

Prelims Exam Topics

SMART WAREHOUSING SYSTEM FOR FOODGRAIN STORAGE

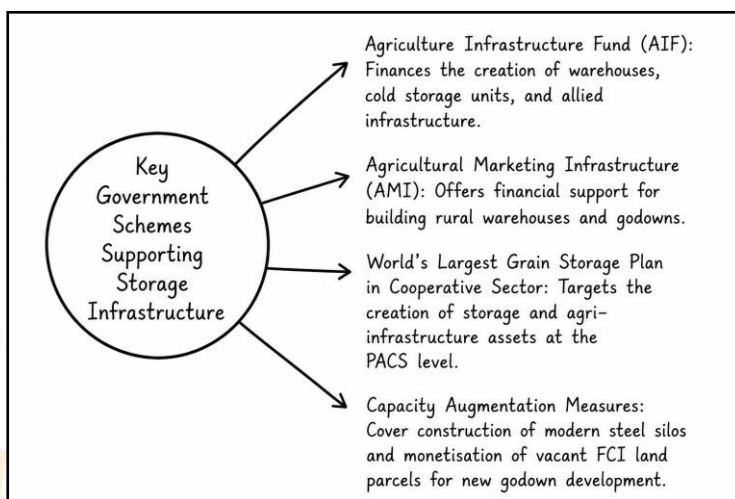
Context

The Ministry of Consumer Affairs, Food and Public Distribution launched the Smart Warehousing System for foodgrain storage, billed as the world's largest deployment of AI and IoT-based technologies in public sector warehousing.

About Smart Warehousing System for Foodgrain Storage

- **Technologies**

- **Access Control:** Gate automation through FASTag and Automatic Number Plate Recognition (ANPR), paired with geo-tagged smart locks for intelligent entry management.
- **AI Applications:** Automated bag counting, face recognition, and object detection systems.
- **IoT Monitoring:** Real-time tracking of environmental parameters inside warehouses, combined with AI-driven surveillance for early detection of fire, smoke, and rodent activity.



- **Implementation:** Rolled out across 215 bag-based foodgrain warehouses under the Central Warehousing Corporation (CWC), with the Food Corporation of India (FCI) extending the system to 150 additional warehouses.
- **Significance:** The system aims to cut vehicle turnaround time at warehouse gates, tighten compliance monitoring, boost manpower productivity, enable early hazard detection, and give real-time visibility into warehouse operations.

Foodgrain Storage Architecture in India

- **Centralised Storage:** Managed mainly by the FCI, which procures grain either directly or through State Government Agencies at the Minimum Support Price (MSP).
- **Decentralised Storage:** Handled through rural godowns, Primary Agricultural Credit Societies (PACS), and on-farm storage maintained by individual farmers.
- A majority (roughly 60-70%) of total foodgrain output is stored at the household level using traditional, indigenous storage methods rather than formal infrastructure.

SMART SEED COATING TECHNOLOGY

Context

ICAR-IIOR has developed and demonstrated a patented, biopolymer-based Smart Seed Coating Technology

About Smart Seed Coating Technology

- **Developing Institute:** ICAR–Indian Institute of Oilseeds Research (ICAR-IIOR), Hyderabad.
- **Working Mechanism**
 - **Coating Material:** Biodegradable biopolymers forming a protective layer around each seed.
 - **Function:** Acts as a carrier, delivering beneficial microorganisms, nutrients, and crop protection agents directly to the seed-soil interface.
 - **Integrated Model:** Bundles protection, nutrition, and biological support into a single coating, unlike conventional single-purpose seed treatments.
- **Significance**
 - Aids faster germination and stronger root development.
 - Improves resilience to both biotic (pests, diseases) and abiotic (drought, heat) stresses.
 - Field trials recorded productivity gains of 12-37% over untreated controls, with up to 30% improvement in groundnut and soybean.

FIRST CONSTITUTIONAL AMENDMENT ACT, 1951

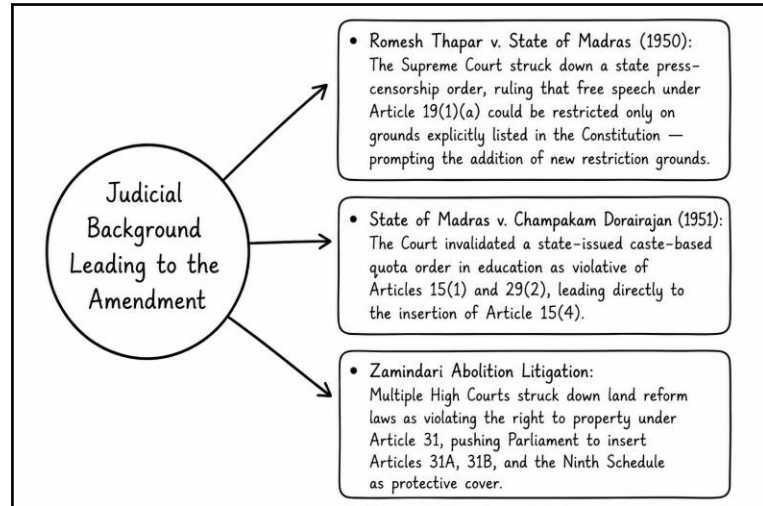
Context

2026 marks 75 years since the passage of The Constitution (First Amendment) Act, 1951, the first amendment ever made to the Indian Constitution.

About the Constitution (First Amendment) Act, 1951

Background

- **Introduced By:** Prime Minister Jawaharlal Nehru, to resolve practical difficulties created by early judicial rulings that struck down laws restricting speech and property rights.
- **Scope:** Brought changes to three fundamental rights: freedom of speech, freedom from discrimination, and the right to property, along with certain legislative procedure provisions.



Major Provisions

- **Freedom of Speech & Expression:** Expanded Article 19 (2) to permit "reasonable restrictions" on free speech on grounds including security of the state, public order, friendly relations with foreign states, decency or morality, and contempt of court, defamation, or incitement to an offence.
- **Land Reforms & Property Rights:** Inserted **Articles 31A and 31B** to shield agrarian reform laws, such as zamindari abolition statutes, from being challenged in courts.
 - Created the **Ninth Schedule** as a dedicated mechanism to protect specified land reform laws from judicial review.
- **Social Justice & Backward Classes:** Added **Article 15(4)**, permitting special provisions for socially and educationally backward classes, Scheduled Castes, and Scheduled Tribes.
 - Reinforced the Directive Principle under **Article 46**, which calls on the State to promote the welfare of weaker sections.
- **Parliamentary & State Legislature Procedures:** Clarified rules on sessions, prorogation, and dissolution through changes to **Articles 85, 87, 174, and 176**, allowing greater flexibility in legislative functioning.

PYQ Anchor

Q) The Ninth Schedule was introduced in the Constitution of India during the prime ministership of (UPSC, 2019)

- (a) Jawaharlal Nehru
- (b) Lal Bahadur Shastri

- (c) Indira Gandhi
(d) Morarji Desai

Answer: A

SUPREME COURT JUDGMENT ON RIGHT TO WALK

Context

The Supreme Court has declared the right to walk on demarcated and well-maintained footpaths a fundamental right, holding it overrides the privilege of motorised vehicle movement.

Key Takeaways from the Judgement

- Grounded the right in **Article 19(1)(a), (b), and (c)**-freedom of expression, assembly, and association, alongside the right to free movement guaranteed under the Constitution.
- Held that wherever a road exists, civic authorities have an **enforceable duty** to demarcate and maintain a footpath alongside it.
- Noted the **Motor Vehicles Act, 1988** has never recognised the right to walk, and called for a dedicated statutory framework and a full-time regulatory body to plan, enforce, and implement this right.

ENERGY TRANSITION INDEX (ETI) 2026

Context

The World Economic Forum (WEF) released the Energy Transition Index (ETI) 2026, tracking energy transition progress across 120 countries.

Key Takeaways

- Global energy transition readiness declined for the first time in over a decade, with overall scores staying nearly flat, as gains in system performance were offset by weakening transition readiness amid rising geopolitical risks.
- **Top Performers:** Sweden, Finland, and Denmark retained the top three global positions.
- **India's Rank:** India advanced two places to rank **70th globally**.
 - Gains were led by a sharp rise in infrastructure readiness, along with improvements in equity, sustainability, and financial investment.

Other Reports released by World Economic Forum (WEF): Global Risks Report, Global Gender Gap Report, Energy Transition Index (ETI), Future of Jobs Report, Travel & Tourism Development Index, Global Cybersecurity Outlook, Chief Economists' Outlook

TURQUOISE NEXUS INITIATIVE (TNI)

Context

Turkey's Presidency of the 2026 UNFCCC COP31 and the Food and Agriculture Organization (FAO) have unveiled the Turquoise Nexus Initiative (TNI) to integrate food, water, and climate adaptation into national climate plans.

About Turquoise Nexus Initiative (TNI)

- **Aim:** To help developing countries weave **food-water-climate** approaches into their Nationally Determined Contributions (NDCs) and implementation efforts under the Paris Agreement.
- Operates as a proposed programme under FAO's **Food and Agriculture for Sustainable Transformation (FAST) Partnership**, a multistakeholder initiative launched by the COP27 Presidency in 2022 at Sharm el-Sheikh, Egypt.
 - **FAST Partnership** functions as a platform for collective action to scale up the quantity and quality of climate finance flowing into the sustainable transformation of agriculture and food systems.

EXERCISE KHAAN QUEST

Context

India will send an Army contingent to the 23rd edition of Exercise Khaan Quest 2026, being held at the Five Hills Training Area, Ulaanbaatar, Mongolia.

About Exercise Khaan Quest

- **Origin:** Began as a bilateral exercise between the United States and Mongolian Defence Forces in 2003.
- **Evolution:** Expanded into a Multilateral Peacekeeping Exercise from 2006 onwards , with the current edition marking its 23rd iteration.
- **Host & Co-sponsor:** Hosted by the Mongolian Armed Forces and co-sponsored by the U.S. Indo-Pacific Command.
- **Aim:** To build interoperability and cooperation among participating militaries for peace support operations conducted under Chapter VII of the United Nations Charter

Mains Exam Topics

SOCIAL MEDIA AGE LIMITS FOR CHILDREN

Context

Australia banned social media for under 16s in December 2025. The UK has now announced a similar ban for under 16s, to be enforced by spring 2027. This has revived the debate in India on whether children need legal age limits for social media use.

Arguments in Favour of Age Limits

- **Protecting Adolescent Mental Health:** Early and intensive social media use among adolescents is linked to higher rates of depression, anxiety, and sleep disruption.
 - *E.g.*, Psychologists link the rise of smartphones and social media to a global spike in teenage mental health problems.
- **Children Lack Self Regulation:** Adolescents are still developing self control, so they cannot be expected to resist addictive design features on their own.
 - *E.g.*, NITI Aayog data shows 16-18 year olds in India spend as much as six hours a day on social media, forums, and shopping platforms.
- **Rising Cybercrime Against Children:** Greater time spent online has translated directly into greater risk,
 - *E.g.*, NCRB data shows cybercrime against children rising by 32% between 2021 and 2022 alone.
- **Platform Safety Tools Are Often Ineffective:** Voluntary, company-led protections cannot be relied upon as a substitute for a legal age limit.
 - *E.g.*, a study led by a former senior Meta engineer found that 64% of Instagram's advertised child safety tools failed to work as intended, a finding Meta disputed.
- **Global Policy Convergence:** A growing number of countries are moving towards similar restrictions, showing an emerging international consensus on the issue.
 - *E.g.*, Denmark has approved rules to block under 15s from social media, and Spain is considering similar restrictions.

Arguments Against Age Limits

- **Limited Real World Effectiveness:** Bans are hard to enforce fully, since children can still bypass age checks.

- *E.g.*, surveys show 70% of children in Australia remain on social media despite the ban, often without creating a formal account.
- **Age Verification Threatens Privacy:** Enforcing age limits usually requires identity document checks, which risks widespread surveillance and erosion of online anonymity for all users, not just children.
- **Risk of Blanket Age Gating:** Platforms may respond by requiring every user to prove adulthood, effectively gating large parts of the internet rather than only restricting children.
- **Ignores Other Stressors:** Critics argue that focusing only on social media risks ignoring other deeper causes of adolescent distress, such as academic pressure or family stress.
- **Denies Children a Voice:** Social media was meant to give every user, including children, a platform to learn and connect, and a ban removes this access entirely rather than reforming it.
- **Implementation Burden on Platforms:** Verifying parental identity and consent for every child user is operationally complex and costly, especially for smaller platforms.

What Is India Doing?

- **No Statutory Age Limit Yet:** India currently has no minimum age requirement for accessing social media platforms, unlike Australia or the UK.
- **Parental Consent Under the DPDP Act, 2023:** Section 9 mandates that platforms obtain verifiable parental consent before processing the personal data of anyone below 18 years, India's legal definition of a child.
- **Draft DPDP Rules, 2025:** Released by MeitY, these rules operationalise consent by requiring platforms to verify both the child's age and the parent's identity, using identity proof issued by a government recognised entity.
- **Ban on Tracking and Targeted Ads:** Section 9(3) of the DPDP Act prohibits behavioural tracking, profiling, and targeted advertising aimed at children, regardless of consent.
- **Screen Time Guidelines for Schools:** The Ministry of Education's PRAGYATA Guidelines, 2020, recommend age appropriate screen time limits.
- **State Level Push:** Some states have begun pressing for stricter measures beyond the Central data protection framework.
 - *E.g.*, Andhra Pradesh has explored following Australia's under 16 social media ban model, and similar calls have come from Karnataka.

What Is the Way Forward?

- **Move From Ban to Design Reform:** Mandate safer defaults such as private profiles, no late night notifications, and no stranger messaging for minors.
- **Strengthen Verifiable Parental Consent:** Operationalise India's existing parental consent framework with clear, low friction verification methods that do not compromise user privacy.
- **Adopt a Tiered Age Framework:** Consider a graded approach where younger children face stricter restrictions and older teenagers get limited, supervised access, rather than a single hard cutoff.
- **Shift Liability to Platforms, Not Children:** Place the burden of compliance and penalties on platforms, not on children or parents, to avoid criminalising young users.
 - *E.g.*, Australia's law does not penalise children or parents for violations, holding only social media companies accountable.
- **Build Independent Oversight:** Set up a dedicated regulatory body to monitor platform compliance, similar to a sector specific safety regulator.
 - *E.g.*, Australia's eSafety Commissioner oversees enforcement of its under 16 ban.

