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# VIDHVATH IAS KAS ACADEMY STUDY © ENTRE

## DAILY CURRENT AFFAIRS

FOR UPSC CIVIL SERVICE EXAMINATION

**DATE: 02/08/2025 (SATURDAY)** 



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## **Table of Contents**

I. Election to the Office of the Vice-President of India, 2025 - Key Highlights	2
2. New CDSCO Guidelines for Drug Approval: Reforming India's Regulatory Framework	3
3. New National Agriculture Policy – Key Highlights	4
4. Provisions under National Policy for Farmers and Agricultural Marketing (NPFAM)	5
5. Space Technology in Agriculture – Key Highlights	6
6. Impact of Namo Drone Didi Scheme on Rural Women – Key Summary	8
7. BHASKAR Platform: Enabling Startup Collaboration in India	9
8. Investor Education and Protection Fund Authority (IEPFA) to Launch Integrated Portal	10
9. NIFTEM-K Supports Start-ups under NSIP-4 and Expands Reach	12
10. Strengthening Arbitration and Mediation Infrastructure in India	13
II. A New Approach to Treatment of Liver Cirrhosis	14



#### 1. Election to the Office of the Vice-President of India, 2025 - Key Highlights

#### Constitutional and Legal Framework

- The election is governed by Articles 66, 67, 68 & 324 of the Constitution and the Presidential and Vice-Presidential Elections Act, 1952 and Rules, 1974.
- As per Article 67, the Vice-President holds office for a term of 5 years.
- Article 68(2) mandates election to be held *as soon as possible* in case of vacancy due to death, resignation, or removal.
- The Election Commission of India (ECI) is responsible for conducting the election under **Article** 324.

#### • Electoral Process and Voting System

- Article 66(1): Vice-President is elected by members of both Houses of Parliament using Proportional Representation with Single Transferable Vote (STV) through secret ballot.
- The current **Electoral College** has **782 members** (543 Lok Sabha, 233 elected + 12 nominated Rajya Sabha; 6 seats vacant).



• Value of vote for each MP is **equal to 1**, unlike Presidential elections.

#### Nomination Procedure and Eligibility

- A candidate must file **Form-3 nomination**, subscribed by at least **20 proposers** and **20 seconders**, who must be electors.
- Maximum four nomination papers can be filed.
- A security deposit of ₹15,000 is mandatory.
- Nominations cannot be filed on public holidays and must be submitted to the Returning Officer (Secretary General, Rajya Sabha).

#### Voting Procedure and Secrecy Norms

- Voting takes place in Room No. F-101, Parliament House.
- **Designated pens** are provided; using any other pen invalidates the vote.
- Voting must be done in **voting compartments**, and ballots folded and inserted in the **ballot box** as per strict secrecy norms.
- No whip can be issued by political parties (Sec 18 of the 1952 Act). Any undue influence or bribery (under Sections 170/171 of Bharatiya Nyay Sanhita) may lead to the election being declared void by the Supreme Court.

#### Administrative and Environmental Aspects

- Returning Officer and Assistant Returning Officers are appointed by the ECI.
- Senior Government Officers act as **Observers**.



- Emphasis on **eco-friendly** election materials and elimination of plastic, despite it being an indirect election with no campaigning.
- List of Electoral College is sold @ ₹100 and an **election information booklet** is available @ ₹50.

#### Conclusion and UPSC Relevance

- This election reflects India's parliamentary democracy, the functioning of indirect elections, and constitutional mechanisms for filling high constitutional offices.
- Important for UPSC aspirants to understand **electoral systems**, **roles of constitutional bodies**, and **procedural safeguards** like secrecy of ballot and checks on political influence.
- Topics covered are relevant under **GS Paper 2** (Polity & Constitution) and **Prelims** (Indian Polity).

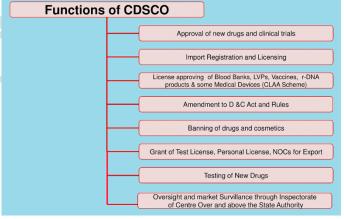
## 2. New CDSCO Guidelines for Drug Approval: Reforming India's Regulatory Framework

#### Context and Objective of the Reform

The Central Drugs Standard Control Organization (CDSCO) has issued formal guidelines standardizing how *Subject Expert Committees (SECs)* should vet new drugs, biologics, and medical devices. The aim is to address long-standing concerns regarding *opacity, delays*, and *inconsistencies* in drug approvals and to build trust in India's regulatory system.

#### • Key Features of the New Guidelines

- SECs must follow **rigorous scientific evaluation** of safety, efficacy, and risk-benefit profile.
- All decisions must be backed by clear, written justifications, especially for clinical trial waivers.
- Guidelines strictly prohibit pricing discussions and mandate a focus on *scientific* and regulatory criteria only.



- Voting must be conducted with a **quorum of 4 members**, including one pharmacologist and seven domain experts.
- Emphasis on transparency, predictability, and speed in decision-making processes.

#### • Expert Selection and Functioning Norms

- Experts must have a minimum of 10 peer-reviewed publications and a 2:1 citation ratio.
- Appointed for **three-year terms**; mandatory confidentiality, impartiality, and regular attendance.
- Non-compliant members can be removed.
- Ensures that SEC decisions are *uniform and science-based*, reducing subjectivity and delays.

#### Background and WHO Recommendations



- WHO's 2023 review of CDSCO and DCGI emphasized need for better *transparency*, *data integrity*, and *global alignment*.
- It recommended stronger controls to detect *substandard or falsified drugs*, a market surveillance program, and restrictions on misleading advertising.
- The new CDSCO guidelines implement these reforms in line with international standards.

#### • Significance for Indian Pharmaceutical Industry

- India is the third-largest pharmaceutical market by volume and supplies over 20% of the world's generic drugs.
- The new system improves **regulatory certainty**, boosts global confidence, and accelerates access to *critical medicines*.
- The move is welcomed by industry stakeholders for enabling faster and predictable approvals.

#### Conclusion and UPSC Relevance

The reform marks a *paradigm shift* in India's drug regulatory landscape by institutionalizing transparency, scientific rigour, and global best practices.

#### **UPSC Relevance**:

- Relevant for **GS Paper 2**: Governance, Regulatory Bodies, Health sector reforms.
- Useful for topics like **Regulatory Reforms**, **Transparency in Governance**, and **Role of WHO in national policy alignment**.
- Important for Prelims: CDSCO, DCGI, SECs, WHO recommendations.

#### 3. New National Agriculture Policy - Key Highlights

#### **Integrated Strategy for Agricultural Growth**

The Ministry of Agriculture has outlined a multi-pronged approach to ensure **comprehensive development** of the agriculture sector through:

- Increasing crop productivity and reducing input costs
- Ensuring remunerative prices to enhance farmers' incomes
- Promoting agricultural diversification and post-harvest value addition infrastructure
- Strengthening climate adaptation strategies to mitigate crop losses and ensure sustainability

#### • Economic Indicators and Performance

- As per the provisional estimates of the Ministry of Statistics and Programme Implementation
  (MoSPI), the Gross Value Added (GVA) growth in the agriculture and allied sectors for 2024–25 is
  4.6% over 2023–24.
- This indicates a **moderate but stable growth** trajectory, underlining the need for **targeted interventions** in productivity, marketing, and climate resilience.





#### • Federal Structure and Policy Coordination

- Agriculture is a State Subject under Seventh Schedule, List II of the Constitution, implying primary responsibility lies with State governments.
- The **central government's role** is to provide overarching policies and schemes to support and incentivize state-level implementation, especially under **cooperative federalism**.
- Diverse **agro-climatic zones** and farming systems across India demand **region-specific interventions** within a national framework.

#### • National and Geopolitical Importance of Self-Sufficiency

- Self-sufficiency in food production is not just an economic imperative but also a geopolitical necessity, ensuring national food security and reduced import dependence.
- It is crucial for managing **global price volatility**, ensuring **agri-trade competitiveness**, and safeguarding **strategic autonomy** in times of international crises.

#### • Current Policy Focus and Alignment with Global Goals

- Existing frameworks of the **Department of Agriculture & Farmers Welfare** aim to tackle modern challenges such as **climate change**, **global trade fluctuations**, **export enhancement**, and **doubling farmers' income**, aligning with SDG targets like **Zero Hunger** and **Climate Action**.
- Emphasis on sustainability, market linkages, and value chains is part of the transition to a more resilient and inclusive agricultural economy.

#### Conclusion and UPSC Relevance

India's updated national agriculture policy reflects an evolving vision to make agriculture **economically** viable, environmentally sustainable, and globally competitive.

#### **UPSC Relevance:**

- Important for GS Paper 3 (Agriculture, Economy, Environment), especially under topics like Agricultural Reforms, Food Security, and Climate-Resilient Agriculture
- Useful for Essay, Mains, and Prelims—focus on schemes, federal dimensions, and agri-policy reforms.
- Keywords: GVA, Remunerative Prices, Agricultural Diversification, Climate Resilience, Federalism in Agriculture.

#### 4. Provisions under National Policy for Farmers and Agricultural Marketing (NPFAM)

#### **Agricultural Marketing and Federal Structure**

Agricultural marketing is a **State Subject** under **List II of the Seventh Schedule** of the Constitution.

Accordingly, different states have set up **Agricultural Produce Market Committees (APMCs)** based on local agricultural and infrastructural needs.

These APMCs regulate the sale, purchase, and pricing of agricultural produce, particularly to protect **small and marginal farmers** from market exploitation.





#### • Minimum Support Price (MSP) Framework

The **Minimum Support Price (MSP)** is fixed annually for **22 mandated crops** including cereals, pulses, oilseeds, and commercial crops.

It is based on the recommendations of the Commission for Agricultural Costs & Prices (CACP) and finalized after consultations with State Governments and Central Ministries.

Since 2018-19, the MSP has been fixed to ensure a minimum 50% return over the All-India weighted average cost of production.

#### • Procurement Performance (2014–2025)

From 2014-15 to 30 June 2025, the Government procured 315.19 Lakh Metric Tonnes (LMT) of crops like oilseeds, pulses, and copra.

This procurement was worth ₹1,69,980.90 crore, indicating a significant commitment to market intervention and price support for farmers.

Procurement acts as a **price stabilizing mechanism** and incentivizes production of important food and commercial crops.

#### • PM-AASHA: Ensuring Remunerative Prices

The **Pradhan Mantri Annadata Aay Sanrakshan Abhiyan (PM-AASHA)** is a major policy initiative launched in 2018 to provide price support for pulses, oilseeds, and copra. It includes two major components:

- Price Support Scheme (PSS): Government directly procures at MSP.
- Price Deficiency Payment Scheme (PDPS): Farmers are compensated for the difference between MSP and market price if they sell in open market.

This scheme ensures income security, especially in cases where market prices fall below MSP.

#### • Definition of Key Terms

- **APMCs**: Statutory market bodies that regulate agricultural trade and ensure transparency and fair prices for farmers.
- MSP: A pre-announced price at which the government commits to procure crops from farmers to safeguard them against price fluctuations.
- CACP: An expert body under the Ministry of Agriculture that recommends MSPs after analyzing cost structures and market trends.

#### Conclusion and UPSC Relevance

The provisions under NPFAM and related schemes reflect India's focus on **agricultural income security**, **price support**, **and federal coordination** in agri-marketing.

#### **UPSC** Relevance:

- Important for **GS Paper 3** (Agriculture, Food Security, Farmer Welfare), and **GS Paper 2** (Federalism, Centre-State relations).
- Useful in Essay and Prelims for topics like MSP system, PM-AASHA, APMC reforms, and agricultural pricing mechanisms.
- Key themes include agriculture policy, welfare economics, and market interventions in India.

#### 5. Space Technology in Agriculture - Key Highlights

#### • Use of Space Technology in Key Agricultural Programs

The Ministry of Agriculture & Farmers' Welfare is extensively using space-based tools and satellite data



for improving agricultural planning, monitoring, and insurance.

Major initiatives include:

- FASAL Project: Forecasting Agricultural output using Space, Agro-meteorology, and Land-based observations
- **Drought Monitoring Geoportal** (in collaboration with ISRO's SAC, Ahmedabad)
- **Pradhan Mantri Fasal Bima Yojana (PMFBY)**: Use of satellite data in crop yield estimation, smart sampling, and dispute resolution.

#### • FASAL Project and Crop Forecasting

The FASAL project enables pre-harvest production forecasting for major crops like rice, wheat, tur, rapeseed & mustard, cotton, sugarcane, soybean, lentil, and gram.

It uses satellite imagery and weather parameters to generate **timely, scientific, and evidence-based crop forecasts** which guide national planning and procurement decisions.

#### Drought Monitoring and Geoportals

The Ministry has launched a **dedicated Geoportal for drought monitoring**, integrating **multiple drought indicators** such as rainfall, soil moisture, crop health via remote sensing, and water storage data.

This improves **early warning systems**, supports **drought declarations** by states, and enables targeted **relief interventions**.

## • Technology Integration in Crop Insurance via PMFBY

Under PMFBY, **space tech** is being used for:

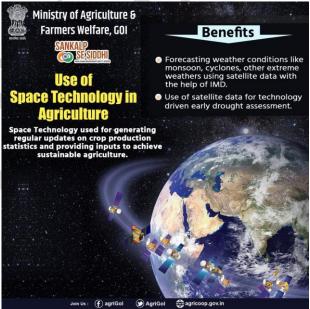
- Smart Sampling for Crop Cutting Experiments (CCEs)
- Dispute resolution in yield and area disputes
- Accurate and fast claim settlements

  These steps help make PMFBY more transparent, objective, and technology-driven.
- Krishi Decision Support System (Krishi-DSS) and YESTECH
  - **Krishi-DSS** is a **cloud-based geo-spatial platform** integrating data on weather, soil, water, and field conditions, aiding **real-time agricultural decision-making**.
  - YESTECH (Yield Estimation System using Technology) uses satellite imagery, UAVs, AI/ML, and simulation models to estimate yield at the Gram Panchayat level, starting with paddy (2023) and soybean (2024).
  - This ensures timely and scientific yield assessments, improving efficiency of insurance payouts.

#### Conclusion and UPSC Relevance

The integration of space, AI, and geo-informatics into agriculture signals a shift towards precision farming, data-driven planning, and climate-resilient agriculture.

UPSC Relevance:





- Crucial for **GS Paper 3** (Agriculture, Science and Technology, and Disaster Management).
- Useful in Essay and Prelims for terms like FASAL, PMFBY, Krishi-DSS, YESTECH, and AI in agriculture.
- Demonstrates synergy between scientific innovation and rural development goals under Digital India and Atmanirbhar Bharat visions.

#### 6. Impact of Namo Drone Didi Scheme on Rural Women - Key Summary

#### **Overview of the Scheme**

The Namo Drone Didi is a Central Sector Scheme approved by the Government with a total outlay of ₹1261 crore for the period 2023–24 to 2025–26.

Its primary aim is to provide drones to Women Self Help Groups (SHGs) to enhance their participation in modern agricultural services.

Key objectives include:

- Promoting advanced drone technology in farming
- Enhancing efficiency, crop yield, and reducing input costs
- Empowering rural women economically by training them as drone service providers

#### • Implementation and Reach

As of 2023–24, **1094 drones** were distributed to SHGs, out of which **500 drones** were funded under the Namo Drone Didi scheme.

The drones are primarily being used for the application of Nano Fertilizers across 22 states. Top beneficiary states include Karnataka (147), Uttar Pradesh (135), Andhra Pradesh (106), and Haryana (102).

- Women Empowerment through Drone Technology According to a study by Agricultural Development and Rural Transformation Centre (ADRTC), Bangalore, the scheme has:
  - Shifted rural women SHG activities from traditional agriculture to tech-enabled services
  - Improved income opportunities and livelihood resilience
  - Expanded skillsets and leadership roles for women in the agricultural sector
  - Diversified SHG economic activities beyond farming to aerial services, agro-spraying, and agriconsulting

#### • Institutional Role and Coordination

- Lead Fertilizer Companies (LFCs) have played a crucial role in procurement, distribution, and technical support for drones.
- LFCs used internal resources for initial drone deployment, reflecting **private-public synergy** in implementation.
- Drone usage promotes **Nano Urea and Nano DAP application**, aligning with sustainable and efficient fertilizer use.





#### • Key Definitions and Legal Provisions

- Central Sector Scheme: Fully funded and implemented by the Union Government.
- **Self Help Group (SHG)**: Informal association of people, especially women, to improve economic conditions through collective action.
- The scheme contributes to Article 39(a) & 39(d) (Directive Principles of State Policy) promoting economic justice and livelihood opportunities for women.

#### Conclusion and UPSC Relevance

The Namo Drone Didi scheme represents a strategic intervention combining gender empowerment with technological adoption in agriculture.

It bridges the gap between rural women and digital agriculture, boosting financial inclusion, skill development, and agrarian transformation.

#### **UPSC Relevance**:

- Relevant for **GS Paper 2** (Governance, Welfare Schemes for Vulnerable Sections), **GS Paper 3** (Agriculture, Technology, Rural Development)
- Useful in **Essay** (Women Empowerment, Rural Transformation)
- Topics like SHGs, drone policy, Nano fertilizers, Central Sector Schemes, and Women in agriculture are probable in Prelims and Mains.

#### 7. BHASKAR Platform: Enabling Startup Collaboration in India

#### **Overview of BHASKAR Platform**

The Bharat Startup Knowledge Access Registry (BHASKAR) is a digital registry designed to facilitate collaboration among startups and stakeholders in India's entrepreneurial ecosystem.

As of 30th June 2025, a total of 1,97,932 entities are registered under the 'startup' category.

It is currently in the **pilot phase**, where several features like **peer-to-peer interaction**, **partnership building**, **stakeholder ID generation**, and **microsite integration** for Startup India schemes are being tested.

#### Objectives and Core Features

- Enable information exchange and networking among startups, incubators, accelerators, and government bodies
- Generate personalized stakeholder IDs to track participation in schemes



- Allow integration of microsites for streamlined scheme implementation
- Foster collaborative engagements and partnerships across the ecosystem
- Serve as a **centralized data and knowledge repository** for the Indian startup landscape

#### Government Support and Outreach Initiatives

The government is undertaking **outreach and awareness campaigns** in collaboration with **State Startup Nodal Agencies** and institutions like **colleges, universities, incubators, and accelerators**. Key actions include:



- Workshops and events to train and inform startups
- Use of social media for awareness propagation
- Tailored support for small and micro-enterprises, enhancing inclusivity

#### State-wise Participation

Top 5 states with maximum startup registrations on BHASKAR:

- Maharashtra (33,845)
- Karnataka (20,004)
- Uttar Pradesh (19,382)
- Delhi (18,972)
- Gujarat (17,370)

This reflects regional hubs of innovation, while also highlighting emerging participation from smaller and Northeastern states.

#### • Definitions and Constitutional Backing

- Startup: As per DPIIT, an entity less than 10 years old with turnover < ₹100 crore and working on innovation or technology.
- Central Sector Schemes: Fully funded and implemented by the Central Government.
- Article 19(1)(g) of the Constitution ensures the right to practice any profession or to carry on any occupation, trade or business, supporting entrepreneurial rights.
- Promotion of innovation also aligns with **Directive Principles (Article 38, 39)** ensuring inclusive development and equal opportunity.

#### Conclusion and UPSC Relevance

The **BHASKAR platform** is a significant digital infrastructure initiative to boost India's startup ecosystem through **data-driven governance**, **collaboration**, and **inclusive innovation**. It supports ease of doing business, fosters **public-private-academic linkages**, and democratizes entrepreneurial access across regions.

#### **UPSC** Relevance:

- Relevant for **GS Paper 2** (Governance, e-Governance, Government Policies)
- Relevant for **GS Paper 3** (Economy Startup Ecosystem, Innovation, MSME Support)
- Useful in Essay on themes like Digital India, Innovation, and Federal Cooperation
- Important for **Prelims** under schemes related to **Startup India**, **Digital Governance**, and related statistics.

## 8. Investor Education and Protection Fund Authority (IEPFA) to Launch Integrated Portal

#### **Introduction to IEPFA and Its Role**

The Investor Education and Protection Fund Authority (IEPFA), functioning under the Ministry of Corporate Affairs, is responsible for promoting investor awareness and enabling the return of unclaimed dividends, shares, debentures, etc.



IEPFA also plays a key role in **financial literacy** through initiatives like **Niveshak Didi**, **Niveshak Panchayat**, and **Niveshak Shivir**.

- Launch of Integrated Portal for Claims and Grievances IEPFA is in the final testing phase of an Integrated Digital Portal that aims to simplify:
  - Claim settlement processes
  - Investor grievance redressal
    The portal will integrate with Depositories and Public
    Financial Management System (PFMS) for seamless
    data exchange and faster service delivery.



#### • Company Compliance and Data Accuracy Measures

IEPFA has issued public notices under Rule 1(A) on its official website, urging companies to:

- Upload IEPF-1/7 SRNs with the prescribed Excel template
- Ensure accurate and complete data submission for smooth claim processing Non-compliance could result in delayed claim redressal and system inefficiencies.

#### • Simplification of Low-Value Claims and Support Services

IEPFA is reviewing documentation norms to ease low-value claim processes through:

- Simplified claim requirements
- Faster claim settlement mechanisms
  In addition, an Integrated Call Center will be established to enhance stakeholder support and offer real-time grievance resolution.

#### • Definition and Legal Backing

- IEPF: A fund established under Section 125 of the Companies Act, 2013, for the promotion of investor awareness and return of unclaimed assets.
- Rule 1(A) under the IEPF Authority Rules governs the timely disclosure and submission of unclaimed financial assets by companies.
- Article 38 of the Constitution (Directive Principles) supports the promotion of the welfare of people, including financial inclusion and protection.
- IEPFA also contributes to SDG 8 (Decent Work and Economic Growth) and SDG 16 (Peace, Justice, and Strong Institutions).

#### Conclusion and UPSC Relevance

The IEPFA's integrated portal is a significant step toward building an inclusive, transparent, and investor-friendly financial system. It embodies the principles of e-governance, ease of doing business, and financial empowerment.

#### **UPSC Relevance:**

- **GS Paper 2**: Governance, Transparency, e-Governance
- **GS Paper 3**: Economic Development, Financial Inclusion
- Useful for Essay on topics like Digital Governance, Financial Literacy, and Investor Protection



• Important for Prelims under Ministry of Corporate Affairs, IEPF provisions, and key digital initiatives

#### 9. NIFTEM-K Supports Start-ups under NSIP-4 and Expands Reach

#### **Support to Start-ups under NSIP-4 (NIFTEM Start-up Incubation Programme)**

Under the 4th phase of NSIP, NIFTEM-Kundli (National Institute of Food Technology Entrepreneurship and Management, Haryana) provided financial and mentoring support to 8 food processing start-ups across 8 states, with total assistance exceeding ₹85 lakh.

• Tamil Nadu received the highest financial support (₹13 lakh), followed by Odisha (₹12 lakh), and other states (₹10 lakh each) including Gujarat, Rajasthan, UP, Maharashtra, Haryana, and Karnataka.

#### Start-up Promotion in Food Processing Sector

The initiative supports innovation and entrepreneurship in **agri-food technology**, aiming to strengthen India's **food value chain**, promote **self-employment**, and align with **Atmanirbhar Bharat** and **Make in India** missions.

Start-ups are supported through **financial grants**, **technical mentoring**, and **infrastructure** offered by NIFTEM.

#### • Announcement of New NIFTEM Campus in Bihar

In the Union Budget 2025–26, the establishment of a new NIFTEM in Bihar was announced, expanding access to advanced education and research in food processing for Eastern India.

However, no current proposal exists to open additional regional campuses in other states.

#### Admission Statistics for Academic Year 2024–25

NIFTEM-K admitted a total of **296 students** across **B.Tech**, **M.Tech**, **MBA**, and **Ph.D. programmes** from various states and UTs.

• Uttar Pradesh (52), Bihar (36), Haryana (35), and Tamil Nadu (28) had the highest student enrollments, indicating strong regional interest in food technology education.

#### • Definition and Legal Provisions

- **NIFTEM** is a Deemed University under the Ministry of Food Processing Industries (MoFPI), Government of India.
- It was set up to **foster innovation**, **incubate start-ups**, and **skill the workforce** in the food processing sector.
- Supports SDG 9 (Industry, Innovation and Infrastructure) and SDG 2 (Zero Hunger) through food processing advancements.
- Linked to Article 43 of the Constitution (Directive Principles) for promoting cottage industries and employment through local resources.

#### Conclusion and UPSC Relevance

NIFTEM-K's support to start-ups and the proposed Bihar campus reflect the government's commitment to **food security**, **employment generation**, and **rural entrepreneurship**. It strengthens the food processing ecosystem and supports inclusive regional development.

**UPSC** Relevance:



- **GS Paper 2**: Government schemes and institutions for development
- **GS Paper 3**: Economy (Food processing industry, Start-up ecosystem, Innovation)
- Useful for Essay on themes like Rural Transformation through Innovation, Start-up India, and Agriculture-Industry linkages
- Important for **Prelims**: MoFPI schemes, NSIP, NIFTEM locations and mandates.

#### 10. Strengthening Arbitration and Mediation Infrastructure in India

#### **Establishment of India International Arbitration Centre (IIAC)**

To strengthen dispute resolution mechanisms, the India International Arbitration Centre Act, 2019 was enacted, leading to the establishment of the India International Arbitration Centre (IIAC) in New Delhi.

- The Centre is declared an **institution of national importance** and functions as an **independent**, **autonomous** body.
- It aims to enhance institutional arbitration standards, offer an efficient platform for commercial dispute resolution, and promote India as a global hub for arbitration.

#### • Promotion of Mediation through Mediation Act, 2023

The **Mediation Act**, **2023** was introduced to promote **institutional mediation** and peaceful dispute settlement.

- Section 31 of the Act provides for the creation of the Mediation Council of India (MCI) to regulate, promote, and accredit mediation service providers and professionals.
- It supports community-level conflict resolution, especially relevant for civil, family, and commercial matters.

#### • Key National Conferences to Promote ADR Mechanisms

- A National Mediation Conference was held on 3rd May 2025 at Bharat Mandapam, New Delhi, to raise awareness and institutionalise mediation.
- A Conference on Institutional Arbitration was held on 14th June 2025 to promote institutional arbitration, particularly in Tier II and III cities, with the objective of decentralising access to justice.

## • Definition and Importance of Alternative Dispute Resolution (ADR)

- ADR includes non-judicial mechanisms like arbitration, mediation, conciliation, etc., that provide time-efficient, cost-effective, and amicable solutions to disputes.
- ADR reduces pendency in courts and enhances access to justice.
- Arbitration is legally binding, while mediation is consensual and flexible.

#### Legal and Constitutional Backing

• Article 39A of the Constitution (Directive Principles) promotes equal justice and free legal aid.



- The **Arbitration and Conciliation Act**, **1996** already provides a legal foundation for arbitration in India.
- The new laws seek to **institutionalise** and **standardise** ADR mechanisms, especially in commercial contexts.

#### Conclusion and UPSC Relevance

The strengthening of arbitration and mediation infrastructure reflects India's commitment to **judicial reforms**, **ease of doing business**, and **access to speedy justice**. Establishing IIAC and MCI marks a transformative step towards building world-class ADR mechanisms, reducing case backlogs, and enhancing investor confidence.

#### **UPSC** Relevance:

- **GS Paper 2**: Governance, judiciary reforms, dispute resolution mechanisms
- **GS Paper 3**: Economic development, investment climate, EODB
- Essay: Justice delivery in India, Institutional reforms
- Important for **Prelims**: India International Arbitration Centre Act, 2019; Mediation Act, 2023; ADR tools and their features.

#### 11. A New Approach to Treatment of Liver Cirrhosis

Breakthrough in Cirrhosis Treatment via Nanocarrier-based VEGF-C Delivery
A team of Indian scientists from ILBS New Delhi and NIPER Guwahati have developed VEGF-C
(Vascular Endothelial Growth Factor-C) based nanocarriers to restore lymphatic drainage and reduce complications in advanced liver cirrhosis, especially ascites (fluid accumulation).

#### • Understanding Cirrhosis and Lymphatic Dysfunction

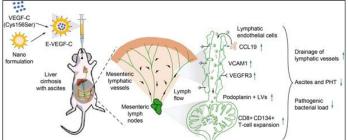
- Liver cirrhosis is the end stage of chronic liver disease, marked by fibrosis and vascular distortion.
- Lymphatic vessels, which drain interstitial fluid and immune cells, become **dilated and dysfunctional** in cirrhosis.
- Due to increased **portal pressure**, **lymph production increases 30-fold**, but its drainage fails, leading to **ascites** and inflammation.

## • Role of VEGF-C and VEGFR-3 in Lymphangiogenesis

- VEGF-C is a pro-lymphangiogenic protein that binds to VEGFR-3 receptors, stimulating the growth of new lymphatic vessels.
- It can potentially **repair fragmented lymphatic networks** and restore drainage and immune functions in gut lymphatics.

#### • Innovation in Drug Delivery: Nanocarrier Encapsulation

 To overcome the challenges of VEGF-C's hydrophilicity, short half-life, and systemic side effects, NIPER scientists developed reverse micelle-based nanocarriers that target VEGFR-3 homodimers.





• The **oral delivery** ensures uptake in the gut lymphatics, making it ideal for treating **mesenteric** lymphatic dysfunction.

#### Animal Trial Results and Key Outcomes

- ILBS team's animal trials showed that VEGF-C nanocarriers:
  - o Increased mesenteric lymph drainage
  - Reduced ascites and portal pressure
  - Improved cytotoxic T-cell immunity in gut lymph nodes
  - o Lowered systemic and local bacterial load, thereby reducing inflammation

#### • Legal, Institutional, and Scientific Significance

- Research was funded under DST's Nano Mission.
- Journal Publication: Findings published in JHEP Reports (Hepatology journal).
- Demonstrates successful **integration of nanotechnology and biomedical science** to tackle a previously untreatable condition.

#### **Definition (for UPSC):**

- **Cirrhosis**: Irreversible scarring of the liver often caused by chronic liver disease, leading to compromised liver and vascular function.
- **Lymphangiogenesis**: Formation of new lymphatic vessels from pre-existing vessels, crucial for immune regulation and fluid balance.
- Nanocarriers: Nano-sized vehicles designed to deliver drugs to targeted tissues in a controlled and efficient manner.

#### **Conclusion and UPSC Relevance**

This innovation marks a paradigm shift in liver disease treatment, offering a non-invasive and targeted therapy for decompensated cirrhosis using VEGF-C nanocarriers. It is a landmark example of India's growing strength in translational medical research and nanomedicine.

#### **UPSC Relevance:**

- GS Paper 2: Issues related to health sector and government R&D policies
- **GS Paper 3**: Science & Technology applications of nanotechnology in health
- GS Paper 4 (Case Study relevance): Scientific innovation improving public health outcomes
- Useful in Essay: "Science and human welfare", "Innovation for Inclusive Health"
- Prelims: VEGF-C, ILBS, NIPER, Nano Mission (DST), lymphangiogenesis, cirrhosis