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PRiSM - Short Notes

(Policy, Reforms, Impact, Stories and Mission)

Useful for UPSC Prelims and Mains

August Month



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AIR 587- UPSC CSE 2023

Founder and Mentor

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1. India's Solar growth enters a New Era

Syllabus Mapping

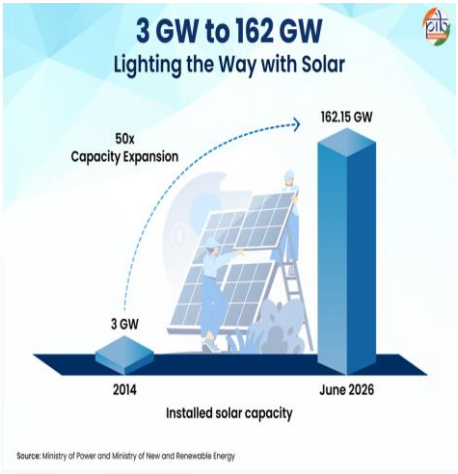
GS-I (Distribution of key natural resources across the world) & GS-III (Infrastructure: Energy)

Relevance

India's solar expansion drives its clean energy transition, supporting the Panchamrit goals from COP26 Glasgow and the net-zero target by 2070.

Overview

1. PM Surya Sarovar Yojana (PM-SSY) approved July 2026; aims to develop 5,000 MW of Floating Solar Photovoltaic (FSPV) capacity (up from current ~700 MW), based on NISE's assessment of 102.18 GWp floating solar potential.
2. Co-located Energy Storage Systems (ESS) using existing reservoirs/industrial ponds — reduces land pressure, improves grid reliability.
3. Expected to cut ~10 million tonnes CO_2 annually, generate 16,000-17,000 jobs, and promote domestic manufacturing of floatation systems, PV cells, modules.



Key Aspects

1. **Capacity Growth**: from ~3 GW (2014) to 162.15 GW (June 2026); record 44.61 GW added in FY 2025-26; India now world's 2nd-largest solar growth market.
2. **Five-Pillar Policy Chain**:
   Vision (Panchamrit, Mission LiFE) → **Demand** (National Solar Mission, RPOs, PM Surya Ghar, PM-KUSUM) → **Cost** (e-Reverse Auctions) → **Infrastructure** (Solar Parks - 54 parks; Green Energy Corridor; highest parks in Rajasthan (11)) → **Manufacturing** (PLI Scheme; ALMM quality framework).
3. **Decentralised Solar**: PM Surya Ghar (world's largest rooftop scheme, 43+ lakh households solarised); PM-KUSUM (21.77+ lakh farmers benefited via solar pumps/feeder solarisation).
4. **Global Leadership**: International Solar Alliance (co-founded with France, COP21 2015); OSOWOG/Green Grids Initiative (with UK, COP26 2021).

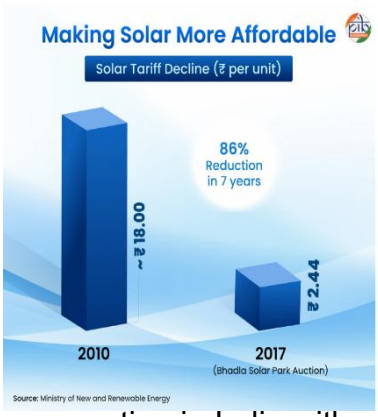
Case study : Bhadla solar park - from desert landscape to clean energy hub
2,245 MW capacity, 5,700 hectares; site of India's record-low tariff (₹2.44/unit, 2017).

Significance

1. **Environment friendly**: reduces CO_2 emissions, supports climate commitments.
2. **Employment generation:** across manufacturing, installation, and rural solar adoption.
3. **Climate and energy goals** - Energy independence by 2047 , net-zero climate goal by 2070.
4. **Energy security:** reduces import dependence and strengthens domestic manufacturing self-reliance

Keywords

Agrivoltaics, energy storage systems, clean energy transition, peak demand, industrial ponds, grid reliability, integrated energy storage, CO2 emissions, flotation systems, PV cells, modules, solar capacity, self-reliance, clean energy hub



PYQ

1. Explain the key challenges for India's energy security. What measures do you suggest for ensuring energy security along with economic growth and sustainability? — 2026, GS-III
2. Explain briefly the ecological and economic benefits of solar energy generation in India with suitable examples. — 2025, GS-I
3. Explain the purpose of the Green Grid Initiative launched at the World Leaders Summit of the COP26 UN Climate Change Conference in Glasgow in November 2021. When was this idea first floated in the International Solar Alliance (ISA)? — 2021, GS-III

2. Rebuilding farming systems

Syllabus Mapping GS-III (Agriculture)

Relevance

Focuses on rebuilding soil vitality, strengthening ecosystem functions, and improving climate resilience — critical as India's agri-growth (4.45% decadal growth, FY16-25) faces soil degradation pressures.



Overview

1. Regenerative agriculture goes beyond sustainable farming — actively rebuilding soil health and biodiversity rather than just maintaining current conditions.
2. Core principles: minimising soil disturbance, protecting living roots, maintaining soil cover, integrating livestock, limiting chemical inputs, enhancing biodiversity.

Key Aspects

1. **Water/resource efficiency:** micro-irrigation (drip, sprinkler, foggers) and mechanisation cut water, fuel and fertiliser use
2. **Soil and nutrients:** nitrogen management (deep urea placement, leaf colour charts, cyanobacteria) cuts N_2O; Natural Farming uses on-farm inputs (Beejamrut, Jeevamrut, Neemastra); green manuring, cover crops and mulching rebuild carbon and moisture
3. **Integrated systems**: Integrated Farming Systems (crops + livestock + fisheries + horticulture + apiculture); agroforestry for rainfed/degraded land; Climate-Resilient Agriculture (balanced nutrients, water conservation, community water-sharing and seed/fodder systems)
4. **Schemes (infographic):** NMNF, PKVY, PDMC, Rainfed Area Development, Agroforestry under PM-RKVY, Soil Health Card

Significance

1. **Environmental outcomes** - Soil restoration; biodiversity enhancement; climate mitigation (carbon storage); water efficiency (reduced runoff/erosion).
2. **Economic and social outcomes** - profitability (lower input costs); employment generation (farming, advisory, tech); greater resilience to climate/market shocks.

Challenges

Erratic rainfalls, heavy chemical use, higher inputs, heatwaves, dry spells, excess rain, declining soil health

Keywords

Regenerative agriculture, natural farming, agroforestry, micro-irrigation, integrated farming systems, soil management, productive, resource-efficient, environmentally responsible, SDG13,13.1.

PYQ

1. 1.Describe the various Technology Missions initiated in Indian agriculture and examine their role in food security. — 2026, GS-III
2. 2.What is an Integrated Farming System ? How is it helpful to small and marginal farmers in India? — 2022, GS-III

3. The Digital transformation of the Indian judiciary : e-Courts mission mode project

Syllabus Mapping GS-II (Structure, organization and functioning of the Judiciary)

Relevance

Serving over a billion citizens, the Indian judiciary has been addressing challenges arising from archaic paper records and brick-and-mortar infrastructure.

Overview

1. The e-Courts Mission(2007) has transformed a traditionally paper-heavy, process-driven, and opaque judiciary into a digital, trackable justice delivery system.
2. Since 2014, both case filings and disposals have nearly 3x, with courts consistently disposing of more cases than are filed annually.
3. Over 753 crore pages of court records have been digitized, while thousands of e-Sewa Kendras bridge the digital divide for citizens.

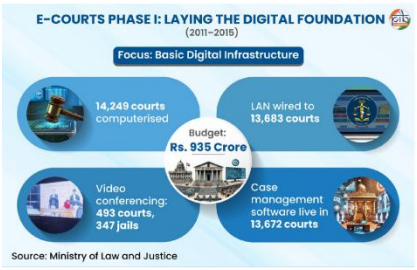
Key Aspects

1. **3 Phases Implementation:** The mission has progressively moved from foundational computerization (Phase I/II) to advanced digital integration, AI adoption, Optical Character recognition(OCR) under Phase III
2. **Scale**: e-Sewa Kendras 1,806; paperless courts 474; virtual courts 538; video conferencing in 7,553 establishments; solar + SDWAN connectivity
3. **NJDG:** real-time public dashboard of pending/disposed cases across court tiers. e-Filing: 1.25cr+ cases (e-payment, e-signing, Vakalatnama)

4. **ICJS**: links police, courts, prisons, forensics, prosecution (CCTNS, e-Sakshya, Nyaya Shruti). NSTEP: GPS-enabled electronic service of summons
5. **AI/ML (Phase III):** LegRAA (legal research), ASR-SHRUTI (voice-to-text)







Significance

1. **Transparency & Accountability:** Real-time dashboards like NJDG make court data publicly accessible, improving judicial monitoring and planning.
2. **Efficiency & Speed:** Replaced slow physical processes with electronic workflows, speeding up case resolution and handling rising caseloads.
3. **Inclusivity & Accessibility:** e-Sewa Kendras and remote video conferencing (e.g., Nyaya Shruti) lower geographical and financial barriers for litigants and lawyers.

Keywords

e-Courts Mission, National Judicial Data Grid (NJDG), Inter-operable Criminal Justice System (ICJS), NSTEP, e-Sewa Kendras, Virtual Courts, Paperless Courts, Legal Research and Analysis Assistant (LegRAA).

PYQ

1.Explain the reasons for the growth of PILs in India. As a result of it, has the India supreme court emerged as the most powerful judiciary? — 2024, GS-II

4. Nuclear Energy Technology in India

Syllabus Mapping

GS-I (Distribution of key natural resources across the world) & GS-III (Infrastructure: Energy)

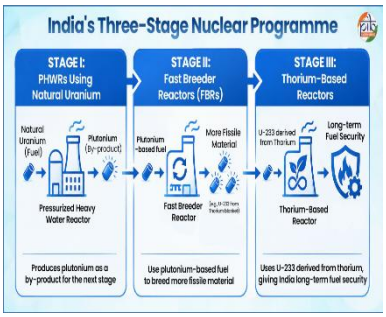
Relevance

Central to India's 100GW-nuclear-by-2047 target and Aatmanirbhar energy security via thorium self-reliance.

Overview

1. **Why nuclear:** provides steady baseload power (24/7, low-carbon) — complements variable solar/wind, stabilises grid
2. **Current base**: 24 reactors, 8.78GW installed; 9 more under construction (7.5GW combined)

Key Aspects



1. **Fuel**: natural uranium (PHWRs) + MOX (PFBR); Indian uranium is low-grade, so imports are needed. Thorium (Th-232), abundant in coastal sands (Kerala, TN, AP, Odisha, WB, Jharkhand), is fertile and absorbs a neutron to become fissile U-233
2. **Three-Stage Programme (Bhabha, 1954):** PHWR (natural U) → FBR (plutonium; breeds U-233 from thorium) → thorium reactors (U-233)
3. **Reaction**: fission: neutron splits U/Pu → heat + neutrons → chain reaction → steam → turbine. Fusion (light atoms combine) is pre-commercial; India contributes to ITER
4. **Reactors**: mainly PHWRs (some BWRs/PWRs); FBRs and SMRs in development. Large reactors (700–1,600 MW) = baseload; SMRs (≤300 MW) and micro reactors (≤20 MW) = remote areas, retiring coal plants, industrial heat, H_2
5. **SMRs**: ₹20,000cr (Budget 2025-26); Bharat SMR-200 (220 MWe, BARC + NPCIL); 5 SMRs operational by 2033
6. **Waste**: closed fuel cycle (spent fuel reprocessed); vitrification into stable glass, a capability few countries have
7. **Policy**: Nuclear Energy Mission (2025-26) + SHANTI Act 2025 → faster expansion, domestic manufacturing, private entry

Significance

1. Baseload clean power complementing renewables → grid stability
2. Cuts fossil-fuel import dependence; supports climate commitments
3. Thorium route = long-term energy security beyond finite/imported uranium

Keywords

PHWR, FBR, PFBR, SMR, Thorium (Th-232), U-233, Three-Stage Programme, Homi Bhabha, SHANTI Act, Nuclear Energy Mission, Vitrification, IGCAR, Baseload

PYQ

1. Distinguish between a Fast Breeder Reactor (FBR) and a thermal nuclear reactor. In the context of first indigenously developed prototype FBR at Kalpakkam, explain the term 'criticality'.What are its implications for clean energy future of our country? — 2026, GS-III

2. The fusion energy programme in India has steadily evolved over the past few decades. Mention India's contributions to the international fusion energy project – International Thermonuclear Experimental Reactor (ITER). What will be the implications of the success of this project on the future of energy? — 2025, GS-III

5. Samudra Manthan – National Offshore Exploration Scheme

Syllabus Mapping

GS-I (Distribution of key natural resources) & GS-III (Infrastructure: Energy, Energy Security)

Relevance

India's biggest offshore hydrocarbon push — targets 600+ MMTOE reserve addition to cut a $144bn crude import bill.

Overview



1. **Approval & Outlay:** Approved on July 31, 2026, with a Phase-I outlay of **₹84,084 crore** up to FY 2030–31.
2. **Energy Imperative:** India is the world's 3rd-largest crude consumer with an annual import bill of ~$144bn (~₹13 lakh crore).
3. **Depletion Pressure:** Existing domestic fields face a natural decline of 6–7% annually, requiring constant new discoveries just to sustain output.
4. **Offshore Potential:** Eastern and western basins (up to 3,000m depth) hold 5,600+ MMTOE, backed by recent finds in the Cauvery, Mahanadi, and Andaman basins.

Key Aspects

1. **Four components:** seismic data (2D/3D, AI reprocessing); accelerated exploration (60 deepwater wells; up to 50% of cost or ₹675cr per well); common production/evacuation infrastructure (Mahanadi, Kutch); manufacturing and services zone (Make in India)
2. **De-risking:** cost-sharing to draw private capital; >99% of old "No-Go" areas opened (>1mn km² of EEZ)
3. **Policy base**: HELP, OALP, PSC → RSC shift, Oilfields (Regulation and Development) Amendment Act 2025; 81% of active exploration acreage awarded after 2014
4. **Milestone**: first appraisal well spudded in the Mahanadi Basin, 25 July 2026

Keywords

Samudra Manthan, HELP, OALP, RSC, National Data Repository, Mahanadi Basin, MMTOE, Oilfields (Regulation and Development) Amendment Act 2025

PYQ

1. Give a geographical explanation of the distribution of off-shore oil reserves of the world. How are they different from the on-shore occurrences of oil reserves? — 2025, GS-I

6. India's Makhana Sector: Traditional Crop to Global Superfood

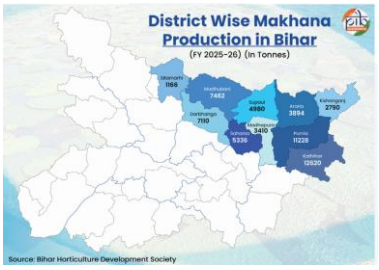
Syllabus Mapping

GS-III (Agriculture, Food Processing, GI tags, Farmer income)

Relevance

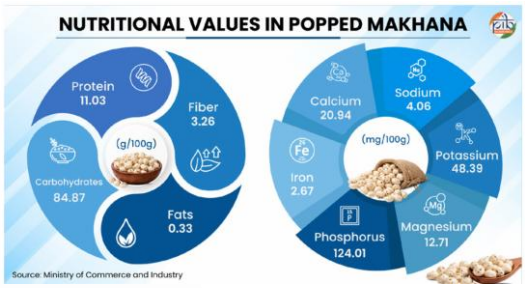
India = world's largest makhana producer; case study in turning a traditional/underexploited crop into a branded export superfood.

Overview



1. **What:** Euryale ferox (fox nut) — aquatic crop, seed popped after roasting; grown mainly in Bihar, West Bengal, Assam
2. **Dominance**: Bihar = ~75% of India's output, ~80-85% of global supply;
3. **Scale**: Production 63,910 MT (2024-25) → 80,590 MT (2025-26); productivity 2.03→2.34 MT/ha;

Key Aspects



1. **Institutions**: National Makhana Board (Budget 2025-26, Bihar); Central Sector Scheme 2025-26 to 2030-31 (seed, skilling, post-harvest, branding, exports)
2. **GI tag:** "Mithila Makhana"
3. **Varieties/technology**: Swarna Vaidehi, Sabour Makhana-1; NRCM: makhana-cum-fish farming; 15,824.1 kg seed distributed; 3,000+ farmers trained (2012–23); licensed machinery (seed washer, grader, roasting/popping)
4. **Exports**: separate HSN code only from 2025 (DGFT); 7,264.89 MT worth ₹192.96cr (2025-26); US 40%, Canada 20%, UAE 17% = 77%, so diversify to premium markets
5. **Domestic**: 17–18% yearly growth; price ₹500 → ₹1,250/kg; market ₹11,000–12,000cr by 2029-30; ~40% of output exported
6. **Nutrition**: low fat (0.33 g/100 g), ~95% protein digestibility, low glycaemic load

Significance

1. Farmer income + rural employment in one of India's most underdeveloped regions (Kosi/Mithila belt)
2. Diversifies India's agri-export basket beyond staple grains; premiumization = higher forex realisation potential
3. Model for turning a traditional/regional crop into a globally branded superfood via GI + institutional backing

Keywords

Makhana, global superfood, National Makhana Board, NRCM, Mithila Makhana GI, Central Sector Scheme for Makhana, Swarna Vaidehi, DGFT HSN code

PYQ

1.Explain the role of millets for ensuring health and nutritional security in India. — 2024, GS-III

7. The making of a sporting nation

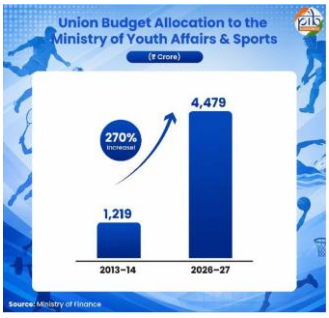
Syllabus Mapping

GS-II (Government Policies, Youth) & GS-IV (Role of Sports in Character Building)

Relevance

Cabinet-approved revamp of Khelo India - ₹36,441cr outlay (2026-27 to 2030-31, incl. enhanced Assistance to National Sports Federations) - builds a structured grassroots-to-Olympic pathway.

Overview



1. Khelo India launched 2017, merging Rajiv Gandhi Khel Abhiyan + Urban Sports Infrastructure Scheme + National Sports Talent Search Scheme
2. India finished 4th at Commonwealth Games 2026 (Glasgow) — the immediate news hook for this revamp

Key Aspects

1. **Five pillars:** talent-ID centres, coach capacity, sports science/tech, leagues, infrastructure
2. **So far:** 1,067 Khelo India Centres; 267 academies; 349 infra projects (₹3,176cr); 2,745 Khelo India Athletes
3. **Revamp:** National CoEs, Khelo India CoEs, SAI centres, Feeder Schools, Utkrishta Vidyalayas; new "Emerging Khelo India Athletes" category (~10× athlete pool); National Coach Accreditation Board; unified digital platform; Fit India
4. **Khelo India Games:** KIYG (2018) → University, Winter (2020), Para (2023), Beach/Water Sports (2025), Tribal (2026); 63,000+ athletes
5. **TOPS**: 2014, revamped 2018; ₹50,000/month for Core Athletes. KIRTI: AI-based scouting, ages 9–18; 174 centres; 1,87,921 assessments. Sports goods manufacturing: ₹500cr (Budget 2026-27)
6. **CWG 2026:** 39 medals; Mirabai Chanu's 3rd straight gold; boxing 10 medals; Gulveer Singh (2 individual track medals); Tejaswin Shankar (first decathlon medal)
7. **Trend**: Olympics 6 medals (Paris 2024; Neeraj Chopra, first athletics gold); Paralympics 29; Asian Games 107 (Hangzhou 2023)

Case study, Asmita Dey (Belonia, Tripura):
Khelo India University Games golds → India's first CWG judo champion, beating Canada's Heidi Quach (Glasgow 2026)

Significance

1. Institutionalises a lifecycle athlete pathway — school to Olympic podium — rather than one-off event preparation
2. Converts India's youth demographic (65% under 35) into sporting/soft-power capital
3. Rising medal trend across Olympics, Paralympics, Asian Games, CWG shows sustained ecosystem gains, not one-off performances

Way forward

1. Targets: top-10 sporting nation by 2036, top-5 by 2047 (KIRTI's stated goals)
2. Supports preparation for 2030 Commonwealth Games and India's Olympic/Paralympic hosting ambitions
3. Aligned with Khelo Bharat Niti 2025 and NEP 2020, integrating sport with education under Viksit Bharat@2047

Keywords

Khelo India, TOPS, KIRTI, Emerging Khelo India Athletes, Fit India Movement, National Coach Accreditation Board, Khelo Bharat Niti 2025

8. Nuclear energy in India

Syllabus Mapping

GS-III (Infrastructure: Energy; Awareness in S&T; Disaster Management)

Relevance

Shows nuclear energy's role beyond electricity — healthcare, agriculture, critical minerals, semiconductors, green hydrogen - alongside India's multi-layered safety architecture.

Overview

1. Nuclear = India's most carbon-efficient clean source per GW
2. Current base: 24 reactors, 7 sites, 8.78GW; 9 under construction; 10 more in prep; target 100GW by 2047 (Nuclear Energy Mission for Viksit Bharat)

Key Aspects



1. **Healthcare**: BARC/IGCAR/TMC/TIFR/HRI develop radiopharmaceuticals and cancer therapies; 150-bed Homi Bhabha Cancer Hospital, Muzaffarpur; TMC screened ~5L women for oral/breast/cervical cancer (FY25)
2. **Agriculture**: radiation mutagenesis + crossbreeding → 70 BARC crop varieties (TBM-9 banana, RTS-43 sorghum)
3. **Food preservation**: irradiation extends shelf life (mango sea-route exports; onion/potato); FSSAI-approved; 17 MoUs (2025); 6 new gamma facilities → 40 operational
4. **Critical minerals**: India's first rare-earth Certified Reference Material (Ferrocarbonatite FC-BARC B1401): 1st in India, 4th globally
5. **Semiconductors**: first electronics-grade (99.8%) Boron-11 enrichment facility, Talcher. Green hydrogen: world's first plant using nuclear process heat, Kalpakkam (2026)
6. **Safety design**: Defence in Depth: multiple barriers (fuel pellets, zirconium alloy rods, pressure vessel/tubes, containment); built for earthquakes, floods, cyclones, tsunamis; PHWRs have two independent shutdown systems
7. **Radiation limits**: ALARA principle; AERB occupational limit 20 mSv/yr (5-year average), 100 mSv cumulative, 30 mSv max in any year; public limit 1 mSv/yr
8. **Waste**: AERB + Atomic Energy (Safe Disposal of Radioactive Wastes) Rules 1987; BARC vitrification into glass blocks

9. **Emergency preparedness**: national/state/district/plant plans under the National Disaster Management Plan; DAE Crisis Management Plan; AERB-approved on/off-site plans; 16 km Emergency Planning Zone; Radiation Emergency Medical Networks
10. **Health monitoring case** (UCIL, Jharkhand): surveys near uranium mines show disease patterns like other rural areas; no evidence of radiation-linked illness
11. **Myths addressed**: radiation near plants stays within limits; far less land than solar per unit output; nuclear material moves in certified containers

Significance

1. Demonstrates nuclear as a multi-sector technology, not just a power source — health, food security, critical minerals, semiconductors all benefit
2. Layered safety + independent regulatory oversight (AERB) underpin public trust as India scales capacity toward 100GW

Keywords

Defence in Depth, ALARA, AERB, Vitrification, CRM-BARC B1401, Boron-11 Enrichment Talcher, Emergency Planning Zone, Nuclear Energy Mission

PYQ

1. With growing energy needs should India keep on expanding its nuclear energy programme? Discuss the facts and fears associated with nuclear energy. — 2018, GS-III

9. Ship Recycling in India: Regulatory Transformation and Global Leadership

Syllabus Mapping

GS-III (Infrastructure: Ports/Shipping; Environment; Industrial Policy)

Relevance

India became the world's #1 ship recycling nation in 2025 (UNCTAD) — a circular-economy and Atmanirbhar Bharat vision.



Overview

1. 2025: India's global share 30.1% (2024) → 35.4% (2025)
2. Maritime India Vision (MIV) 2030's "world's leading ship recycling nation" target hit 5 years ahead of schedule

Key Aspects

1. **Alang-Sosiya (Gujarat)**: world's largest hub, ~98% of India's activity; ~3.5 MMT steel a year; plan to nearly double capacity to ~9mn LDT; other yards: Amar Iron Udyog (Kolkata), SILK (Kerala)
2. **Worker safety:** Safety Training and Labour Welfare Institute has trained 1.5L+ workers; yards upgraded (engineered plots, segregated hazardous-waste storage, mechanised handling)
3. **Law**: Ship Recycling Act 2019 (DG Shipping = National Authority) → Rules 2021 → Regulations 2026

4. **Hong Kong Convention**: in force 26 June 2025; ₹53.5cr modernisation aid took 115 facilities to compliance. EU: 35 Alang yards applied for green-listing; Shree Ram Vessel Scrap and Y.S. Investments are in the draft 16th European List
5. **IHM (Inventory of Hazardous Materials)**: tracks hazardous substances onboard before recycling
6. **Ship-breaking Credit Note (SBFA 2.0):** Credit Note = 40% of scrap value, redeemable against up to 5% of a new Indian-built vessel: links recycling to shipbuilding

Case study, Ex-INS Viraat:
decommissioned March 2017 after 30 years (Indian Navy) + 27 years (Royal Navy); Guinness record for longest-serving warship; 22,622 flying hours, 2,252 days at sea, 5.88L nautical miles; recycled at Alang (arrived Sept 2020)

Significance

1. **Resource:** major ferrous scrap source for domestic steel → cuts import dependence; recycled steel uses far less energy/emits less GHG than primary steel production
2. **Economic**: large-scale employment (dismantling, processing) + ancillary industries (re-rolling mills, transport, waste management); supports Make in India/Atmanirbhar Bharat
3. **Environmental**: prevents unsafe disposal/marine pollution; ensures regulated hazardous-material handling

Keywords

Alang-Sosiya, Ship Recycling Act 2019, Hong Kong International Convention, IHM, Ship-breaking Credit Note Scheme, Maritime India Vision 2030, Ex-INS Viraat

PYQ

1. What are the challenges to solid waste management in India? Discuss the governmental policy framework on solid waste management. Discuss the success/failure cases of Delhi and Indore cities, highlighting the salient features of their solid waste management initiatives.—2026, GS-III

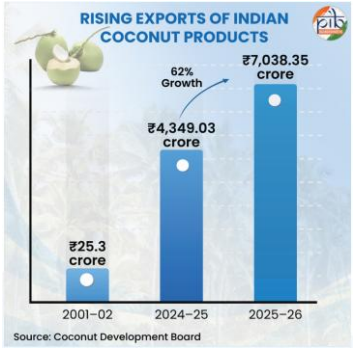
10. India's coconut sector

Syllabus Mapping

GS-III (Agriculture, MSP, Farmer Income, Agro-exports)

Relevance

India = world's #1 coconut producer, supporting ~30mn livelihoods; a case study in diversifying a traditional crop into value-added exports.



Overview

1. 30mn people, incl. 10mn farmers, depend on the sector — predominantly small/marginal farmers
2. India: #1 in global production (31.24%), 3rd in cultivation area (17.90%)
3. 2024-25: 20,301.22 million nuts from 2.19mn ha; avg productivity 9,249 nuts/ha

4. State roles: Keralam — largest area; Tamil Nadu — leads production; Andhra Pradesh — highest productivity

Key Aspects

1. **Exports:** +62% year on year; VCO, coconut milk/water, activated carbon (top product), desiccated coconut; beyond the Middle East to Europe, Americas, Australia
2. **Copra MSP (2026 season):** milling ₹12,027/qtl (+₹445); ball ₹12,500/qtl (+₹400); NAFED and NCCF procure
3. **Coconut Development Board (1981, Kochi):** 22 States/UTs; ₹147.21cr released (2025-26); export promotion council (8,700 exporters, July 2026)
4. **Schemes (2025-26):** 2.41L seedlings from 11 DSPFs; area expansion 2,175 ha (₹56,000/ha); PICCS 18,800 ha, 48,696 farmers (₹42,000/ha, 100% subsidy); rejuvenation 1,672 ha (up to ₹54,000/ha)
5. **Skills**: Friends of Coconut Tree (climbers) → Cocomitra units; Kera Kaushal Kendra (handicraft groups, ₹2.67L); Neera technician training; Kera Suraksha insurance**Coconut Promotion Scheme (Budget 2026-27):** seedlings, expansion, replanting, integrated processing units; part of a ₹350cr high-value agriculture allocation (with cashew, cocoa)

Case study, Bastar Plateau (Chhattisgarh)

via CDB's DSP Farm, Kondagaon, paddy/millet farmers moved to coconut. Eshansh Singh Rathore (36, MBA, Bakawand block): 2,500 dwarf palms (~500 yielding) with multitier crops (4,000 pineapple, 800 dragon fruit, 1,000 mango, 600 citrus, plus banana, guava, papaya, litchi, coffee, strawberry, vegetables): ₹5–6L/yr from coconut + ₹10L/yr from intercrops

Significance

1. Anchors rural livelihoods for small/marginal farmers — aligns with inclusive growth
2. Export diversification (VCO, activated carbon, milk/water) strengthens India's agri-export competitiveness
3. Cultural continuity — coconut's ~3,000-year cultivation history as "Kalpavriksha"

Challenges

Pest outbreaks, root wilt disease, and aging/senile plantations are explicitly named as the problems the new Coconut Promotion Scheme is designed to address

Way Forward

Coconut Promotion Scheme aims to position India as a global leader in coconut and coir exports by the 2030s, alongside improved farmer incomes

Keywords

Coconut Development Board, Kalpavriksha, PICCS, Copra MSP, Kera Kaushal Kendra, FoCT, Coconut Promotion Scheme, Bastar coconut model

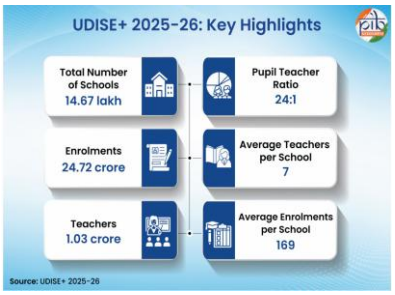
PYQ

1.Explain the factors influencing the decision of farmers on the selection of high value crops in India. — 2025, GS-III

11. Beyond the Numbers: Decoding India's School Education Progress

Syllabus Mapping

GS-II (Education, Social Justice, Government Policies)



Relevance

Annual national school-data snapshot tracking NEP 2020 implementation — access, equity, retention, and infrastructure.

Overview

1. Scale: 14.67L schools, 1.03cr teachers, 24.72cr students
2. Avg: 7 teachers, 169 students/school → overall PTR 24:1, comfortably within NEP 2020's 30:1 benchmark
3. Data platform: UDISE+ (Dept. of School Education & Literacy), running since 2018-19, feeds evidence-based NEP 2020 policymaking

Key Aspects

1. **GER**: Secondary 71.7%, Middle 89.6%. PTR by stage: Foundational 10:1, Preparatory 12:1, Middle 17:1, Secondary 21:1
2. **Dropout**: Preparatory 1.8%, Middle 3.6% (the one rise), Secondary 7.0%; all below 2022-23
3. **Retention**: Foundational 98.5% → Preparatory 91.1% → Middle 83.7% → Secondary 51.9% (the weakest point). Transition: 99.2% → 93.8% → 88.3%
4. **Rationalisation**: single-teacher schools down ~3% (1,00,843); zero-enrolment schools down 29% (5,663)
5. **Inclusion**: girls 48.4% of enrolment; women 54.9% of teachers; OBC 44.9%, General 27.5%, SC 17.7%, ST 10%; CWSN 57.16% boys, 42.84% girls
6. **Infrastructure**: computers 69.9%, internet 67.4%; electricity 95%, drinking water 99.5%, girls' toilets 98.5%; laggards: rainwater harvesting 29.9%, ramps with handrails 58.2%

Significance

1. Reinforces evidence-based planning and monitoring under NEP 2020
2. Favourable PTRs across all stages support better individual attention and learning outcomes
3. Gender/social composition data shows enrolment access is broadly equitable, even where retention (esp. Secondary) still lags

Keywords

UDISE+, GER, PTR, CWSN, NEP 2020, Retention Rate, Transition Rate

PYQ

1.Should education be treated primarily as a welfare obligation of the state or as a strategic investment for building a globally competitive, knowledge-driven nation? Critically evaluate. — 2026,GS-II

12. 12 years of PM Jan Dhan Yojana

Syllabus Mapping

GS-III (Inclusive Growth, Financial Inclusion, Indian Economy)

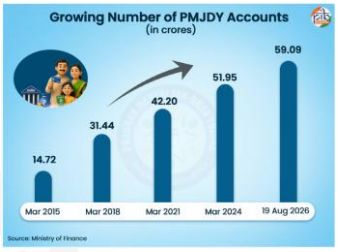
Relevance

World's largest financial inclusion scheme, marking its 12th anniversary — direct link to banking access, DBT, and gender-inclusive credit.

Overview

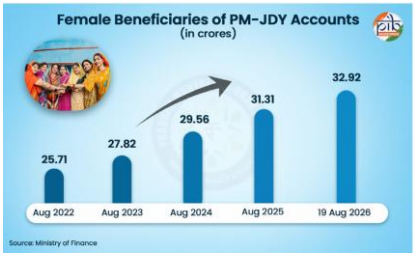
1. **Launched** 2014; India's national mission for financial inclusion
2. **Accounts**: 14.72cr (2015) → 59.09cr (19 Aug 2026) — ~4x growth; 45.95cr rural/semi-urban, 13.14cr urban/metro
3. **Deposits**: ₹15,670cr (Mar 2015) → ₹3,16,514cr (19 Aug 2026) — ~20x growth
4. **Financial Inclusion Index**: 43.4 (2017) → 70.0 (2026)

Key Aspects



1. **Focus**: "every household" (2014) → "every unbanked adult" (2018)
2. **Access**: any Indian citizen, no age limit, zero minimum balance; branch or Bank Mitra; joint accounts allowed
3. **Benefits**: RuPay card with accident cover ₹1L (₹2L for accounts opened after Aug 2018; premium paid by NPCI); overdraft up to ₹10,000 after 6 months; 41.29cr RuPay cards
4. **Linked schemes**: DBT, PMJJBY, PMSBY, APY, MUDRA
5. **Recognition**: Guinness record: 18,096,130 accounts in one week (Jan 2015); cited by IMF and World Bank

Significance



1. Reduces income inequality by bringing underserved groups into formal finance.
2. Strengthens women's financial independence — 32.92cr female accounts, gender parity in access
3. Enables risk management, saving, and DBT delivery — foundational leg of the JAM (Jan Dhan-Aadhaar-Mobile) trinity

Keywords

PM-JDY, JAM Trinity, RuPay, Financial Inclusion Index, PMJJBY, PMSBY, APY, MUDRA, Bank Mitra

PYQ

1.Examine the view that financial inclusion is an integral part of social and economic inclusion Financial in a country like India. Also throw light on the usefulness of the R.B.I.'s Inclusion Index. — 2026, GS-III

13. World elephant day

Syllabus Mapping

GS-III (Conservation, Biodiversity, Environmental Pollution and Degradation)

Relevance

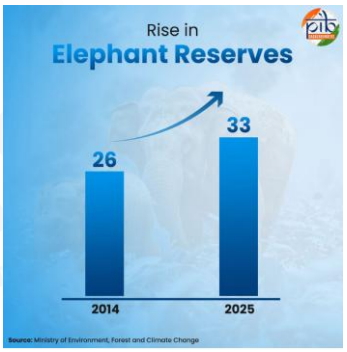
India holds ~60% of the world's wild Asian elephants — its conservation record carries global weight for the species' survival.

Overview

1. World Elephant Day: 12 August
2. SAIEE 2021-25 (India's first DNA-based synchronised elephant census): population estimate 22,446; protected across 33 Elephant Reserves, 150 corridors
3. Elephants are a keystone species — migratory (home range 100-3,000 km²), driving seed dispersal, nutrient cycling, and forest connectivity

Key Aspects

1. **Project Elephant (MoEFCC):** support to States for habitat, captive welfare, conflict mitigation; AI monitoring, radio-collaring, genetic databases
2. **SAIEE method**: dung DNA profiling (avoids double-counting) + block counts + line transects
3. **Corridors (Elephant Corridors of India 2023, WII; 14 States):** East-Central 52, North-East 48, Southern 32, Northern 18; West Bengal has the most (26); 19 inter-State + 6 India–Nepal; usage rising in 59 (40%), stable 29, declining 29, impaired 15
4. **Reserves**: 80,777 km² across 14 States (+8,610 km² since 2014)
5. **Management Effectiveness Evaluation (2023):** piloted in Shivalik, Kaziranga–Karbi Anglong, Mayurbhanj, Nilgiri; Regional Action Plans for cross-State landscapes



6. **Railways:** 127 sensitive stretches (3,452.4 km) surveyed; 77 stretches need 705 structures; optical-fibre detection, thermal cameras, AI-based Distributed Acoustic Sensing; train-hit deaths 26 (2013) → 12 (2024)
7. **Captive elephants:** Gajah Suchana app (DNA, physical traits, ownership); Captive Elephant (Transfer or Transport) Rules 2024; High-Powered Committee (SC order, 3 March 2023)
8. **Coexistence:** ex-gratia ₹10L (death/permanent incapacity), ₹2L (grievous injury), up to ₹25,000 (minor injury); Human-Wildlife Conflict Advisory; 2023 elephant-specific guidelines
9. **Culture:** Ganesha worship, temple elephants in the South, royal symbolism

Significance

1. Ecological connectivity — elephants sustain forest regeneration and biodiversity as an umbrella/keystone species
2. India's conservation record carries outsized global weight given its ~60% share of wild Asian elephants
3. Combines legal protection, science (DNA census, AI monitoring), and community partnership — a template other conservation programmes can follow

Challenges

Habitat loss, fragmentation, poaching, illegal wildlife trade, and human-elephant conflict as the core issues driving conservation action

Way Forward

1. Scaling the Management Effectiveness Evaluation framework to all Elephant Reserves nationally (via CAMPA funding)
2. Rolling out Regional Action Plans across all elephant-bearing regions for coordinated, cross-jurisdiction conservation

Keywords

SAIEE, Project Elephant, Gajah Suchana, Elephant Corridors of India 2023, Captive Elephant Rules 2024, Distributed Acoustic Sensing, CAMPA

14. Bharat Taxi "India's First Cooperative- Based Ride-Hailing Platform"

Syllabus Mapping

GS-III (Employment, Gig Economy, Digital Economy)

Relevance

India's first driver-owned ride-hailing cooperative — extends "Sahkar se Samriddhi" into the platform/gig economy.



Overview

1. Established 6 June 2025 under the Multi-State Cooperative Societies Act, 2002, by 8 founding cooperative institutions: NCDC, IFFCO, NABARD, KRIBHCO, Amul (GCMMF), NAFED, NDDB, NCEL
2. **Model**: drivers ("Sarathis") are member-owners, not gig contractors — zero-commission, surge-free pricing

Key Aspects



1. **Money model:** 20% of cooperative earnings → Sarathis' capital; 80% distributed by km driven; 7% charge only at airport prepaid booths
2. **Ownership**: ₹100 shares (membership via ₹500); reserved Sarathi seats on the Board ("Saarthi Hi Maalik")
3. **Case study, Jaipur**: 30,000+ Sarathis, ~7L customers: the most mature market
4. **Women**: Sarathi Didi (women choose women drivers); Bike Didi (150+ women drivers by Feb 2026)
5. **Safety**: KYC, periodic background checks, live tracking, SOS, ratings, police/control-room integration
6. **Digital and partners**: NeGD MoU (DigiLocker, UMANG, API Setu); Delhi Traffic Police, DMRC, Airport Authority, IFFCO Tokio, SBI, Paytm; white-cab access at IGI Airport

7. **Social security**: e-Shram registration → AB-PMJAY (₹5L); ₹5L accident cover (IFFCO Tokio); group health insurance (Paytm)
8. **Expansion**: Ranchi, Patna, Guwahati, Bhopal, Kolkata, Indore, Nagpur soon; nationwide by 2029

Significance

1. Converts platform-economy drivers from contractors into co-owners — a structural alternative to conventional ride-hailing commission models
2. Extends formal social security (e-Shram, PMJAY, accident/health insurance) to a segment of India's largely informal gig workforce
3. Expands women's livelihood participation in a traditionally male-dominated mobility sector

Keywords

Bharat Taxi, Sarathi, Sahkar se Samriddhi, Multi-State Cooperative Societies Act 2002, Sarathi Didi, Bike Didi, e-Shram, AB-PMJAY

15. UPI: Transforming India's Payment Landscape

Syllabus Mapping

GS-III (Indian Economy, Digital Public Infrastructure, Science & Tech)

Relevance

UPI is the backbone of India's DPI stack and a global template for real-time payments — live in 11 countries as of 2026.



Overview

1. Developed by NPCI; piloted April 2016 (21 banks), public rollout August 2016
2. Growth (FY16-17 → FY25-26): annual volume 2cr → 24,162cr transactions (~12,000x); annual value ₹0.07L cr → ~₹314L cr (~4,000x)
3. July 2026 snapshot: 741 live banks; 2,365.8cr monthly transactions; ₹29.87L cr monthly value

Key Aspects

1. **Design**: one app for many bank accounts, 24×7, two-factor authentication + encryption
2. **2016–18**: BHIM (Dec 2016); UPI 2.0 (Invoice-in-Inbox, Signed Intent & QR, Mandates, overdraft linking); Dynamic QR
3. **2019–22**: IPO payments (SEBI); 1bn transactions/month (Oct 2019); AutoPay; UPI 123PAY (feature phones); UPI Lite (PIN-less); credit card link; >$1tn in FY22; first cross-border launch, Bhutan
4. **2023–24**: Credit Line on UPI; UPI Circle (primary user authorises secondary users); ~70% of digital payments (FY24); tax-payment limit ₹1L → ₹5L
5. **2025**: on-device biometric authentication; Aadhaar Face Authentication for UPI PIN onboarding

6. **Global (11 countries):** Bhutan, Nepal, Singapore, UAE, France, Sri Lanka, Mauritius, Qatar, plus 2026: Cambodia (NPCI International + ACLEDA), Greece (Eurobank), Maldives (Favara, 30 July 2026)
7. **IMF (June 2025):** UPI = ~49% of global real-time payment volume (2024)

Significance

1. Anchors India's Digital Public Infrastructure stack — interoperable across banks and PSPs
2. Deepens financial inclusion by extending digital payments to feature-phone users, first-timers, and thin-file borrowers (via UPI 123PAY, Credit Line on UPI)
3. Cross-border rollout extends India's soft power and strengthens bilateral economic ties (Greece, Maldives, Cambodia)

Keywords

UPI, NPCI, BHIM, UPI 123PAY, UPI Lite, UPI Circle, Credit Line on UPI, NPCI International Payments Limited, DPI

PYQ

1.What is the status of digitalization in the Indian economy? Examine the problems faced in this regard and suggest improvements.— 2023, GS-III

16. Naxal-Free India

Syllabus Mapping

GS-III (Internal Security, Linkages between Development and Extremism)

Relevance



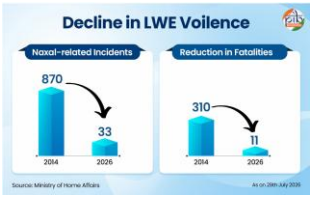
India declared effectively LWE-free on 31 March 2026 — a target set in 2024, achieved on schedule — marking one of the most significant internal security successes in independent India.

Overview

1. Milestone: 0 LWE-affected districts as of 31 March 2026, down from 126 in 2014 (most-affected districts: 35 → 0)
2. Target set 24 August 2024, achieved on schedule
3. LWE traces to the 1967 Naxalbari uprising (West Bengal); groups merged under CPI (Maoist) in 2004; peak violence in 2010 (1,936 incidents); decade 2004-2014 recorded 17,542 incidents, 1,913 security force deaths, 5,019 civilian deaths
4. Turning point: 2015 National Policy and Action Plan replaced fragmented state-level responses with a unified, MHA-coordinated, three-pronged strategy — Dialogue, Security, Coordination

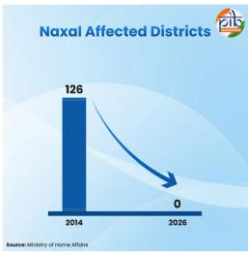
Key Aspects

1. **Funds**: SRE ₹3,805.04cr (since 2014-15); Special Central Assistance ₹4,289.20cr (since 2017); Special Infrastructure Scheme ₹1,761cr



Case study, Bastar (Chhattisgarh):
Bastariya Battalion (2017; 1,143 personnel, ~400 local youth from Bijapur, Sukma, Dantewada); 3,240+ km roads, 889 towers; plan for ~3,000 surrendered cadres (₹20cr); Shaheed Veer Gunda Dhur Seva Dera (May 2026) turns ~70 CAPF camps into service centres (CSC at Netanar); Bastar Pandum and Bastar Olympics

2. **Security grid**: 663 fortified police stations (66 before 2014); 408 CAPF camps; 68 night-landing helipads; CoBRA, DRG, STF, Jharkhand Jaguar, Greyhounds
3. **"Trace, Target, Neutralise":** drones, satellite imagery, AI analytics, call-log analysis; Operation Black Forest (30+ Maoists eliminated), Operation Double Bull (Gumla, Lohardaga, Latehar Naxal-free)
4. **Financing:** NIA vertical seized ₹40cr+; ED attached ₹12cr; 112 NIA cases, 100 chargesheets
5. **"Red carpet" rehabilitation:** ₹5L/₹2.5L grant + ₹10,000/month for 36 months + ₹50,000 surrender incentive (doubled for groups); 2,337 surrendered in 2025, 3,927 (2024–Mar 2026)
6. **July 2026:** 16 Maoists (incl. a Regional Commander) surrendered in Ranchi ("Nayi Disha, Nayi Pahal"); 8 in Bijapur; a ₹1cr-reward Politburo member arrested



7. **Development:** 15,189 km roads (RRP, RCPLWEA); 9,497 towers (96% village coverage); 1,804 bank branches, 6,025 post offices; 259 EMRS sanctioned (179 functional); 90,000+ youth skilled; Tribal Youth Exchange Programme 37,655
8. **Result**: incidents 870 (2014) → 33 (as of 29 July 2026); fatalities 310 → 11

Significance

1. Restored state presence and governance in remote tribal regions previously beyond administrative reach
2. Demonstrates that security gains, sustained, create the platform for durable development (roads, banking, schools reaching areas once cut off)
3. A template combining coercive (security), economic (infrastructure/financial inclusion), and social (education, rehabilitation) tools into one integrated internal-security strategy

Keywords

LWE, CPI (Maoist), SAMADHAN doctrine, Trace-Target-Neutralise, Bastariya Battalion, EMRS, PM-JANMAN, Shaheed Veer Gunda Dhur Seva Dera

PYQ

1.The Government of India recently stated that Left Wing Extremism (LWE) will be eliminated by 2026.What do you understand by LWE and how are the people affected by it?What measures have been taken by the government to eliminate LWE? — 2025,GS-III

17. National Animal Disease Control Programme (NADCP)

Syllabus Mapping

GS-III (Agriculture, Animal Husbandry, Science & Tech, Disaster/Pandemic Preparedness)

Relevance

One of India's largest livestock vaccination campaigns — controlling FMD and Brucellosis while building pandemic-preparedness infrastructure through the One Health approach.

Overview

1. India's livestock population: 535.78 million (20th Livestock Census, 2019), incl. 302.79 million bovines
2. NADCP launched September 2019 — targets 100% biannual FMD vaccination of all susceptible livestock + one-time Brucellosis vaccination of female bovine calves (4-8 months old)
3. Cumulative: 147.16cr FMD vaccine doses administered, benefiting 8.04cr farmers

Key Aspects



1. **Outbreaks**: FMD 132 (2019) → 40 (2025); Brucellosis 22 → 15; no Asia-1 FMD outbreak in 3 years. NSP antibody prevalence (viral-circulation marker) 20.8% → 8.1%
2. **Immunity (2025)**: FMD serotypes O/A/Asia1 78.1%/71.7%/77.6%; Brucellosis seroconversion 75.63% (cattle), 67.17% (buffalo)
3. **Migratory herds:** since 2024, pastoral sheep/goats in Haryana, HP, Uttarakhand, J&K, Ladakh
4. **Bharat Pashudhan Portal:** 39cr+ animals with 12-digit Tag IDs (July 2026)
5. **Last mile:** 4,019 Mobile Veterinary Units (toll-free 1962; 136 lakh farmers, 276 lakh animals); 39,810 MAITRIs
6. **Restructuring:** NADCP + LH&DC + Pashu Aushadhi → LHDCP; ₹2,010cr (FY2026-27). AHIDF backs private vaccine manufacturing
7. **Productivity:** bovine yield +36.63% (1,640 → 2,250 kg/animal/yr; highest gain globally); milk 146.31 → 247.87mn tonnes (+69.4%); 3,000 kg/animal/yr target by 2030
8. **National One Health Mission:** PM-STIAC (7 July 2022) for human–animal–environment coordination
9. **Pandemic Fund Project (2024):** US$25mn (G20 Pandemic Fund; ADB, FAO, World Bank); surveillance and labs; Standard Veterinary Treatment Guidelines (SVTG) support the National Action Plan on AMR

Significance

1. Disease control translates directly into economic, nutritional, and livelihood gains for farmers via higher productivity and milk output
2. Early animal-disease detection reduces zoonotic spillover risk, strengthening India's pandemic preparedness
3. A model of DPI (Bharat Pashudhan Portal) applied to a non-financial, non-health-of-humans sector

Way Forward

1. Progressive alignment with international standards for FMD-freedom certification
2. Expansion of laboratory accreditation and genomic surveillance
3. AI-enabled disease intelligence and climate-resilient surveillance systems
4. Strengthened One Health coordination across ministries

Keywords

NADCP, LHDCP, Bharat Pashudhan Portal, MAITRIs, National One Health Mission, Pandemic Fund Project, SVTG, NSP antibody prevalence

PYQ

1. Livestock rearing has a big potential for providing non-farm employment and income in rural areas. Discuss suggesting suitable measures to promote this sectors in India — 2015,GS-III

18. Centralised Public Grievance Redress and Monitoring System (CPGRAMS)

Syllabus Mapping

GS-II (E-Governance, Citizen-Centric Governance)

Relevance

India's flagship digital grievance platform, one of the world's largest; tests citizens–state accountability.

Overview

1. Single 24×7 portal linking all Central Ministries, States and UTs (pgportal.gov.in)
2. Grievances a year: 3.01L (2014) → 27L (2024); GROs: 10,232 → 1.11L (2025); average disposal time: 157 days → 15 days (2025)

Key Aspects

1. **Access:** portal, mobile app (via UMANG), 5L+ CSCs; postal complaints digitised
2. **Aug 2024 Guidelines:** timeline cut 30 → 21 days; grievance cells and root-cause analysis; appeal to Nodal Appellate Authority (30 days). Not covered: RTI, sub judice, religious matters
3. **Case study, Rajkot:** Mr. Harsh's complaint on the unsafe Ashapuri Chowkdi bridge led to underpasses being opened and barricades/signage added; resolved in 4 days
4. **10-Step Reform Programme (2022):** CPGRAMS 7.0 auto-routing; AI/ML analytics; 22 languages via BHASHINI; GRAI (ministry benchmarking); Feedback Call Centre; One Nation–One Portal; DARPG Data Strategy Unit
5. **June 2026:** 1,99,968 grievances redressed; 46 straight months of 1L+ monthly disposal; satisfaction 76%
6. **"Samadhan Didi" (30 May 2026):** AI voice chatbot on BHASHINI; citizens speak their grievance, and it is auto-tagged to the right ministry and category

Significance

Turns manual, fragmented redress into a trackable accountability mechanism; the fall in disposal time (157 → 14–15 days) is a measurable reform outcome

Way Forward

NextGen CPGRAMS: omni-channel registration, AI routing, accessibility for PwDs, AI checks for cases closed without real resolution; more regional/indigenous languages

Keywords

CPGRAMS, DARPG, GRAI, Samadhan Didi, BHASHINI, Sevottam

PYQ

1. e-Governance projects have a built-in bias towards technology and back-end integration than user-centric designs. Examine. — 2025, GS-II

19. The Micro, Small and Medium Enterprises Development (Amendment) Bill, 2026

Syllabus Mapping

GS-III (Indian Economy, MSMEs, Ease of Doing Business)

Relevance

Amends the MSMED Act, 2006 to tackle MSMEs' most persistent problem — delayed payments — while simplifying compliance and decriminalising minor offences.



Overview

Passed August 2026. MSMEs = 31.1% of GDP, 35.4% of manufacturing output, 48.58% of exports; 9.16cr on Udyam, 40cr+ jobs

Key Aspects (old provision → new provision)

1. **Classification:** investment only → investment + turnover
2. **Registration**: mandatory only for medium manufacturers → free and voluntary for all; national platform (States may add theirs); State benefits tied to it
3. **TReDS**: all CPSEs must settle MSME invoices via TReDS; States may extend to their PSEs (the 45-day payment rule was weakly enforced)
4. **MSEFCs**: States may set up multiple councils, with digital and infrastructure support
5. **Timelines**: online mediation/arbitration; mediation 90 days; referral to arbitration 30 days; award within 90 days of pleadings
6. **Award challenges**: 75% deposit stays, but if the application is pending >6 months the court must release ≥50% to the supplier
7. **Recovery**: awards recoverable as arrears of land revenue via the District Collector

8. **Decriminalisation**: fines/conviction → warning → penalty → fine only on repeat lapses

Supporting digital/institutional infrastructure



1. 3MSEFCs established across States/UTs

Significance

1. Directly targets the sector's biggest structural weakness — delayed receivables locking up working capital
2. Time-bound dispute resolution converts a slow statutory remedy into an enforceable one
3. Decriminalisation + free/voluntary registration reduce compliance burden, advancing Ease of Doing Business

Keywords

MSMED Act 2006, Udyam, Udyam Assist, TReDS, MSEFC, ODR Portal, 45-day payment rule

PYQ:

1. Faster economic growth requires increased share of the manufacturing sector in GDP, particularly of MSMEs. Comment on the present policies of the government in this regard. — 2023, GS-III

20. Cyber-Physical Systems

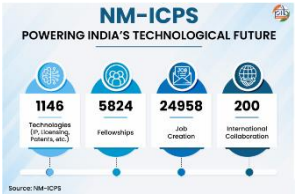
Syllabus Mapping

General Studies Paper III (Science and Technology - Developments and their applications; Indigenization of technology and developing new technology).

Relevance

Details India's flagship Cyber-Physical Systems (CPS) mission, which is highly relevant for understanding how India is scaling indigenous innovation, reducing import dependence, and bridging the physical-digital divide for a self-reliant Viksit Bharat.

Overview



1. CPS = sensors + software + physical systems for real-time sensing and autonomous response (driverless cars, smart factories)
2. NM-ICPS: ₹3,660cr DST mission (2018), covering R&D to startups

Key Aspects

1. **Hubs**: 25 Technology Innovation Hubs (Section 8 companies). In 2025 four became Technology Translation Research Parks: Cybersecurity (IIT Kanpur), Robotics/AI (IISc Bengaluru), Mining (IIT-ISM Dhanbad), Digital Health (IIT Indore)
2. **BharatGen (IIT Bombay)**: Param-2 foundation model (17bn parameters, 22 scheduled languages); speech models Shrutam/Sooktam; Ayur/Agri/Legal Param

3. **Deployable tools**: CharakDT (digital twin), Agri-IoT, TEXMiN mining drones, 5G-Advanced ORAN radio unit, TiHAN autonomous-vehicle testbed (IIT Hyderabad), NTIHAC cybersecurity tools

Significance

1. Builds sovereign capabilities across strategic sectors, accelerating the translation of scientific research into commercialized products and cutting import dependence.
2. Ensures emerging technology is inclusive and accessible to India's linguistic diversity through the integration of the multimodal BharatGen AI layer.

Way Forward

1. Forge stronger academia-industry partnerships to further accelerate CPS innovation, technology adoption, and global collaborations.
2. Expand successful early-stage deployments, such as IISc Bengaluru's iRASTE road safety mobility application (currently piloted in Nagpur), to other cities nationwide.

Keywords

NM-ICPS, Technology Innovation Hubs (TIHs), TTRPs, CHANAKYA Fellowship, BharatGen (Param-2), CharakDT, iRASTE, Digital Twin.

21. Water-Smart Farming with Per Drop More Crop

Syllabus Mapping

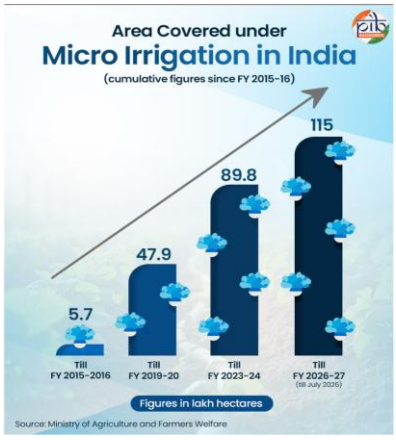
GS-III (Agriculture — e-technology in aid of farmers, irrigation systems, resource conservation)

Relevance

Addresses India's critical need for agricultural water-use efficiency (agriculture uses >80% of available water but only ~50% of net sown area is irrigated).

Overview

Centrally Sponsored micro-irrigation (drip/sprinkler) scheme: started 2006 → PMKSY (2015–22) → PM-RKVY (since 2022-23)



Key Aspects

1. **Subsidy**: up to 5 ha per beneficiary: 55% small/marginal, 45% others. As of July 2026: 115 lakh ha covered (~8.11% of net sown area); ₹8,123.24cr central assistance in 3 years
2. **Fertigation**: water and nutrients to the root zone via drip emitters and sprinkler nozzles
3. **Flexibility**: revised PM-RKVY guidelines removed earlier caps (20% general / 40% NE-Himalayan-J&K-Ladakh) on water-storage works (diggings, farm ponds); States decide by local need

4. **2025-26**: 12.30 lakh farmers (20% women); Maharashtra, Karnataka, AP, TN, Gujarat, Rajasthan lead. Case study, LAM Srinivasa Rao (Palnadu, AP): drip + fertigation on a 2-acre acid lime orchard: yield 90 → 105 quintals/acre; cost ₹3.0L → ₹2.4L; net income ₹1.5L → ₹2.85L
5. **Governance**: National Stewardship Council → State Level Sanctioning Committee → Inter-Departmental Working Group → District Level Implementation Committee

Significance

1. Validated resource efficiency: NITI Aayog, IIMA and Economic Survey 2020-21 studies confirm water savings (20–70%), energy savings (10–17%), fertiliser savings (11–19%), and income/yield gains up to 69%.
2. Facilitates shift from flood irrigation to precision methods, enabling horticultural cultivation on marginal/undulating land and strengthening long-term food security.

Keywords

PDMC, PM-RKVY, Micro-irrigation, Fertigation, Diggis, Drip/Sprinkler Systems, Water Use Efficiency, National Stewardship Council.

PYQ:

1. How and to what extent would micro-irrigation help in solving India's water crisis? — 2021, GS-III

22. Pradhan Mantri Janjatiya Vikas Mission

Syllabus Mapping

GS-II (Welfare Schemes for Vulnerable Sections) & GS-III (Inclusive Growth, Economics of Forestry)

Relevance

Highlights the institutional shift of forest-dwelling tribal communities from exploited raw-produce sellers to value-adding entrepreneurs through targeted market support and enterprise building.



Overview

1. Minor Forest Produce (MFP) constitutes 20–40% of annual income for many of India's 10.4 crore Scheduled Tribes.
2. PMJVM, which integrates the Van Dhan Yojana (launched 14 April 2018), organises tribal gatherers to procure, process and market MFPs at a guaranteed Minimum Support Price (MSP).

Key Aspects

1. **Legal base:** Forest Rights Act 2006 + PESA 1996 (MFP ownership). TRIFED procures 87 notified MFP items at MSP: ₹693.98cr (2,67,954 MT) since 2013-14
2. **VDVKs**: 15 SHGs (~300 tribals, ≥60% ST) form one community-owned Van Dhan Vikas Kendra. On 31 July 2026: 4,172 sanctioned, 2,911 functional; sales ~₹168cr; 12.48 lakh members

3. **Support**: processing equipment (decorticators, dryers), training for 30 members per VDVK, working capital via banks and NSTFDC
4. **Market linkage**: e-commerce, GI tags, geo-tagging, melas; VDVKs sit around 5,000+ Haat Bazaars; TRIFED shares price intelligence

Case study, **Arunachal** (**Leparada**): women-led Nyigamane, Ho Yorbe, Medumhagdum VDVK (Oct 2021, 300 SHG women) makes King Chilli pickle, bamboo-shoot pickle, turmeric/ginger powder, pineapple jam/squash and orange squash: ₹11 lakh sales since 2022-23; joint ownership and year-round income

Significance

1. **Women's Economic Empowerment:** Transitions tribal women from seasonal agricultural labourers to joint owners/stakeholders of community-based processing enterprises.
2. **Sustainable Grassroots Economy:** Promotes a natural, community-owned, ecologically balanced forest economy that protects tribal livelihoods from intermediary exploitation.

Way Forward

Continued phased modernisation of the 5,000+ tribal Haat Bazaars with permanent structures, safe drinking water, storage and standardised weighing equipment.

Keywords

PMJVM, Minor Forest Produce (MFP), Van Dhan Vikas Kendras (VDVKs), TRIFED, Forest Rights Act (2006), PESA Act (1996), NSTFDC, Van Dhan Yojana, MSP for MFP.

PYQ:

1. What are the two major legal initiatives by the State since Independence, addressing discrimination against Scheduled Tribes (STs)? — 2017, GS-I

23. Signed, Sealed and Exporting India's Trade Agreements in Action

Syllabus Mapping

GS-II (Bilateral Groupings & Agreements affecting India's interests) & GS-III (Economy, Foreign Trade, Export Competitiveness)

Relevance

Highlights India's strategic shift from merely signing FTAs to actively utilising them for market access, export growth, and professional mobility.

Overview

1. India's trade strategy is shifting focus from expanding its FTA network to maximising utilisation of existing agreements (e.g., UAE, Australia) via rising Certificate of Origin (CoO) uptake and product diversification.
2. The government is facilitating exporters through digital procedures (e-CoO 2.0) and platforms (Trade Connect) for easier claiming of preferential tariffs.

Key Aspects

1. **UAE CEPA (2022):** first full FTA in a decade (negotiated in 88 days); UAE is the largest single FTA export market (US$37.35bn, 2025-26); bilateral trade crossed US$100.06bn in FY25 (+19.6%); target US$200bn by 2032
2. **Australia ECTA (2022):** first FTA with a developed economy in over a decade; 100% duty-free access from 2026; exports US$4bn (2020 – 21) → US$7.28bn (2025-26), +80%+; CECA under negotiation



3. **Digital facilitation:** e-CoO 2.0 (Aadhaar e-sign, QR verification); self-declaration of origin under EFTA TEPA and UK CETA (UK waives origin papers below £1,000). Early uptake: EFTA TEPA 7,885 CoOs (since Oct 2025), Oman CEPA 783 (since June 2026)
4. **Tariff lines:** UAE 7,546 → 8,053; Mauritius +20.9% (4,345); Oman +17.08% within a month. Awaiting implementation: India–EU (97% of EU tariff lines, ~99.5% of trade value), India–NZ (100% duty-free)
5. **Services/mobility:** services ≈ 30% of employment, US$421.3bn exports (FY26); NZ: 3-year stay for 5,000 skilled Indians; EU: 144 services sub-sectors + 5-year social security framework; EFTA: MRAs (nursing, CA, architecture)
6. **Safeguards:** access for labour-intensive sectors balanced with calibrated liberalisation for farmers and sensitive sectors

Significance

1. Deepens global integration by enabling MSMEs and local enterprises to access global value chains.
2. Prevents financial friction: the Double Contribution Convention under India-UK CETA prevents dual social-security payments, saving Indian professionals over ₹4,000 crore.

Way Forward

1. ~10 new trade agreements under negotiation, including with the Eurasian Economic Union, Peru, Chile, Israel, Canada, and Maldives.
2. Existing agreements — India-Korea CEPA and India-Sri Lanka ETCA — are being upgraded.

Keywords

CEPA, ECTA, CECA, e-CoO 2.0, Trade Connect, Rules of Origin, Mutual Recognition Agreements (MRAs), Double Contribution Convention.

PYQ:

1. What are the challenges facing the Indian economy when the world is moving away from free trade and multilateralism to protectionism and bilateralism? How can these challenges be met? — 2025, GS-III

24. From Queues to Clicks: Four Decades of Passenger Reservation in Indian Railways

Syllabus Mapping

GS-II (E-Governance applications and models) &
GS-III (Infrastructure: Railways, E-technology)



Relevance

Illustrates the population-scale modernisation of India's railway digital public infrastructure — from manual ticketing to an AI-powered, cloud-enabled reservation ecosystem.

Overview

1. The Passenger Reservation System (PRS), introduced in 1986, is the technology backbone of Indian Railways, evolving from physical counters to a nationwide digital network via CONCERT and IRCTC.
2. Between June 2025–June 2026, 65.08 crore reserved tickets were booked (89% online); the system is now undergoing comprehensive cloud-enabled modernisation.

Key Aspects

1. **Next-gen PRS:** legacy system (2010, Itanium/OpenVMS) → cloud; booking 32,000 → 1.5L+ tickets/min; enquiry 4L → 40L+/min; phased migration from Aug 2026
2. **Milestones**: 1986 PRS → 1990s CONCERT → 2002 internet booking → 2014 NGeT → 2025 RailOne + next-gen PRS
3. **RailOne** (**July 2025**): 4.55cr+ downloads; ~9.65L bookings/day; AI waitlist prediction accuracy 53% → 94% (RailConnect, 2017, was the earlier app)
4. **Reforms**: advance reservation 120 → 60 days; Aadhaar-authenticated Tatkal (July 2025) + OTP to curb bots/agents; redesigned IRCTC site (beta, July 2026)
5. **CRIS (est. 1986):** PRS, UTS, NTES, RailMadad (99.98%+ resolution over 3 years), FOIS (freight), CMS (crew); deploying AI/ML, blockchain, IoT, AR/VR for delay prediction and predictive maintenance

Significance

1. Handles 20.5 lakh+ passengers daily across booking channels, with ~73% of PRS transactions now cashless — driving digital financial inclusion.
2. Strengthens transparency and responsiveness in public service delivery via integrated grievance/enquiry platforms (RailMadad, NTES).

Way Forward

Phased migration of trains to the upgraded, cloud-enabled PRS to continue from August 2026, building a multilingual, more scalable reservation ecosystem.

Keywords

PRS, CRIS, RailOne, CONCERT, NGeT, RailMadad, FOIS, Aadhaar-authenticated Tatkal booking.

PYQ:

1. Why is Public Private Partnership (PPP) required in infrastructural projects? Examine the role of PPP model in the redevelopment of Railway Stations in India — 2022, GS-III

25. Pradhan Mantri Annadata Aay Sanrakshan Abhiyan (PM-AASHA)

Syllabus Mapping

GS-III (Major Crops, MSP, Agricultural Marketing, E-technology for farmers)

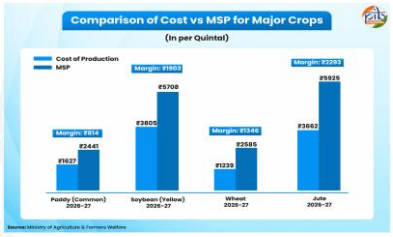
Relevance

India's primary agricultural safety net, designed to prevent distress sales by ensuring remunerative prices for farmers while maintaining food price stability for consumers.

Overview

1. Launched September 2018, PM-AASHA unifies multiple price-support and market-intervention mechanisms under one framework.
2. Budget allocation has risen steadily: ₹5,437.99 crore (2024-25) → ₹6,941.36 crore (2025-26) → ₹7,200 crore (2026-27).

Key Aspects



1. **PSS**: MSP procurement of pulses, oilseeds, copra via NAFED/NCCF; capped at 25% of production, but Tur/Urad/Masur up to 100%
2. **PDPS:** pays the MSP–market price gap (up to 15% of MSP) directly, mainly for oilseeds. MIS: TOP crops (tomato, onion, potato) when prices fall ≥10% below the previous season (Centre–State cost-share)
3. **PSF**: buffer stocks of pulses, onions, potatoes: bought at harvest, released in the lean season (Dept. of Consumer Affairs)
4. **Digital/infra backbone:** Aadhaar/biometric authentication, e-Samriddhi, e-Samyukti; AIF ₹96,426cr loans for 2,14,437 projects; e-NAM 1,656 mandis; 7,334 FPOs on ONDC
5. **State examples:** Bihar's first organised masoor procurement (48 PACS/FPOs; NAFED 1,814.13 MT, 455 farmers benefited; NCCF 1,042.65 MT, 285); Chhattisgarh chana/masoor/mustard via 200 PACS/12 FPOs (NCCF 18,392.23 MT chana; NAFED 17,020.65 MT chana)

Significance

1. MSP consistently exceeds production cost across crops — e.g., jute gave the highest 2026-27 margin (₹2,293/quintal; cost ₹3,662 vs MSP ₹5,925) — reinforcing farmer income security and confidence.
2. Restricting eligibility to registered farmers with valid land records ensures direct benefit transfer without intermediaries.

Keywords

PM-AASHA, NAFED, NCCF, PSS, PDPS, PSF, MIS, PACS, e-NAM, Agriculture Infrastructure Fund, TOP crops.

PYQ:

Elucidate the importance of buffer stocks for stabilizing agricultural prices in India. What are the challenges associated with the storage of buffer stock? Discuss. — 2024, GS-III

26. Turning the Wheel of Heritage

Syllabus Mapping

GS-I (Indian Heritage and Culture)

Relevance

UNESCO World Heritage status elevates Indian monuments onto a global stage, strengthening cultural diplomacy and ensuring sustainable conservation through international frameworks.

Overview

1. On 25 July 2026, the Ancient Buddhist Site of Sarnath was inscribed on the UNESCO World Heritage List at the 48th Session of the World Heritage Committee in Busan, South Korea.
2. Takes India's tally to 45 World Heritage properties (37 cultural, 7 natural, 1 mixed) — 6th globally, 2nd in Asia-Pacific.

Key Aspects

1. **Significance**: one of Buddhism's four principal pilgrimage sites; Buddha's first sermon (Dharmachakra Pravartana) and the Sangha, 6th c. BCE; also Rishipatana/Isipatana/Mrigadava
2. **Inscription**: Chaukhandi Stupa + remains (Dhamek and Dharmarajika stupas, Mulagandhakuti Vihara, Ashokan Pillar); pre-Mauryan (4th–3rd c. BCE) to 12th c. CE
3. **Process**: criteria (iii) enduring spiritual significance and (vi) association with the Buddha's life; Tentative List 1998; proposal Jan 2025; ICOMOS evaluation.
4. **Institutions**: ASI (3,688 protected monuments, 28 World Heritage properties); Ministry of Culture leads nominations.



5. **Adopt a Heritage 2.0 (2017, revamped 2023):** private/CSR amenities; 30 MoUs (Mar 2026); adopted sites drew 13.59mn visitors (FY25)
6. **Gyan Bharatam Mission (2025):** National Manuscript Survey (Mar 2026): 1.19cr+ manuscripts, 4.40L+ online; Abhilekh Patal: 18.23cr digitised pages

Significance

1. Reinforces India's identity as the birthplace of Buddhism, strengthening cultural ties with Buddhist-majority nations (Japan, Thailand, Sri Lanka, Myanmar, etc.); with Sarnath, 3 of the 4 principal Buddhist pilgrimage sites (Lumbini, Bodh Gaya, Sarnath) are now UNESCO-listed.
2. Broader heritage push has enabled repatriation of 669 antiquities (656 since 2014), including the Chola-period Shiva Nataraja.

Way Forward

Government to ensure sustainable tourism management and prevent unplanned development within Sarnath's buffer zone to preserve its authenticity and integrity.

Keywords

Sarnath, Dharmachakra Pravartana, UNESCO World Heritage Convention (1972), ICOMOS, Adopt a Heritage 2.0, Gyan Bharatam Mission, National Mission on Monuments and Antiquities (NMMA), ASI.

PYQ:

1. Safeguarding the Indian art heritage is the need of the moment, Discuss. — 2019, GS-I

27. Pradhan Mantri Viksit Bharat Rojgar Yojana (PM-VBRY)

Syllabus Mapping

GS-II (Welfare schemes for vulnerable sections) & GS-III (Employment, Inclusive Growth, E-technology)

Relevance

Addresses the critical need to formalise India's demographic dividend by incentivising first-time employment and expanding EPFO-linked social security coverage, supporting the Viksit Bharat 2047 vision.

Overview

1. Announced August 2025, implemented over two years (1 Aug 2025–31 July 2027) with an outlay of ₹99,446 crore; aims to generate employment for 3.5 crore+ people, including 1.92 crore first-time employees.
2. Uses a fully digital, EPFO-administered framework delivering employment-linked incentives to both employees and employers.

Key Aspects

1. **Part A (employees):** earning up to ₹1L/month get one month's EPF wage (max ₹15,000) in two instalments (after 6 and 12 months), conditional on a financial-literacy programme; part is held in a savings instrument
2. **Part B (employers):** up to ₹3,000/month for 2 years per additional employee kept ≥6 months; manufacturing gets years 3–4 too (complements the National Manufacturing Mission)



3. **Delivery**: UAN + Aadhaar; Face Authentication on UMANG; DBT; dedicated portal
4. **First year**: 72 lakh+ first-time employees; ~30% women; 15 lakh+ have received incentives
5. **Outreach**: cross-functional teams of EPFO, ESIC and CLC officials

Significance

1. Lowers hiring costs for employers while bringing unorganised workers under formal social security.

2. Mandated savings-instrument component for employees promotes long-term financial resilience.

Keywords

PM-VBRY, EPFO, UAN, UMANG App, Face Authentication Technology, DBT, Demographic Dividend, ECR.

PYQ

1. How are startups in India promoting entrepreneurship, innovation and employment? Discuss the global and domestic challenges in their working and suggest suitable measures to overcome these challenges. — 2026, GS-III

28. PAIMANA: Strengthening Data-Driven Infrastructure Governance

Syllabus Mapping

GS-III (Infrastructure — Public Investment, Governance, Data Analytics)

Relevance

Streamlines monitoring of large-scale Central Sector infrastructure projects, shifting governance from simple output tracking to multi-dimensional performance evaluation.

Overview

1. Launched 25 September 2025 by MoSPI, PAIMANA (Project Assessment, Infrastructure Monitoring and Analytics for Nation-Building) is a web-based platform monitoring Central Sector infrastructure projects costing ₹150 crore or more.
2. Replaced the legacy OCMS-2006; expanded via the PAIMANA-CRIP module (launched 8 July 2026), replacing DPIIT's IPMP, envisioned to evolve into the Central Repository of Infrastructure Projects, also feeding PRAGATI and PMG review mechanisms.

Key Aspects

1. **API integration**: 20+ ministries/agencies; 60%+ of projects auto-updated
2. **Performance dashboard (16 Apr 2026):** built with NIPFP; aligned with the Harmonized Master List (2022); avoids overlap with IIP/Eight Core Industries; 165 indicators (54 new): ports/shipping 62, railways 37, civil aviation 31, power 14, telecom 13, roads 8
3. **Five dimensions**: access, quality, fiscal cost & revenue, utilisation, affordability
4. **Scale (June 2026):** 1,847 projects across 17 ministries; revised cost ₹40.54L cr; ₹21.97L cr spent (54.18%); 769 mega (≥₹1,000cr) + 1,078 major (₹150–1,000cr) projects; MoRTH leads with 1,022 projects (55%)
5. **Engagement**: tailored ministry dashboards; monthly reviews

Significance

1. Enables data-driven governance via interactive visualisations and time-series analysis for policymakers, researchers and stakeholders.
2. Strengthens transparency and accountability through regular reviews and centralised, cross-sector performance tracking.

Keywords

PAIMANA, PAIMANA-CRIP, MoSPI, OCMS-2006, Harmonized Master List (HML), NIPFP, Performance Monitoring Dashboard, PRAGATI, mega/major projects.

PYQ:

1. e-governance is not just about the routine application of digital technology in service delivery process. It is as much about multifarious interactions for ensuring transparency and accountability. In this context evaluate the role of the 'Interactive Service Model' of e-governance. — 2024, GS-II

29. GOBARdhan: Fuelling Clean Energy and Rural Growth

Syllabus Mapping

GS-III (Energy Security, Environmental Conservation, Waste-to-Wealth, Biofuels)

Relevance

India's national circular bioenergy framework addresses heavy natural gas import dependence (~50%) by converting organic waste into CBG.

Overview

1. Approved 6 August 2026, GOBARdhan (National Unified Scheme for CBG) consolidates the CBG ecosystem (earlier spread across 4 ministries) under MoPNG, with outlay ₹23,731 crore.
2. Implemented FY 2026-27 to FY 2035-36; targets ~10-fold growth in domestic CBG production; originally launched under Swachh Bharat Mission (Grameen), 2018.



Key Aspects

1. **Six growth engines**: (i) assured offtake: CGD blending 3% (FY27) → 4% → 5% (FY29 onwards); (ii) stable price ₹2,110/MMBTU (~₹105/kg), 10 years; (iii) capital assistance up to ₹2cr/TPD; (iv) pipeline connectivity; (v) credit guarantee up to 85% for MSME projects; (vi) CBG Ecosystem Challenge Fund (feedstock mapping, aggregation)
2. **Foundational schemes**: SATAT; MDA ₹1,500/MT (₹111.72cr released till Feb 2026); BAM Scheme ₹564.75cr; DPI Scheme ₹994.5cr (FY25–FY29)
3. **Portal (6 Aug 2026):** 1,908 plants registered; 217 commissioned (0.4 MMSCMD); 339 under construction
4. **Decadal targets**: ₹40,000cr+ forex saved; 10 MMT fossil fuel displaced; ₹75,000cr+ GDP; 1.5 lakh+ jobs; 40 MT+ CO_2 cut; 250 MMT organic fertiliser

Significance

1. Enhances energy resilience amid geopolitical risks (e.g., Strait of Hormuz carries 55-60% of India's LNG imports).
2. Advances waste-to-wealth by monetising crop residue/cattle dung, supporting Atmanirbhar Bharat and rural circular bioeconomy.

Keywords

GOBARdhan, CBG, MoPNG, SATAT, CGD Obligation, MDA Scheme, BAM Scheme, DPI Scheme, Credit Guarantee Mechanism.

PYQ:

1. How can India achieve energy independence through clean technology by 2047? How can biotechnology play a crucial role in this endeavour? — 2025, GS-III

30. Reforming India's Tribunal System

Syllabus Mapping

GS-II (Structure, Organization & Functioning of the Judiciary; Statutory Bodies)

Relevance

Overhauls India's tribunal architecture to align with Supreme Court jurisprudence, minimising executive discretion while establishing a judicially-led governance system.

Overview

1. Passed by Parliament in August 2026, repeals the Tribunal Reforms Act, 2021, and introduces a unified framework covering 16 tribunals (including CAT, NGT, SAT, NCLAT, DRT, ITAT).
2. Follows Supreme Court's Madras Bar Association v. Union of India [(2026) 2 SCC 1], which struck down parts of the 2021 Act and directed creation of an independent National Tribunals Commission (NTC).



Key Aspects

1. **Functions of the NTC**: Conducts selections, reviews tribunal performance (annual reports to Central Government), oversees inquiries into complaints against members, and maintains the National Tribunals Data Grid — a centralised case-data repository across all 16 tribunals.
2. **Financial & Administrative Autonomy**: Tribunals independently project fund/staff/premises requirements; NTC Secretariat (headed by a Secretary to Government of India) consolidates these; CAG audits NTC accounts, with the report tabled in Parliament.
3. **Tenure**: Chairperson/Members of NTC — 5 years or till age 70; Tribunal Members — 5 years or till age 67.

Significance

1. Replaces executive-dominated control over tribunal appointments/service conditions with a permanent, judicially-led institutional mechanism, implementing the Madras Bar Association directives.
2. Standardises administrative rules and introduces data-driven case tracking across tribunals, aiming to reduce pendency and strengthen public trust.

Keywords

National Tribunals Commission (NTC), Tribunal Reforms Bill 2026, Search-cum-Selection Committee, Madras Bar Association case, National Tribunals Data Grid.

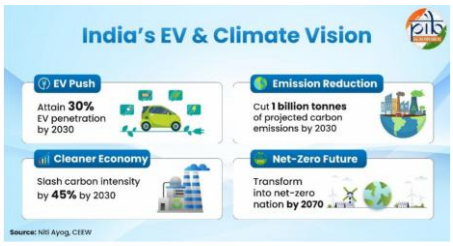
PYQ

1. Comment on the need of administrative tribunals as compared to the court system. Assess the impact of the recent tribunal reforms through rationalization of tribunals made in 2021. — 2025, GS-II

31. Roads Reimagined: The Rise of India's Electric Vehicles Ecosystem

Syllabus Mapping

GS-III (Infrastructure — Energy Security, Electric Vehicles, Sustainable Mobility)

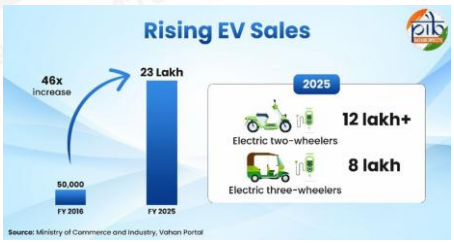


Relevance

EV transition is central to India's climate strategy, reducing the petroleum import bill, and securing low-carbon economic growth.

Overview

1. India's EV sales have grown sharply since 2016, with exports rising from a negligible base to a meaningful presence in international markets (top destinations: Nepal, Indonesia, Japan).
2. The government has built a comprehensive policy framework — FAME, PM E-DRIVE, PLI schemes — to position India as a global EV manufacturing and export hub.



Key Aspects

1. **Market**: led by e-2Ws and e-3Ws; UP, Maharashtra, Karnataka lead among States
2. **PM E-DRIVE (2024, MHI):** demand incentives, Phased Manufacturing Programme, e-buses and public charging (e-2W/3W, e-trucks, e-buses, e-ambulances)
3. **PLI-ACC Battery**: domestic advanced chemistry cells (batteries are the largest EV cost)
4. **Suzuki e VITARA**: first Made-in-India global strategic BEV; exported to 100+ countries incl. Europe and Japan
5. **Governance**: e-Amrit charging locator; NITI Aayog's India Electric Mobility Index (IEMI): Frontrunners (Delhi, Maharashtra, Chandigarh), Performers, Aspirants
6. **Other schemes**: National Mission on Manufacturing (EVs as a "seed" sector); SPMEPCI (e-cars, DVA mandates); PLI-Auto; PM e-Bus Sewa-PSM; 5% GST on EVs
7. **States**: EV policies with capital subsidy, land, SGST reimbursement; TN, Maharashtra, Karnataka, Gujarat, Haryana, UP are hubs
8. CAFE norms (since 2017) tighten under CAFE III/IV with EV super-credits; target 30% EV sales by 2030 (EV30@30)

Significance

1. Enhances energy resilience by reducing fossil fuel import dependence and curbing transport-sector emissions.
2. Drives economic/industrial modernisation — strong investment momentum in the EV ecosystem and a growing base of domestic EV startups supporting the Aatmanirbhar Bharat and Viksit Bharat vision.

Keywords

PM E-DRIVE, FAME, PLI-ACC, PLI-Auto Scheme, SPMEPCI, e VITARA, IEMI, CAFE Norms, e-Amrit, NMM.

PYQ:

1.The adoption of electric vehicles is rapidly growing worldwide. How do electric vehicles contribute to reducing carbon emissions and what are the key benefits they offer compared to traditional combustion engine vehicles? — 2023, GS-III

32. MMDR Amendment Act, 2026 AND Frequently asked questions

Syllabus Mapping

GS-III (Economy — Resource Mobilization, Growth, Mining Sector Regulation)

Relevance

Establishes a uniform and predictable fiscal framework for India's mining sector, addressing multi-layered State levies to protect industrial viability, curb import dependence, and safeguard consumer affordability.

BEFORE	AFTER
Mining was taxed differently in every State.	A single, Centre-directed tax framework will apply under New Section 9D.
New levies could be introduced even after mining operations started.	States cannot impose new levies except under conditions set by the Central Government.
Retrospective tax demands could be raised at any time.	All pending retrospective dues are now declared invalid.
The maximum burden fell on small and medium miners.	Every miner now benefits from a fair and equal framework.

Overview

1. Amends the Mines and Minerals (Development and Regulation) Act, 1957, to prevent cascading State taxes on mineral rights and mineral-bearing lands.
2. Eliminates open-ended State levies and retrospective tax demands, while preserving the overwhelming share of mining revenue (~90%, cited elsewhere as ~96% of statutory payments) for mineral-rich States.

Key Aspects

1. **New Section 9D:** States cannot levy any tax/cess/levy on mineral rights or mineral-bearing lands (by quantity, value or royalty) except as the Centre prescribes (amended Section 13)
2. **Past levies:** unpaid pre-amendment levies are invalid; amounts already collected are not refunded; no transfer of State funds to any corporation
3. **Problem**: ~14 taxes/charges (royalty, auction premium, dead rent, DMF, GST, transit fee, land taxes up to 20%) cascade into steel, cement, aluminium and power costs; also affect critical minerals (graphite, uranium)

4. **Auctions**: 100% e-auction; of 725 major blocks auctioned, 105 operational, 300 unique bidders; 337 companies hold leases; 141 coal mines auctioned, 23 operational
5. **State revenue**: up ~354% since the 2015 auction reform, to ~₹82,366cr (2025-26); minor minerals (~50 types: sand, gravel, granite) remain with States
6. **Related reforms**: National Critical Mineral Mission (Jan 2025; GSI, NMEDT); KABIL (overseas lithium, e.g. Argentina); recycling incentives; Critical Mineral Processing Parks; Unified Mining Portal; PMKKKY/DMFs

Significance

1. Curbs foreign exchange strain by reducing cost-driven mineral imports and strengthening India's export competitiveness (e.g., iron ore).
2. Protects household affordability by preventing cascading tax pass-through into steel, cement, electricity and housing costs.
3. Strengthens investment certainty, employment (including in tribal mining regions), and energy/national security via a stable, predictable mining tax regime — investors need upfront clarity on tax liability to commit long-term capital.
4. Supports the Atmanirbhar Bharat and Viksit Bharat 2047 vision by making India's mineral sector more competitive and transparent, aiming to reduce litigation and attract industry participation/foreign investment.

Keywords

MMDR Amendment Act 2026, Section 9D, National Critical Mineral Mission (NCMM), KABIL, NMEDT, DMF, PMKKKY, Auction Premium, e-auction.

PYQ:

1.Mineral resources are fundamental to the country's economy and these are exploited by mining.Why is mining considered an environmental hazard?Explain the remedial measures required to reduce the environmental hazard due to mining. — 2025, GS-III

33. Container Manufacturing Assistance Scheme: Building India's Maritime Future

Syllabus Mapping

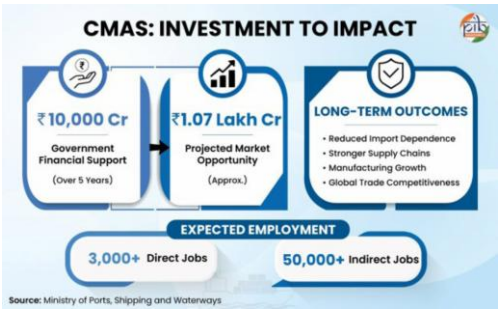
GS-III (Infrastructure — Ports, Logistics, Maritime Transport)

Relevance

Addresses India's heavy reliance on imported empty containers (~2 million imported annually), building domestic manufacturing capacity to secure supply-chain resilience and boost trade competitiveness.

Overview

1. Announced in Union Budget 2026-27, CMAS is backed by a ₹10,000 crore outlay over five years to establish a globally competitive container manufacturing ecosystem in India.
2. Targets an annual domestic production capacity of up to 7.5 lakh TEUs (Twenty-foot Equivalent Units) — a roughly tenfold increase over existing capacity.



Key Aspects

1. **Support**: capital assistance for greenfield units, expansion for brownfield units; testing infrastructure and skilling
2. **Bharat Container Shipping Line (BCSL)**: MoU Feb 2026 (SCI, CONCOR, JNPA, VOCPA, SFMCL); 51 container vessels planned
3. **First validation**: July 2026, first India-made ISO/CSC-compliant EXIM container for Maersk at the Maersk–CONCOR ICD, Dadri; Maersk order for 1,000 more from DCM Shriram Group
4. **Ancillary growth**: corner castings, wooden frames, corten steel
5. **Enabling framework**: Merchant Shipping, Coastal Shipping and Indian Ports Acts (2025); ONOP, Maritime Single Window, e-Samudra; ports: Vadhavan, Galathea Bay transshipment, Tuna Tekra, VOCPA outer harbour; PM Gati Shakti, Sagarmala, Maritime Amrit Kaal Vision 2047

Significance

1. Reduces vulnerability to global shocks — cushions India's EXIM trade against freight-rate volatility, geopolitical route disruptions, and dependence on foreign container repositioning (UNCTAD notes ~80% of global trade by volume moves by sea, containers carrying ~two-thirds of trade value).
2. Strengthens India's port performance standing, with three Indian ports now ranked among the world's top 30 in the Container Port Performance Index (CPPI) 2025.
3. Supports Make in India and self-reliance goals by building a domestically anchored container-to-shipping value chain.

Keywords

CMAS, TEU, Bharat Container Shipping Line (BCSL), UNCTAD, CPPI 2025, Maritime Amrit Kaal Vision 2047, Sagarmala, PM Gati Shakti.

PYQ:

1.Faster economic growth requires increased share of the manufacturing sector in GDP, particularly of MSMEs. Comment on the present policies of the government in this Regard. — 2023, GS-III

34. Celebrating Grassroots Innovation at the Micro Food Processing Bazaar

Syllabus Mapping

GS-III (Agriculture — Food Processing Industries, Inclusive Growth, MSMEs)

Relevance

PMFME bridges grassroots micro-enterprises with formal markets, providing capital and modernisation support to transform local culinary heritage into competitive commercial brands.

Overview

1. Launched 29 June 2020, the Pradhan Mantri Formalisation of Micro Food Processing Enterprises (PMFME) scheme provides financial, technical, and business assistance to micro food enterprises.
2. Ministry of Food Processing Industries hosted the PMFME Bazaar (24-25 August 2026, India Habitat Centre), with exhibitors from 25 States/UTs showcasing millets, spices, pickles, snacks, beverages and other value-added foods.

Key Aspects

1. **Credit-linked capital subsidy:** 35% of project cost, up to ₹10L per unit
2. **Enterprise cases**:
   a. SHHE Foods (Bihar): makhana products; 100 → 1,000+ kg/day; sales ₹2.5–3L (2021) → ₹14cr+; ₹3L+ subsidy on a ₹10L loan
   b. Tribalveda (Udaipur): 3,000–5,000 tribal women harvest jamun for vinegar, cubes, strips; sells on Amazon/Flipkart, exports to Dubai and USA
   c. Soya Rich (Maharashtra): soya milk/tofu; ₹20L project with 35% subsidy; one unit → eight cities; monthly sales ₹2L → ₹35L
   d. Malati Food Products (Odisha): millet processing since 1995; ₹9L+ subsidy (2024); sales +40%; e-commerce, exploring exports
3. **Bazaar**: direct market platform for micro-enterprises, SHGs, FPOs and cooperatives

Significance

1. Empowers marginalised communities — directs institutional support toward women-led initiatives (Tribalveda) and legacy/family micro-enterprises, converting traditional knowledge into sustainable livelihoods.
2. Formalises the food economy — bridges unorganised micro-units with mainstream retail/e-commerce markets, improving quality, branding, and export readiness.

Keywords

PMFME Scheme, Ministry of Food Processing Industries, Credit-Linked Capital Subsidy, PMFME Bazaar, Micro Food Processing.

PYQ:

1.Examine the scope of the food processing industries in India.Elaborate the measures taken by the government in the food processing industries for generating employment Opportunities. — 2025, GS-III

35. GI Tags: Scaling Traditional Wealth into Global Brands

Syllabus Mapping

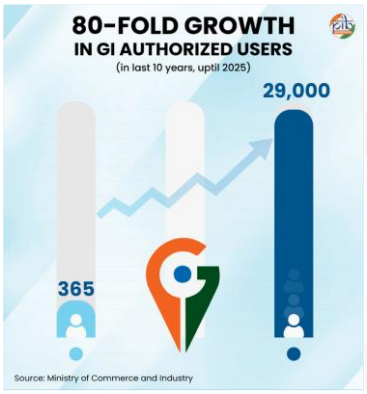
GS-III (Economy — Intellectual Property Rights, Regional Trade, Rural Development)

Relevance

GI tags serve as legal and economic instruments that authenticate regional craftsmanship, prevent market misuse, and enhance export competitiveness for traditional producers.

Overview

1. Legal framework established under the Geographical Indications of Goods (Registration and Protection) Act, 1999; operational from 2003, registrations began 2004-05.
2. India has 800+ registered GI products, with 607 granted since 2014
3. Darjeeling Tea (West Bengal) was India's first GI-tagged product, with protection extended to both product and logo; other early registrations include Aranmula Kannadi (Kerala) and Pochampalli Ikat (Telangana).







Key Aspects

1. **Impact**: seal of authenticity; rural artisan incomes up an estimated 20–30% (Ministry of Textiles)
2. **Spread**: handicrafts 445 (Pashmina, Baluchari, Banaras Gulabi Meenakari), agricultural 251, food 66 (Tirupathi Laddu, Bardhaman Mihidana), manufactured 64 (Nashik Valley Wine, Kannauj Perfume), natural 5 (Makrana Marble, Panna Diamond); UP leads with 81, then TN, Maharashtra
3. **Registration**: producer associations apply to the GI Registry, Chennai; valid 10 years, renewable; revocable for fraud, disuse or deception (Section 27)
4. **2025 fee cuts**: fees down 80%; renewal ₹3,000 → ₹500
5. **Platforms**: PM Ekta Mall (₹5,000cr, FY24); One Station One Product (railway GI booths); GI Trails, e.g. Muga Silk Trail, Assam (June 2026)
6. **Support**: MSME Innovative Scheme reimburses up to 100% of registration cost (max ₹2L); Handicrafts Commissioner legal support (up to ₹1.5L); APEDA exports, e.g. Muzaffarnagar Jaggery (30 MT to Bangladesh via Brijnandan Agro FPC, 545 members) and Indi Lime to Oman after the CEPA
7. **FTAs**: NZ committed to register Indian GIs (Darjeeling Tea, Basmati); India–EU talks include a GI agreement

Significance

1. Empowers marginalised producers by linking regional heritage directly to premium domestic and global markets.
2. Aligns with Aatmanirbhar Bharat and Vocal for Local, protecting indigenous knowledge while building export-led growth.

Way Forward

The government targets 10,000 GI registrations by 2030 to strengthen India's heritage economy and global market presence.

Keywords

Geographical Indication (GI), TRIPS Agreement, APEDA, OSOP, PM Ekta Mall, MSME Innovative Scheme, GI Trails.

36. Ken-Betwa Link Project Frequently Asked Questions (FAQs)

Syllabus Mapping

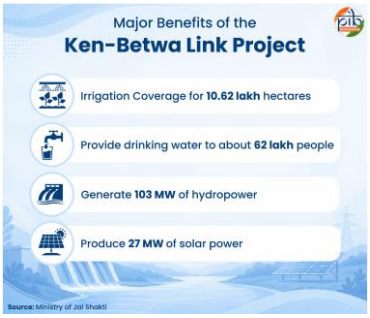
GS-III (Infrastructure — Water Resources, Interlinking of Rivers, Environmental Impact Assessment)

Relevance

KBLP is India's first priority river-interlinking project, designed to address chronic water scarcity and drought vulnerability in the Bundelkhand region.

Overview

1. Total cost: ₹44,605 crore; involves transferring water from the Ken basin to the Betwa basin via the 96.7 m-high Daudhan Dam and a 216.465 km-long link canal (Panna/Chhatarpur, MP, to Barua Sagar near Jhansi).
2. First priority project under the National Perspective Plan for Interlinking of Rivers to enter implementation; foundation stone laid 25 December 2024; targeted completion 2030.



Key Aspects

1. **Components**: Daudhan Dam, link canal, Lower Orr Project, Kotha Barrage, Bina Complex Multipurpose Project, plus MP/UP irrigation works
2. **Targets**: irrigation 10.62 lakh ha; drinking water ~62 lakh people; 103 MW hydro + 27 MW solar; districts: Chhatarpur, Panna, Tikamgarh, Sagar (MP); Banda, Mahoba, Jhansi, Lalitpur (UP)
3. **R&R (MP package, Sept 2023):** market rate or ₹12.50L/ha (higher); housing grant ₹7L rural / ₹6.50L urban or lump sum ₹12.50L; extra for SC/ST; 22 villages (8 Panna, 14 Chhatarpur); consent-based under LARR 2013
4. **Ecology (Panna Tiger Reserve**): WII's Integrated Landscape Management Plan for Greater Panna, overseen by the Greater Panna Landscape Council (chaired by MP's Chief Secretary); compensatory afforestation and non-forest land next to the core area

5. **Clearances secured:** Wildlife (2016), Environment (2017), Tribal Affairs (2017), Forest (2023, with Gram Sabha consent under FRA)
6. **Safeguards**: minimum environmental flow downstream; automated spillway gates; National Monitoring Committee and Field Facilitation Officers

Significance

1. **Drought resilience** — replaces uncertain rainfall dependence with reliable irrigation, supporting multi-cropping, crop diversification, and higher farm incomes.
2. **Holistic regional development** — clean drinking water, employment generation (construction and allied activities), improved connectivity, and reduced distress migration in a historically backward region.

Keywords

Ken-Betwa Link Project, Daudhan Dam, Bundelkhand, National Perspective Plan for Interlinking of Rivers, Integrated Landscape Management Plan (ILMP), Panna Tiger Reserve, LARR Act 2013.

PYQ:

1.The interlinking of rivers can provide viable solutions to the multi-dimensional interrelated problems of droughts, floods and interrupted navigation. Critically examine. — 2020, GS-I

37. Where Every Purchase Finds a GeM

Syllabus Mapping

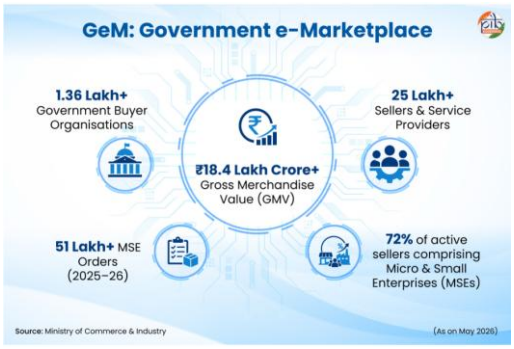
GS-III (Infrastructure — Public Procurement, Digital Governance)

Relevance

GeM has revolutionised public procurement by replacing fragmented, manual tendering with an end-to-end digital ecosystem, enhancing transparency, efficiency, and inclusive market access.

Overview

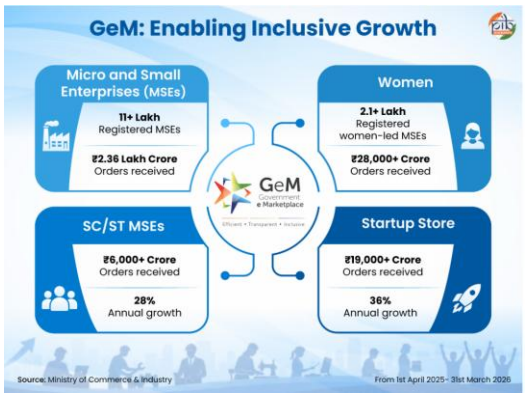
1. Launched 9 August 2016, GeM is a unified, secure, paperless, cashless, contactless digital platform connecting government buyers with sellers, developed after studying global best practices (e.g., US, South Korea).
2. Serves 1.37 lakh+ government buyer organisations and ~25 lakh sellers/service providers, facilitating cumulative procurement worth over ₹20 lakh crore, across 10,660+ product categories and 350+ service categories.



Key Aspects

1. **Digital lifecycle**: registration → listing → bidding (direct purchase, comparison, e-bid, reverse auction) → award → payment; less discretion

2. **Tools/integration**: availability report, last purchase price, analytics; integrated with CPPP; IREPS and DPPP integration under way
3. **Partnerships**: IN-SPACe, Drone Federation India; GeMSahay with Union Bank (collateral-free working capital); MoUs with AJNIFM, CareEdge, NCGG, IIPA; EPFO link; UN Women (Womaniya)
4. **Inclusion**: SWAYATT (startups, women, youth), Womaniya, SARAS Collection, Startup Runway 2.0; GeM Suvidha Kendras with CSC-SPV (June 2026; 50 pilots)



5. **2025-26:** MSEs 11 lakh+ registered, ₹2.36L cr orders; women-led ₹28,000cr+; SC/ST ₹6,000cr+; startups ₹19,000cr+
6. **Reforms**: rate contracts; caution money removed

Significance

1. Serves as a vital procurement backbone for strategic sectors — Department of Military Affairs' cumulative GMV has crossed ₹1.35 lakh crore, with defence procurement contributing a significant share of GeM's total GMV.
2. Drives economic inclusion by anchoring national missions — Digital India, Make in India, Aatmanirbhar Bharat, Vocal for Local — through embedding small businesses, artisans, and women entrepreneurs into government supply chains.

Keywords

Government e-Marketplace (GeM), SWAYATT, GeMSahay, Womaniya, SARAS Collection, GeM Suvidha Kendras, CPPP.

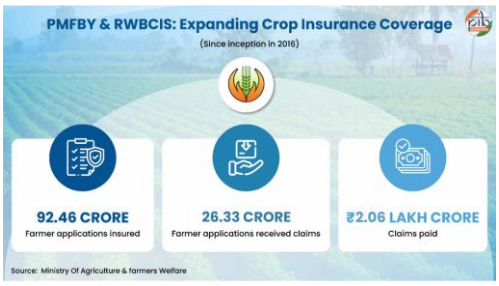
38. Pradhan Mantri Fasal Bima Yojana

Syllabus Mapping

GS-III (Agriculture — Agricultural Insurance, Disaster Management, Climate Resilience)

Relevance

PMFBY is India's premier agricultural risk management safety net, providing comprehensive multi-hazard crop insurance to stabilise farmer incomes and foster climate resilience.



Overview

1. Launched 18 February 2016, PMFBY offers comprehensive coverage against natural calamities, pests, diseases, and post-harvest losses with subsidised premiums (max 2% Kharif, 1.5% Rabi foodgrain/oilseed, 5% commercial/horticultural crops); Centre-State subsidy split is 50:50 (90:10 for NE/Himalayan States/UTs).

2. With ₹12,200 crore allocated in Union Budget 2026-27, the scheme has insured over 92.46 crore farmer applications and settled claims exceeding ₹2.06 lakh crore (Kharif 2016 to Rabi 2025-26).

Key Aspects

1. **Coverage**: yield loss (notified-area), prevented sowing (up to 25% of sum insured), post-harvest loss (up to 14 days), localised calamities (hail, landslide, inundation, cloudburst); excludes war, nuclear risk, riots, theft, negligence
2. **Inclusion**: loanee (auto-deducted) and non-loanee (voluntary, ~50% on average) farmers; tenants and sharecroppers: 1.44cr+ since 2018
3. **Case study, Anwar Hussain (Chankhala, Nagaon, Assam):** paid a ₹100 premium, received ₹50,600 after heavy-rain damage; cleared debt and reinvested
4. **Digital stack**: NCIP; DigiClaim (since Kharif 2022; ₹55,000cr+ paid digitally); CCE-Agri app; CROPIC; Krishi Rakshak Portal (14447; 26.12L grievances, 99.66% resolved); AIDE; CLAP
5. **Remote sensing**: YES-TECH (paddy/wheat from Kharif 2023, soybean from Kharif 2024; weight 30% → 50% in some States); WINDS hyperlocal weather data
6. **State trends**: re-entry by AP (Kharif 2022), Jharkhand (Kharif 2024), West Bengal (Kharif 2026), Bihar (Rabi 2026-27); dips in Maharashtra and AP (2025) after State-funded 100% premium subsidy ended, recovering in Kharif 2026
7. **RWBCIS**: weather-index based (not actual yield); popular for fruits, vegetables and plantations

Significance

1. Shields farmers against income shocks from crop failure, enabling debt repayment and continued investment in farming.
2. Strengthens climate-resilient agriculture and promotes modern farming practices and crop diversification.
3. Digital interventions (NCIP, DigiClaim, YES-TECH, WINDS) have improved transparency, accuracy, and speed of claim settlement, enhancing accountability across the scheme.

Keywords

PMFBY, NCIP, DigiClaim, YES-TECH, WINDS, RWBCIS, Krishi Rakshak Portal, CROPIC, CLAP.

PYQ:

1.Given the vulnerability of Indian agriculture to vagaries of nature, discuss the need for crop insurance and bring out the salient features of the Pradhan Mantri Fasal Bima Yojana (PMFBY) —2016, GS-III

39. India's Higher Education Sector

Syllabus Mapping

GS-II (NEP 2020, Governance of Education) & GS-III (Education — Inclusive Growth, Institutional Capacity)

Relevance

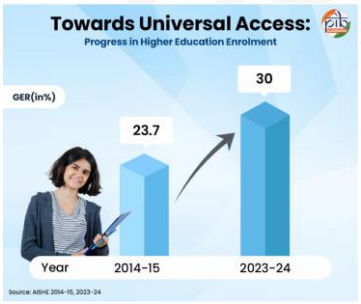
AISHE provides critical empirical data to track progress under NEP 2020, evaluating institutional growth, equity, and inclusion in India's higher education ecosystem, aligned with SDG 4.

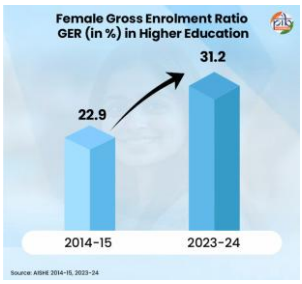
Overview

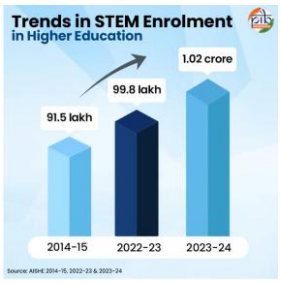
1. Conducted annually by the Ministry of Education, AISHE measures the scale, diversity, and out-turn of India's higher education sector.
2. Data reveals substantial expansion across institutions, rising enrolments, and gains in gender parity and social inclusion between 2014-15 and 2023-24.

Key Aspects

1. **Institutions**: universities 760 → 1,289 (+69.6%); colleges 38,498 → 48,246; standalone 12,276 → 15,221
2. **Enrolment**: 3.42cr → 4.50cr (+31.5%); GER 23.7% → 30% (NEP target 50% by 2035); fastest growth in PhD (+192.89%) and integrated courses (+301.36%)
3. **Women**: enrolment +42.2% (1.57cr → 2.24cr); female GER 31.2% > male 28.9% (7th straight year); GPI 0.92 → 1.08
4. **Social inclusion**: SC share 13.44% → 15.5% (GER 18.9% → 27.8%); ST 4.8% → 6.4% (GER 13.5% → 22.8%); OBC 32.8% → 40.1%; GPI: SC 0.91 → 1.11, ST 0.81 → 1.08. PwBD enrolment 64,298 → 88,816 (+38.1%), but male growth (54.4%) outpaces female (19.0%)
5. **Other**: STEM 91.5 lakh → 1.02cr; foreign students 42,293 → 58,134 (+37.5%); faculty 14.73 lakh → 17.32 lakh, women 44.9%
6. **Infrastructure (2023-24)**: libraries in 98% of institutions; labs 85–94%; playgrounds 91–95%







Significance

1. Strengthens India's knowledge economy through expanded research capacity (sharp PhD enrolment growth) and larger faculty base.
2. Reflects measurable progress on equity and inclusion — rising GER and GPI for women, SC and ST students indicate NEP 2020's goals translating into outcomes, though gaps remain (e.g., PwBD gender imbalance, overall male-female faculty gap).
3. Growing international appeal signals rising global recognition of Indian higher education institutions.

Keywords

AISHE, NEP 2020, Gross Enrolment Ratio (GER), Gender Parity Index (GPI), SDG 4, STEM enrolment, PwBD.

PYQ:

1.The Right of Children to Free and Compulsory Education Act, 2009 remains inadequate in promoting an incentive-based system for children's education without generating awareness about the importance of schooling. Analyse — 2021, GS-II

40. Five Years of e-Shram Portal

Syllabus Mapping

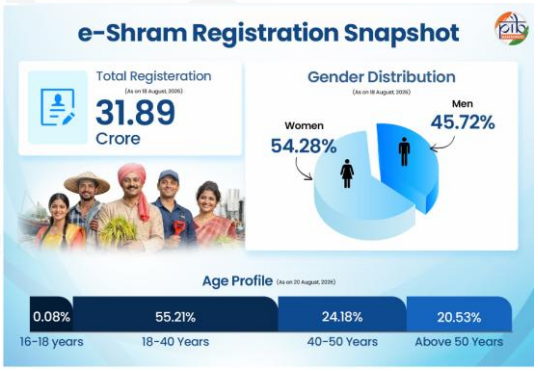
GS-II (Welfare Schemes for Vulnerable Sections) & GS-III (Employment, Inclusive Growth, E-Governance)

Relevance

e-Shram serves as India's foundational digital public infrastructure for unorganised workers, integrating welfare, skilling, and social security for hundreds of millions of informal labourers.

Overview

1. Launched 26 August 2021 by the Ministry of Labour and Employment (developed by NIC), e-Shram completed 5 years in August 2026.
2. Created India's first Aadhaar-authenticated National Database of Unorganised Workers (NDUW), issuing every registered worker a unique 12-digit Universal Account Number (UAN); has recorded 31.89 crore registrations.



Key Aspects

1. **Objectives**: convergence of welfare schemes; secure API data-sharing; portability of benefits for migrant/construction workers; emergency-planning database
2. **One-Stop Solution (21 Oct 2024):** 15 schemes incl. PM-SYM, PMSBY, PMJJBY, NSAP, ONORC, PMAY-G on one platform
3. **Benefits**: PMSBY ₹2L (death/permanent disability), ₹1L partial; PMJJBY ₹2L life cover; PM-SYM ₹3,000/month pension from 60; links to NCS, Skill India Digital Hub, myScheme
4. **Inclusion**: 22 languages via Bhashini (2025); migrant family details; BOCW Board data-sharing; gig/platform workers (~11.5 lakh registered)
5. **Registration:** free; age 16+; excludes income-taxpayers and EPFO/ESIC members; via portal, CSCs, State Seva Kendras; needs Aadhaar + mobile
6. **Profile (Aug 2026):** women 54.28%; 55.21% aged 18–40; top occupations: agriculture, domestic work, construction, apparel; top States: UP, Bihar, WB, MP, Maharashtra

Significance

1. Bridges critical welfare gaps by enabling portable social security benefits for migrant and construction workers across state boundaries.

2. Facilitates evidence-based governance and rapid crisis response through API-driven inter-departmental data sharing.
3. Advances the Government's vision of an inclusive, technology-driven social security ecosystem for India's unorganised workforce.

Keywords

e-Shram Portal, Universal Account Number (UAN), NDUW, One-Stop Solution, PM-SYM, PMSBY, PMJJBY, Bhashini, BOCW Board.

PYQ:

1. Discuss the merits and demerits of the four 'Labour Codes' in the context of labour market reforms in India. What has been the progress so far in this regard? . — 2024, GS-III
2. Economic growth in the recent past has been led by an increase in labour productivity. Explain this statement. Suggest the growth pattern that will lead to creation of more jobs without compromising labour productivity. — 2024, GS-III

41. India's Sugar Industry

Syllabus Mapping

GS-III (Agriculture — Food Processing, Agricultural Economy, Pricing Policy)

Relevance

The Indian sugar industry forms a vital pillar of the rural economy, supporting nearly 5 crore farmers while balancing food security, fair pricing, and green energy transition through ethanol blending.

Overview

1. India is the world's second-largest sugarcane producer, supporting ~5 crore farmers and ~5 lakh factory/allied workers; sugarcane production reached 500 MMT in 2025-26 (+43.5% over the decade, from 348.44 MMT in 2015-16); area under cultivation rose from 49.27 lakh to 58.87 lakh hectares. Uttar Pradesh and Maharashtra are the top producing states.
2. FRP (Fair and Remunerative Price) for sugarcane, 2026-27 season, set at ₹365/quintal (10.25% basic recovery rate) — up from ₹230/quintal (9.5% recovery) in 2016-17.

Key Aspects

1. **Ethanol link**: sugar diverted to ethanol fell from ~12% (2022-23) to ~9% (2025-26); ~three-fourths of ethanol now comes from grains (mainly maize); diversion relieves surplus stock that blocks mill funds and delays farmer payments
2. **Finances**: 97% of 2025-26 cane dues paid (20 Aug 2026); retail sugar prices rose only ~3% a year (Aug 2024–Jul 2026)
3. **Aug 2026 price spike**: +15.6% in a month (₹48.18 → ₹55.70/kg) due to output of 306 LMT vs 343 LMT estimated (Red Rot/Top Borer, waterlogging), festive demand, a global deficit (~33 lakh MT; prices $474 → $552/tonne) and hoarding



4. **Curbs**: dealer stock limit 400 tonnes (1 Aug–30 Nov 2026); bulk consumers 15 days' stock (from 1 Sept); joint verification teams; 10 lakh MT duty-free raw sugar imports; crushing advanced to 15 Oct 2026 (October output 3–4 → 10+ lakh MT)
5. **Exports**: 8 lakh MT (2025-26) vs 0.47 lakh MT (2016-17): Sri Lanka, West Asia, East Africa

Significance

1. Balances consumer protection (stock limits, duty-free imports) with farmer income security (rising FRP, high dues clearance) and industry stability.
2. Demonstrates that ethanol diversion has not caused sugar scarcity — a common misconception the government has actively countered — while still advancing energy security and farmer income diversification goals.
3. India's sugar sector shows resilience with adequate buffer stocks despite short-term production shortfalls, distinguishing genuine structural issues from transient market pressures.

Keywords

Fair and Remunerative Price (FRP), Ethanol Blending, Sugarcane Production, Stock Limits, Crushing Season, Duty-free Sugar Import.

42. National Handloom Day 2026

Syllabus Mapping

General Studies Paper I (Indian Heritage and Culture) & General Studies Paper III (MSMEs, Inclusive Growth).

Relevance

National Handloom Day celebrates India's rich weaving heritage and honors millions of rural artisans, while policy measures like the NHDP and GST rationalization drive modernization, market access, and sustainable livelihoods.



Overview

1. Observed annually on August 7, National Handloom Day commemorates the 1905 Swadeshi Movement, celebrating the socio-economic contribution of India's handloom workers.
2. The Fourth All India Handloom Census (2019–20) recorded 35.22 lakh handloom weavers and allied workers across 31.45 lakh households, with women comprising over 72% of the workforce.

Key Aspects

1. **NHDP**: Small Cluster Development Programme (up to ₹2cr/cluster), electronic jacquards, workshed subsidies; average daily wages up 56%
2. **Welfare**: PMJJBY/PMSBY (enrolment +80.8% to 2026-27); scholarships up to ₹2L for children
3. **Credit**: Weaver MUDRA: 6% loans with interest subvention
4. **GST cut:** 36 handicraft items, cotton handloom rugs and sewing machines 12% → 5%

5. **Markets/quality**: GeM, Indiahandmade; Handloom Mark, India Handloom Brand, GI

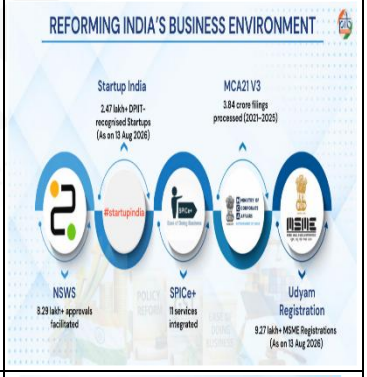
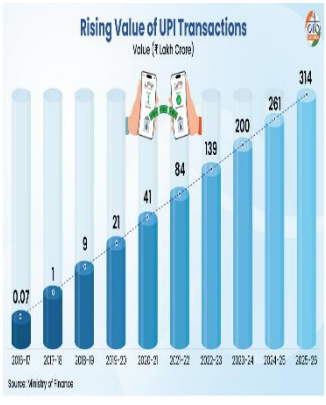
Significance

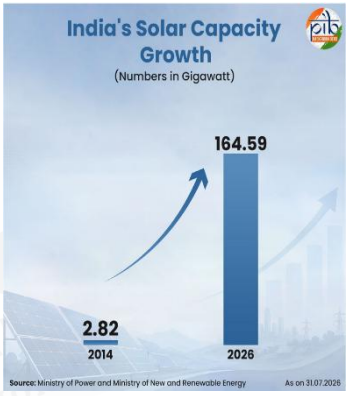
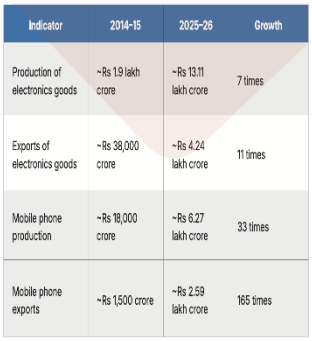
1. Empowers Women & Marginalized Communities: Directs institutional support toward rural women, Scheduled Castes, and Scheduled Tribes, who form the backbone of India's 28.20 lakh recorded looms.
2. Global Design Integration: Showcases traditional weaves through modern design narratives (such as Vishwa Sutra and Handloom Hackathon 2026), driving handloom exports to ~₹1,330.96 crore in 2025–26 across major markets like the UAE, USA, and France.

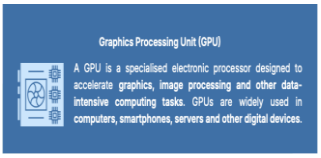
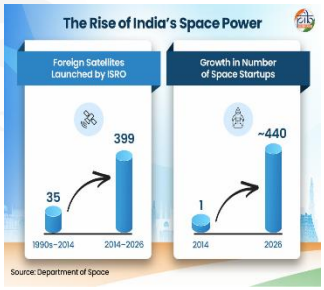
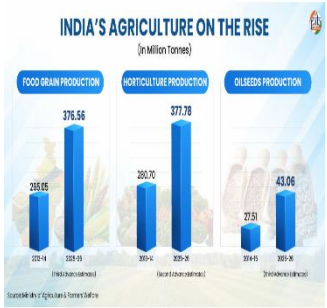
Keywords

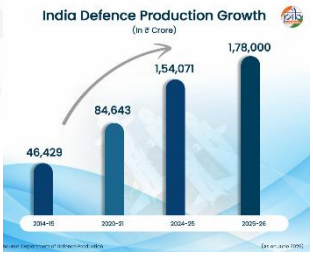
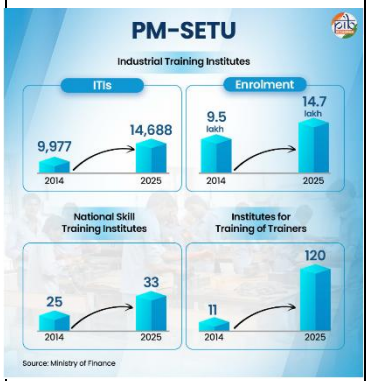
National Handloom Day, NHDP, Weaver MUDRA Scheme, Handloom Mark, India Handloom Brand, Electronic Jacquard.

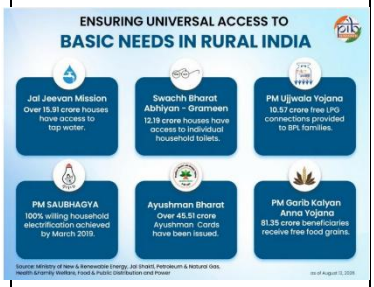
43. Independence Day Fact Sheets — At a Glance

Sector	Key Data	Initiatives and schemes	Infographics
43.1. Business-Ready India (GS-III)	• **NSWS:** 32 Central Ministries + 34 States, 8.29L approvals; • **Jan Vishwas (Amendment of Provisions) Act 2026** - 717 provisions decriminalised across 79 Acts, 47,000+ compliances removed; • **GST taxpayers** 60L(2017) → 1.68cr(2026); • **DPIIT startups** 502 (2016) → 2.47L (2026);	• SPICe+ / MCA21 V3, • GST 2.0 + Faceless Assessment, • CGTMSE, • TReDS, • ONDC, • ICEGATE, • Trade Connect (20L+ users)	
43.2. Financial Inclusion (GS-III)	• **RBI FI-Index** 43.4 (2017) → 70.0 (2026); • **Findex 2025**: 89% account ownership; • **Banking access** within 5 km for 99.92% of villages; • **DBT** ₹52.89L cr; • **PMJJBY** 27.78cr enrolments; • **MUDRA** ₹40.07L cr across 57.79cr; loans; • **PM SVANidhi** 75.5L beneficiaries	• PMJDY, • JAM Trinity, • PMSBY, • APY, • KCC, • NCFE (financial literacy), • UPI	
43.3. India's Infrastructure From connectivity to capacity (GS-III)	• **PM GatiShakti:** 396 projects; • **Rail electrification** 99.6%; Kavach 4.0 on 2,633 route km; 162 Vande Bharat; **NH** 1,46,572 km (+61%); road network 63.73 lakh km (2nd largest); • **Metro** 1,155 km, 26 cities; • **Major ports** 1,728 MMTPA, turnaround 48.8 hrs;	• PMGSY-IV, • BHAVYA (plug-and-play industrial parks), Hydrogen Fuel Cell Trainset, • Chenab Bridge (359 m, highest railway arch), Pamban vertical-lift sea bridge	

43.4 Revitalizing India's cultural Heritage (GS-I)	• **NMMA** has documented 1.84L monuments + 17.2L antiquities repatriated: eg - Piprahwa Buddha relics, Annapurna idol. • 150+ **tourism/heritage projects** sanctioned. • 45 **UNESCO sites**	• Adopt a Heritage 2.0, • PRASHAD, • Swadesh Darshan 2.0, • CBDD, • HRIDAY, • JATAN, • Museums of India portal, • Gyan Bharatam, • BHASHINI, BharatGen, • Adi-Vaani, • Vedic Heritage Portal, • National Film Heritage Mission	
43.5. India's Energy Journey (GS-III)	• **Installed power capacity:** ~552 GW • **Non-fossil capacity:** >54% • **Renewable Energy (RE) capacity: 3rd largest globally** • **Wind capacity:** >58 GW • **Solar capacity:** ~165 GW • **Coal:** ~55% of primary energy; >70% of electricity generation • **National Green Hydrogen Mission (NGHM):** Target **5 MMT/year by 2030** • **Geothermal potential:** ~10,600 MW • **Nuclear energy target: 100 GW by 2047**	• PM Surya Ghar, • PM Surya Sarovar Yojana, • NGHM, • GOBARdhan, • National Bioenergy Programme, • SHANTI Act 2025, • SMRs, • Samudra Manthan, • PM Ujjwala (near-universal LPG), • offshore wind	
43.6. Manufacturing momentum (GS-III)	• ~16–17% of GDP; • 27mn+ workers; • CAGR 10.88% (2022-23 to 2025-26); • 2nd-largest **mobile** manufacturer, • **Textile exports** $37.7bn · • **Way forward**: deepen localisation, logistics, R&D, high-tech scale-up	• Make in India, • PLI (Auto, Solar PV, Pharma, Textiles), • SPECS, • EMC 2.0, • ECMS, • Bulk Drug Parks, • Biopharma SHAKTI, • PM MITRA, • CMAS, • PM E-DRIVE, • National Logistics Policy	
43.7 Digital Infrastructure (GS-III)	• **Digital economy** ~12–14% of GDP (target 20% in a decade); • 5th-largest digitised economy; • **5G** in 99.9% of districts (5.63L BTSs); • 1.2bn+ wireless subscribers • **UPI** 24,161cr txns, ₹314.23L cr (FY26), 85% of digital payments in 11 countries. • **DigiLocker** 72cr+ users, 934cr+ documents; • **UMANG** 2,585+ services;	• DPI, • UPI, • DigiLocker, • UMANG, • DBT, • DIKSHA, • SWAYAM, • Skill India Digital Hub, • India Semiconductor Mission, • PLI, • BharatNet,	

	• **SWAYAM** 6.5cr+ enrolments;	• Public Examinations (Prevention of Unfair Means) Amendment Bill 2026	
43.8. Semiconductors & AI revolution (GS-III)	• Semicon 2.0: ₹1,27,500 cr (Jul 2026) vs Semicon 1.0 ₹76,000 cr; • 12 projects, >₹1.64L cr across 6 states; 3 already in production; • **IndiaAI** ~₹10,372 cr; 45,000+ GPUs; 237 projects; • 3rd in **AI competitiveness** (Stanford 2025) · • **C2S/DLI:** EDA tools in 320 institutions, 68,000 trained, 211 chips taped out; • **AI Kosh:** 14,000+ datasets, 331 models	• Semicon 2.0, • IndiaAI Mission, Chips to Startup (C2S), • Design Linked Incentive (DLI), • EDA tools, • AI Kosh, • Pax Silica coalition (India AI Impact Summit 2026), • 20 foundation-model proposals (12 LMM + 8 SLM), • 13 Responsible AI projects	
43.9. India's Space sovereignty (GS-III)	• **Space economy** ~$9bn; ~440 startups; • **IN-SPACe**: 113 projects for 52 NGEs· • 399 **foreign satellites** launched; • **Gaganyaan** ₹20,193 cr, 8 missions; crewed flight by 2027; • **BAS-01** in 2028; • **EO-PPP** ₹1,200 cr private commitments	• IN-SPACe, • NSIL, • Gaganyaan, • Bharatiya Antariksh Station, • SPADEX (4th nation to demonstrate docking), • Axiom-4 (Shubhanshu Shukla, 2025), • Chandrayaan-4 (sample return), • Chandrayaan-5/LUPEX (with JAXA), • NavIC NVS-01/02, • Kulasekarapattinam launch site, • PSLV / GSLV / GSLV Mk III / SSLV	
43.10. Indian Agriculture & Allied sectors (GS-III)	• **Foodgrain** 376.56 MT; • **agri exports** $54.70bn; • **PM-KISAN** ₹4.47L cr over 23 installments; • **Soil Health Cards** 26.09cr; • **Milk** 248 MT (25% of global); • **Fish** 197.75 lakh tonnes; • 10,000 **FPOs**; • 63,707 **PACS** digitised; • **Pashu Aadhaar** 38.53cr; • **food-processing** allocation ₹4,064 cr; processed-food export share 20.4%	• PM-KISAN, • PMFBY, • NMNF, • Soil Health Card, • e-NAM, • Digital Agriculture Mission, AHIDF, • AIF, • PMMSY, • NPSS, • BharatVistaar, • Krishi Sakhis (70,000+), • PLI (food processing)	

43.11. Affordable and accessible Healthcare (GS-II)	• PM-JAY: ₹5L/family; 45.5cr cards; all 70+ covered · • 1.86L Ayushman Arogya Mandirs (540cr+ footfalls) · • institutional births 90.6% (NFHS-6); • MMR 87 per 1,00,000 (2022-24) • ABHA 96.43cr; 110cr+ records; • e-Sanjeevani 49cr+ consultations · • medical colleges 387 → 818; • MBBS seats 1,28,976; • 23 AIIMS· • Jan Aushadhi 18,646+ Kendras (50–80% cheaper)· • 942 AYUSH institutions· • new TB cases −21% decreased; • out of WHO's "High Burden to High Impact" malaria group	• Ayushman Bharat PM-JAY, AAMs, • NHM, • PMSMA, • PMMVY, • Mission Indradhanush, PMBJP, • ABDM, • e-Sanjeevani, • Free Diagnostics Service Initiative, • Ayush Grid	
43.12. India's Defence strength (GS-III)	• Budget ₹7.85L cr • production ₹1.78L cr (FY26) · • exports ₹686 cr → ₹38,424 cr (56×); 80+ countries; • private sector 45.16% · • 10 Positive Indigenisation Lists (5,521 items) · • Army ~91% self-sufficient in ammunition (159 of 175 variants) · • orders: 97 Tejas Mk-1A, 156 LCH Prachand · • iDEX: 676 startups/MSMEs	• Positive Indigenisation Lists, • iDEX, • ADITI, • TDF, • UP & TN Defence Industrial Corridors, • Defence Testing Portal, • Agni-4/5, • RudraM-II, • INS Surat, • INS Nilgiri	 
43.13. Empowering youth (GS-II/III)	• MY Bharat: 2.22cr registered • PM Internship Scheme: • 1.64L+ opportunities, 31 sectors • unemployment rate 4.2% (2025) • APAAR IDs 35.27cr · • higher-ed enrolment 4.5cr · • Atal Tinkering Labs 10,000+ (1.1cr students) · • startups 2.47L (3rd largest ecosystem) • Tele-MANAS 43.7mn calls	• Amrit Peedhi, • MY Bharat, • NEP 2020, • NCrF, • ABC, • APAAR, • Skill India Digital Hub, • PMKVY, • NAPS, • PM-SETU (ITI upgrade), • Startup India, • Khelo India / TOPS (63,000+ athletes), • Tele-MANAS, • Nasha Mukt Bharat, • VBYLD, • NSS	

43.14. Expanding development horizon (GS-III)	• Gram Panchayat transfers ₹2.36L cr (15th FC) → ₹4.35L cr (16th FC, 2026-31) · • JJM: 15.91cr households; 2.89L villages at 100% · • 12.19cr toilets· • 10.57cr Ujjwala connections • 3.46cr Lakhpati Didis • BharatNet: 2.19L Gram Panchayats • eGramSwaraj: ₹3L cr payments • EMRS: 511 schools, 1.68L students	• JJM, • SBM-G, • PM Ujjwala, • DAY-NRLM, Lakhpati Didi, • PM-JUGA (17 ministries), • PM-JANMAN, • PM-JVM, • PM Vishwakarma, • eGramSwaraj, • SabhaSaar, • EMRS	
43.15. Sashakt Nari, sashakt Bharat (GS-II)	• PMMVY ₹20,571 cr to 5.13cr beneficiaries ; • institutional births 90.6% · • SHG bank credit ₹12.18L cr ; • two-thirds of MUDRA loans to women • women ≈ 46% of elected PRI representatives; • women in IITs/NITs >20%	• BBBP, • PMMVY, • PMSMA, • Samagra Shiksha, • KGBVs, • Vigyan Jyoti, • DAY-NRLM, • Lakhpati Didi, • NaMo Drone Didi, • Mission Shakti (Sambal + Samarthya), • 181 Women Helpline, • PMAY (women's ownership), Nari Shakti Vandan Adhiniyam	