250 words)



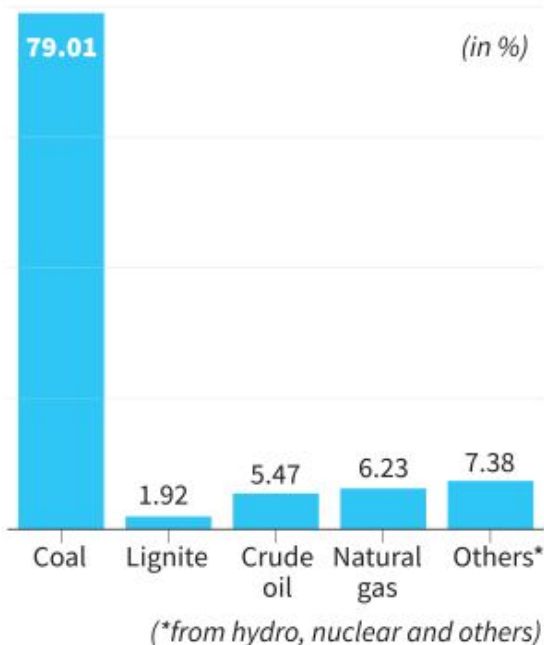
Newspaper : The Hindu, **Page No :** 7

Coal stocks critically low as power demand rises in India

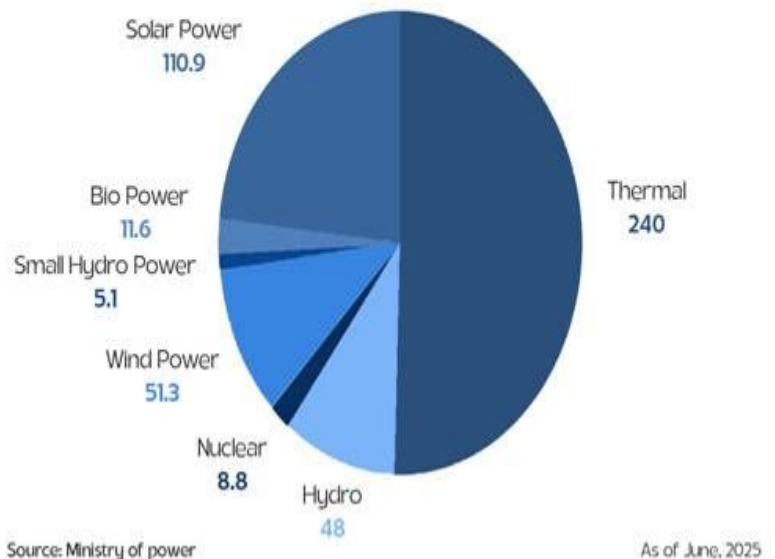
Central Electricity Authority:

- **Critically low stock in (~44%) 85 of 191 thermal plants for Oct 2026.**
- **CEA criterion for "critical":**
 - **inventories fall below 25% of the required normative stock or**
 - **when the stock can support power generation for less than three days**
- **Record peak demand: 270.8 GW on 21 May 2026.**

CHART 3: Coal still accounts for most of the energy generation in India. In 2024-25, 79% of total primary energy generation was from coal, as shown below



India's Installed Power Capacity Mix (Numbers in Gigawatt)



SYLLABUS: Prelims: Science and Technology
Newspaper : Indian Express **Page No : 12**

Nobel Prize in Physiology and Medicine for 2026

• 'For their discoveries concerning light-gated ion channels and optogenetics'

 "Optogenetics... fundamentally altered our understanding of the brain," the press release said. It credited the three for ushering in a new era in neuroscience.

KARL DEISSEROTH, 54
The Howard Hughes Medical Institute and Stanford University

PETER HEGEMANN, 71
Humboldt University of Berlin, Germany

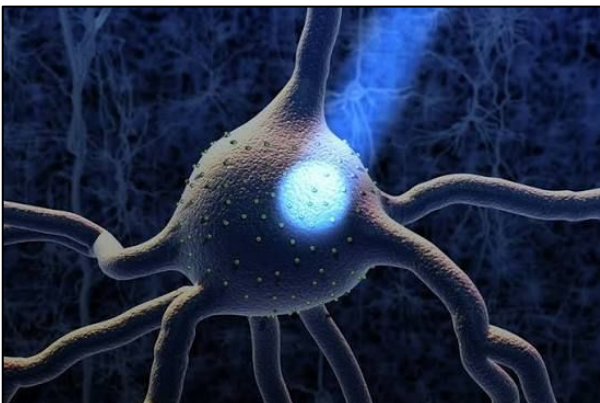
GEORG NAGEL, 73
University of Würzburg, Germany

ON TUESDAY: NOBEL PRIZE IN PHYSICS

Nobel Prize in Physiology and Medicine for 2026

Core Concepts

- **Optogenetics**
 - uses light to control the activity of genetically modified cells, mainly neurons.
- **Opsins:** light-sensitive proteins placed in specific cells; they act as on/off switches when light hits them.
- **Light-gated ion channel:** a membrane protein whose channel opens in response to light.
- **Channelrhodopsin-2 (ChR-2):** light-gated ion channel from the alga *Chlamydomonas*
- **Eyespot:** the tiny orange spot the alga uses to detect light.
- **Neuron:** nerve cell that communicates through electrical signals.



Nobel Prize in Physiology and Medicine



SYLLABUS: Prelims: Science and Technology
Newspaper : Indian Express **Page No : 12**

Person	Contribution
Francis Crick	Theorised controlling individual nerve cell types to study consciousness; the field rests on his idea
Hegemann	Found the alga responds to light within half a millisecond; hypothesised that a single protein complex both captures light and acts on it
Nagel	Used frog egg cells to express the two proteins and confirm Hegemann's hypothesis; found ChR-2
Deisseroth	Introduced the ChR-2 gene in 2006 ; used light to control mouse whiskers, wake sleeping mice, and study fear and memory

Applications

- Mapping neural circuits for pain, social behaviour, thirst, food consumption, reward and attention.
- Understanding how **memories** are created.
- **Retinitis pigmentosa** (disease destroying rods and cones): clinical trials on restoring vision; a patient could discern and grasp objects using light-emitting glasses.
- **Cochlear implants:** current ones stimulate the auditory nerve with **electricity**; light-based versions could improve them.
- Still **largely lab-based** and used in animals.



SYLLABUS: Prelims: Polity

Newspaper : The Indian Express; **Page No :** 1 and 6

Form 6 and Form 7 in Election Commission

Legal framework

- **Parent laws:** Representation of the People Act, 1950 (preparation of electoral rolls) and the **Registration of Electors Rules, 1960**.
- **Who can amend the forms: Only the Central Government**, by amending the Rules, in consultation with the ECI. The ECI cannot change a prescribed form on its own.
- **Constitutional anchors:**
 - Art. 324: superintendence, direction and control of elections vest in the ECI.
 - Art. 326: adult suffrage, with the voting age at 18 (61st Amendment (1988))
- **Electoral Registration Officer (ERO):** Decides applications and objections for each constituency. Appeals go to the District Magistrate, then the Chief Electoral Officer (RP Act 1950, S. 24).
 -

Form 6

- **Purpose:** Application for **inclusion of name in the electoral roll** by a **new/first-time voter**. It is also used when **shifting from one constituency to another**.
- **Eligibility (RP Act 1950, S. 19):** Indian citizen, 18+ on the qualifying date, **ordinarily resident** in the constituency (S. 20).
- **Qualifying dates:** 1 Jan, 1 Apr, 1 Jul and 1 Oct. The RP (Amendment) Act, 2021 introduced the extra three dates, replacing the single date of 1 Jan.
- **Mode:** Online (Voters' Service Portal, Voter Helpline App) or offline to the ERO/BLO.
- **Related forms:**
 - **Form 6A:** overseas (NRI) electors.
 - **Form 6B:** voluntary Aadhaar number submission for authentication of roll entries.

Form 7

- **Purpose:** **Objection to inclusion** of a name, or **request for deletion** of a name, in the electoral roll.
- **Grounds for deletion:** Death, permanent shift, duplicate entry, or not a citizen/not ordinarily resident.
- **Who can file:** An elector of the **same constituency**, or the person themselves for self-deletion.
- **Safeguard:** The ERO must issue notice and give the affected person a **hearing** (natural justice) before deleting a name. There is no deletion without a proper inquiry.



House privileges vs free speech



SYLLABUS: Prelims: Polity

Newspaper : The Indian Express; Page No : 1 and 6

House privileges vs free speech

Concepts to Know

- **Breach of privilege:** an **offence against the privileges** of the House, its members or committees. (**Art 105 and Art 194**)
- **Contempt of the House:** wider term; obstructing the House's functioning or its members' duties.
- **Privileges Committee:** examines breaches referred by the Speaker/Chairman.
- **Collective privileges:** rights of the House as a whole (e.g., to punish for contempt, regulate its own procedure, prohibit publication of proceedings).
- **Individual privileges:** rights of members (e.g., freedom of speech in the House, freedom from arrest in civil cases).
- Privileges are held by Parliament, State Legislatures, their committees and members, **not by the Executive.**

1959	Pandit M.S.M. Sharma v. Sri Krishna Sinha (Searchlight case)	• 4:1. Art 194(3) privileges include the power to prohibit publication of proceedings; • Art 19(1)(a) is a <i>general</i> provision and Art 194(3) a <i>special</i> one, so free speech yields to privilege
1964	Special Reference No. 1 of 1964 (Keshav Singh case)	President referred the dispute to the SC (Art 143)
1964	SC opinion in the reference	• legislatures cannot proceed against judges/lawyers for performing their duties; • Searchlight case does not lay down that Part III rights <i>always</i> yield to privileges



SYLLABUS: Prelims: General Science

Newspaper : The Indian Express; Page No : 14

Derivatives

- **A contract whose value derives from an underlying asset (stock, index, commodity, currency, interest rate).**
- **Legal definition:** Securities Contracts (Regulation) Act, 1956 (SCRA), Sec 2(ac).
- **Derivatives are "securities", so SEBI regulates them.**
- **Uses:** hedging, speculation, arbitrage.

Type	Traded	Key feature
Forward	OTC	Customised, counterparty risk
Future	Exchange	Standardised, daily mark-to-market, clearing corporation guarantee
Option	Exchange/OTC	Right, not obligation. Buyer pays a premium
Swap	OTC	Exchange of cash flows (interest rate, currency)

Institutions

- **SEBI:** regulator of equity, commodity and (exchange-traded) currency derivatives.
- **RBI:** regulates OTC currency and interest rate derivatives.
- **Exchanges:** NSE, BSE (equity); MCX, NCDEX (commodities).



Q1. With reference to the regulation of derivatives in India, consider the following statements:

1. SEBI regulates exchange-traded equity and commodity derivatives.
2. RBI regulates OTC currency and interest-rate derivatives.
3. NSE and BSE are examples of commodity exchanges.

How many of the statements given above is/are correct?

- a) Only One
- b) Only Two
- c) All Three
- d) None

Answer: b

Q2. With reference to parliamentary privileges in India, consider the following statements:

1. Article 105 deals with the privileges of Parliament and its members, while Article 194 deals with State Legislatures and their members.
2. Parliamentary privileges are available only to individual members and not to the House collectively.
3. Freedom of speech within the House is an individual parliamentary privilege.

Which of the statements given above are correct?

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

Answer: a

Q3. With reference to Forms used for registration in electoral rolls, consider the following statements:

1. Form 6 is used for registration of a new elector.
2. Form 6B is used for voluntary submission of Aadhaar details for authentication of electoral-roll entries.

Which of the statements given above are correct?

- a) 1 only
- b) 2 only
- c) Both 1 and 2
- d) Neither 1 nor 2

Answer: c

Q4. With reference to optogenetics, consider the following statements:

1. It involves controlling the activity of genetically modified cells using light.
2. It is primarily used to manipulate neuronal activity with high spatial and temporal precision.
3. It necessarily involves modification of the DNA of every cell in the organism.

How many of the statements given above is/are correct?

- a) Only One
- b) Only Two
- c) All Three
- d) None

Answer: b

Q5. With reference to tiger conservation in India, consider the following statements:

1. Project Tiger is a Centrally Sponsored Scheme of the Ministry of Environment, Forest and Climate Change.
2. The National Tiger Conservation Authority is a statutory body constituted under the Wildlife (Protection) Act, 1972.
3. The methodology for the national tiger assessment was approved by the Tiger Task Force.

How many of the statements given above is/are correct?

- a) Only one
- b) Only two
- c) All three
- d) None

Answer: c





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