

PRAGNYA BHARATHI: Detailed News Analysis (DNA)

**Topic : India's Digital Economy Ranked 28th
in User Spending: ICRIER Report**

Relevance : GS Paper 3 Economy

Source : Indian Express

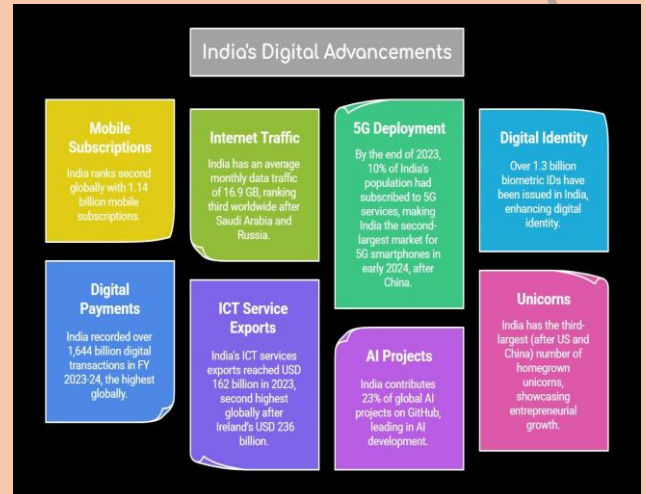
Context :



A recent report by the **Indian Council for Research on International Economic Relations (ICRIER)**'s **Prosus Centre for Internet and Digital Economy (CIDE)** has highlighted the disparity between India's overall digital economy and its actual user spending. While India ranks as the **third-largest economy globally**, its **digital "user" economy is ranked only 28th**. This finding underscores a gap between the country's high-level digitalization and the relatively modest digital adoption by individual users.

Key Takeaways from the Report

The Digital Economy vs. User Economy Disparity



- India has made **significant advancements in digitalization** at the macro level. However, **individual user spending on digital services remains relatively low**.
- Despite comparable **internet penetration rates** with other nations, Indian consumers' spending on digital services is lower than what would be expected for a country of its economic size.
- This suggests that while India has **the infrastructure and technology**, digital adoption and monetization at the consumer level are still developing.

Growth Rate of India's Digital Economy

- India's digital economy is **expanding at twice the rate of its overall economy**.

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- The digital sector is projected to account for **one-fifth (20%) of India's total economy by 2029**.
- This growth aligns with findings from another **ICRIER report released in January 2025**, in collaboration with the Ministry of Electronics and Information Technology.
- 4. **Potential for growth:** Future opportunities in the digital economy.
- 5. **Sustainability:** Green energy initiatives in digitalization.

India's Global Rankings in the CHIPS Model:

- **Third-largest overall economy.**
- **28th in digital user spending.**
- **8th in combined digital and economic ranking.**

The "CHIPS" Framework



The report evaluates India's digital economy using a "CHIPS" framework, which measures:

1. **Connectivity:** Access quality and internet penetration.
2. **Harnessing of technology:** Efficient usage of existing digital resources.
3. **Investments:** Financial backing in digital infrastructure, AI, and fintech.

Strengths in "Digital Harnessing"

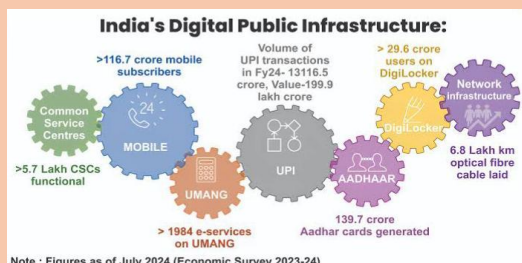
- **India excels in utilizing its existing digital infrastructure.**
- The country ranks high in **ICT (Information and Communications Technology) services exports**.
- India has the **third-largest market capitalization in the IT sector**, trailing only behind the **U.S. and China**.
- **Southern and Western Indian states** are more advanced in digital adoption than **Northern and Eastern states**.

Despite its strengths, India has several areas for improvement:

- **Consumer adoption of IoT (Internet of Things) and the Metaverse** remains well below the **G32 median**.
- **AI (Artificial Intelligence) infrastructure is underdeveloped**, and **AI research ranks slightly below the G32 median**.

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- Investment in decentralized finance (DeFi) and fintech is strong, but wider AI and



digital adoption are lacking.

Future Outlook and Investment Potential

- India has the potential for **higher investment in digital penetration** to increase user spending.
- The **fintech sector, startup ecosystem, and unicorn valuations** show strong **innovation potential**.
- Focus areas for improvement include **expanding digital adoption, AI infrastructure, and consumer engagement with advanced digital services**.

Prelims Practice Question

Consider the following statements regarding India's digital economy, as per the ICRIER report:

- India ranks **third** globally in terms of overall digital economy size.
- India's digital economy is growing at **twice the rate** of its overall economy and

is expected to contribute **one-fifth** of GDP by 2029.

- The **Northern and Eastern** states of India are more advanced in digital adoption than the **Southern and Western** states.
- India ranks **above the median** among G32 countries in AI infrastructure and adoption of IoT (Internet of Things).

Which of the statements given above is/are correct?

- (A) 1 and 2 only
 (B) 1, 2, and 3 only
 (C) 2 and 4 only
 (D) 1, 2, and 4 only

Answer:

Correct Option: (A) 1 and 2 only

Explanation:

- Statement 1 is correct:** India ranks **third** globally in terms of its overall economy and digital economy size.
- Statement 2 is correct:** India's digital economy is **growing at twice the rate** of its overall economy and is projected to contribute **one-fifth (20%) of GDP by 2029**.
- Statement 3 is incorrect:** **Southern and Western states** are more advanced in digital adoption, not Northern and Eastern states.

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- **Statement 4 is incorrect: India lags behind the median score for G32 countries** in AI infrastructure and IoT adoption.

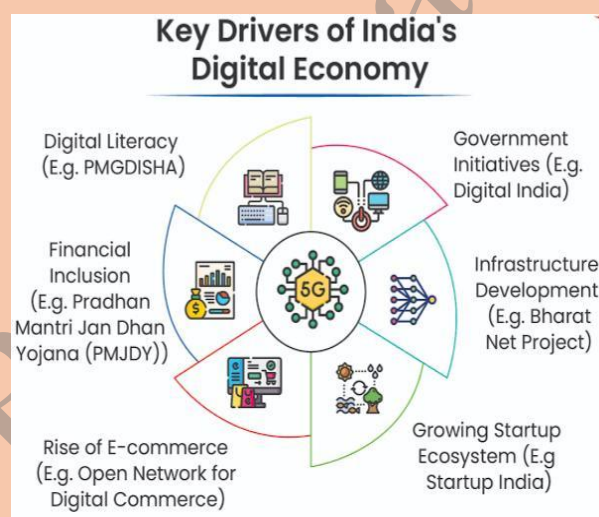
Thus, the correct answer is **(A) 1 and 2 only**.

Mains Model Question

"Despite being the third-largest economy globally, India's digital user economy ranks much lower. Discuss the reasons behind this disparity and suggest measures to bridge the gap."

India's digital economy has witnessed rapid growth, expanding at twice the rate of its overall economy, with projections indicating that it will constitute one-fifth of the GDP by 2029.

However, despite this impressive expansion, India ranks only 28th in the world in terms of digital user spending. This disparity highlights a critical gap between macro-level digital growth and individual consumer adoption.



One of the primary reasons for this gap is the **unequal digital penetration across regions**. Southern and Western states are far more advanced in digital adoption than the Northern and Eastern states, leading to an uneven distribution of digital benefits. Additionally, while **internet connectivity is widespread, affordability and access to high-quality digital infrastructure remain issues** for a significant portion of the population. Many Indians, particularly in rural areas, have access to the internet but lack the financial capacity or digital literacy to leverage it for productive economic activities.

India's digital economy is also driven largely by **exports of IT services**, rather than domestic digital consumption. The country has a robust fintech and startup ecosystem, but consumer adoption of advanced digital technologies such as AI, IoT, and the Metaverse remains below global standards. Limited AI infrastructure and research further hinder widespread technological integration.

To bridge this gap, India must invest in **improving digital literacy, enhancing AI infrastructure, and making digital services more affordable and accessible**. Policymakers should focus on **expanding internet affordability, promoting digital financial inclusion, and incentivizing consumer adoption of emerging technologies**. By addressing these challenges, India can ensure that its digital economy growth is not just at the macro level but is also inclusive of its vast population.

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Topic : I-STEM Initiative

Relevance : GS Paper 3 Science and Technology

Source : The Hindu

Context :



The **Indian Science, Technology, and Engineering Facilities Map (I-STEM)** is a national digital platform designed to promote collaborative scientific research and optimal utilization of R&D resources. Launched in 2020 by the Office of the Principal Scientific Adviser (PSA) to the Government of India, the initiative is a critical step towards **Atmanirbhar Bharat** in scientific research and development (R&D). It aims to **reduce redundancy in research infrastructure**, promote **collaboration between academia, industries, and startups**, and **boost innovation** by providing seamless access to high-end scientific facilities.

India has a vast network of **publicly funded research institutions, universities, and**

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laboratories with high-tech scientific equipment. However, many of these facilities remain **underutilized** due to lack of coordination and accessibility. The **I-STEM portal serves as a bridge** by mapping all publicly funded research facilities, allowing **researchers, startups, and industries** to locate and use them efficiently.

Objectives of I-STEM

The primary goal of I-STEM is to **streamline research infrastructure and optimize its use**. Some key objectives include:



- Facilitating Easy Access to Research Facilities:** Researchers and innovators can search, locate, and book **scientific equipment and resources** across institutions.
- Encouraging Equipment Sharing and Collaboration:** Prevents **duplication of expensive scientific instruments**, reducing costs and increasing efficiency.
- Supporting Innovation and Technology Development:** Promotes **joint research**

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- projects between institutions and industries.
- Promoting Skill Development and Training:** Offers training programs to researchers, students, and industrial professionals on advanced scientific equipment.
 - Boosting Indigenous Manufacturing:** Encourages **Make in India** by supporting domestic manufacturing of scientific instruments.
 - Enhancing Data Analytics and AI Integration:** Uses **AI and big data analytics** to improve research planning, collaboration, and resource utilization.

National R&D Equipment Database

I-STEM serves as a **single-window database** that lists **scientific instruments and facilities available across Indian research institutions.**

This allows researchers and industries to:

- Search and locate **high-end scientific equipment** across institutions.
- Check **availability, technical specifications, and booking procedures.**
- Optimize **resource-sharing to minimize redundant purchases.**

Booking and Utilization of Research Facilities

Through the **I-STEM portal**, users can:

- Book access to scientific equipment and laboratories** on a shared-use basis.

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- Ensure **maximum utilization of expensive research infrastructure.**
- Track **usage statistics and research outcomes.**



Technology Transfer and Commercialization

- Facilitates the **transfer of technologies developed in research institutions** to industries and startups.
- Encourages **industry-academia partnerships** for R&D projects.

Skill Development and Training Programs

- Provides **online and offline training** for students, researchers, and industry professionals on operating **sophisticated scientific instruments.**
- Organizes **hands-on workshops, webinars, and certification programs.**

Indigenous R&D and Make in India Initiative

- Promotes the **development of advanced scientific instruments** within India.
- Reduces **dependency on expensive foreign imports.**

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- Encourages Indian companies to **design, develop, and manufacture high-tech equipment**.

AI and Data-Driven Research Planning

- Uses **Artificial Intelligence (AI) and data analytics** to provide insights into **equipment usage, collaboration trends, and research focus areas**.

Optimizing Public Investment in Science & Technology

The Indian government has **invested heavily in research infrastructure** through institutions like **IITs, NITs, CSIR labs, ISRO, DRDO, and ICAR**. However, due to a lack of **coordination and accessibility**, much of this infrastructure remains underutilized. I-STEM ensures that these **publicly funded scientific facilities are fully utilized**, maximizing the return on investment.

Strengthening Industry-Academia Collaboration

I-STEM acts as a **bridge between academic institutions, industries, and startups**, allowing them to collaborate on **scientific and technological advancements**. Industries can access **high-end scientific tools** for research and innovation without the need for massive capital investments.



Supporting MSMEs and Startups

For **startups and Micro, Small, and Medium Enterprises (MSMEs)**, access to high-end R&D infrastructure is often cost-prohibitive. **I-STEM provides affordable access**, allowing them to compete in the **global innovation ecosystem**.

Boosting Innovation and Self-Reliance

By promoting **indigenous research and manufacturing**, I-STEM supports the **Atmanirbhar Bharat** mission. It encourages **domestic production of scientific equipment**, reducing reliance on expensive foreign imports.

Enabling Inclusive and Equitable Research

I-STEM ensures that **research facilities are accessible across India**, benefiting institutions in **tier-2 and tier-3 cities**. It promotes **regional inclusivity, gender diversity, and equitable access to scientific tools**.

PRAGNYA BHARATHI: Detailed News Analysis (DNA)**Prelims Practice Question**

With reference to the I-STEM initiative in India, consider the following statements:

1. It is an initiative launched by the Ministry of Science and Technology to promote indigenous manufacturing of scientific equipment in India.
2. The platform allows researchers and industries to book and access publicly funded R&D facilities.
3. I-STEM supports the Make in India initiative by encouraging the development of scientific instruments within the country.

Which of the statements given above is/are correct?

- (A) 1 and 2 only
 (B) 2 and 3 only
 (C) 1 and 3 only
 (D) 1, 2, and 3

Answer:

Correct Option: (B) 2 and 3 only

Explanation:

- **Statement 1 is incorrect:** I-STEM was launched by the **Office of the Principal Scientific Adviser (PSA) to the Government of India**, not the Ministry of Science and Technology.

- **Statement 2 is correct:** The platform allows **researchers, startups, and industries** to book and access **scientific equipment and publicly funded R&D facilities** across institutions.
- **Statement 3 is correct:** I-STEM aligns with the **Make in India initiative** by promoting the **development and manufacturing of scientific instruments within India**, reducing dependency on foreign imports.

Thus, the correct answer is **(B) 2 and 3 only**.

Mains Model Question

"The I-STEM initiative is a crucial step in optimizing India's scientific infrastructure and fostering innovation. Discuss its significance, challenges, and the way forward."

The **Indian Science, Technology, and Engineering Facilities Map (I-STEM)** is a national digital initiative launched by the **Office of the Principal Scientific Adviser (PSA) to the Government of India** to promote the **efficient utilization of research infrastructure** across the country. It serves as a centralized platform where researchers, industries, and startups can access publicly funded **scientific equipment and facilities** to foster innovation and technological advancements. By enabling the sharing of high-end scientific instruments, I-STEM helps in reducing **redundancy in infrastructure spending**, encouraging collaboration, and enhancing the efficiency of R&D in India.

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The significance of I-STEM lies in its ability to bridge the gap between academia and industry. By providing **affordable access to expensive research tools**, it enables startups and small enterprises to engage in high-quality R&D, thus strengthening India's innovation ecosystem. Additionally, the initiative supports the **Make in India** and **Atmanirbhar Bharat** missions by promoting the **indigenous development of scientific instruments**, reducing reliance on expensive foreign imports. Furthermore, it ensures that **research facilities are accessible beyond metropolitan regions**, fostering inclusivity in scientific advancements.

Despite its potential, I-STEM faces several challenges. **Limited awareness** among researchers and industries results in underutilization of the platform. Many institutions **lack the digital integration** needed for seamless coordination, and **funding constraints** often hinder the maintenance and upgradation of existing infrastructure. Addressing these issues requires **wider outreach, financial support, and AI-driven resource planning** to enhance accessibility and efficiency.

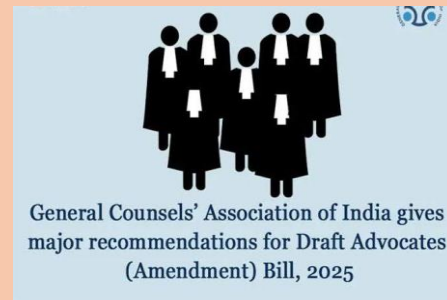
By expanding its reach and strengthening coordination between research institutions and industries, I-STEM has the potential to **revolutionize India's research landscape** and position the country as a global leader in scientific innovation.

Topic : Advocates (Amendment) Bill, 2025

Relevance : GS Paper 2 Polity and Governance

Source : Indian Express

Context :



The **Advocates (Amendment) Bill, 2025** sought to amend the **Advocates Act, 1961**, aiming to modernize legal practice and align it with global standards. However, it faced intense opposition from the **Bar Council of India (BCI)** and lawyers across the country, leading to its withdrawal on **February 22, 2025**. The government stated that a revised version, incorporating public feedback, would be introduced later.

Key Objectives of the Bill

- **Regulation of Strikes and Boycotts** – Introduced **Section 35-A**, banning lawyers and bar associations from striking or boycotting court proceedings, except in cases where it does not hinder justice and relates to working conditions or administrative matters.
- **Increased Executive Control Over the BCI** – Allowed the **Central Government to nominate up to three members** to the **Bar Council of India (BCI)** and issue

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binding directions regarding its functioning.

- **Expansion of BCI's Disciplinary Authority** – Granted the **BCI direct power to hear complaints, suspend lawyers, and dissolve State Bar Councils** if deemed ineffective.
- **Recognition of Corporate Lawyers and Foreign Law Firms** – Expanded the definition of “**legal practitioner**” to include corporate lawyers and in-house counsel while **empowering the Centre to regulate foreign law firms' entry into India**.



that this would **compromise the autonomy of an independent regulatory body**. Since the government is the **largest litigant in India**, lawyers feared that its influence over **advocate regulations and disciplinary actions** could lead to favoritism and erosion of judicial independence.

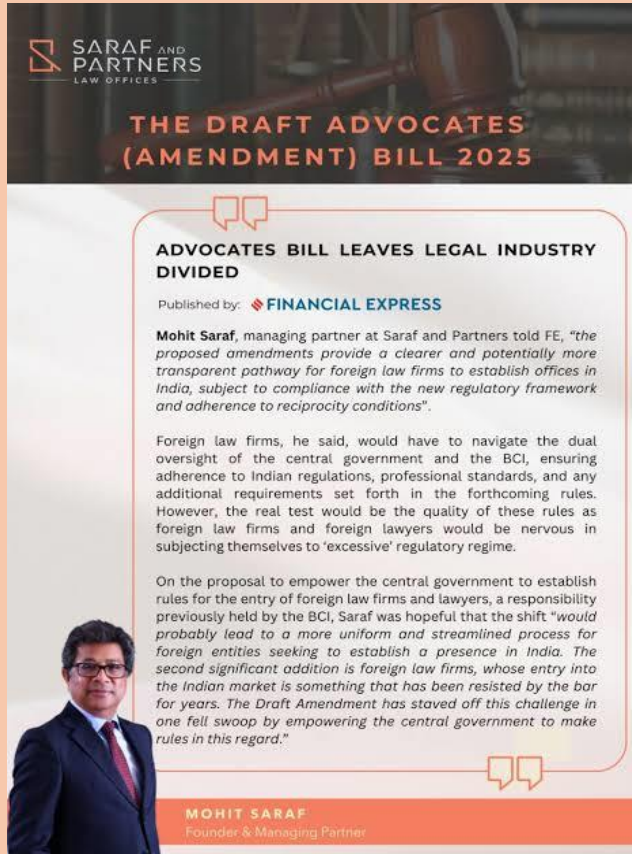
- **Undermining State Bar Councils** – The Bill expanded the **BCI's disciplinary powers**, allowing it to **override State Bar Councils**, hear misconduct complaints directly, and even dissolve them if found ineffective. Critics argued that this **centralization of power violated the federal structure of the Advocates Act, 1961**, reducing State Bar Councils to mere administrative bodies.
- **Risk of Politicization** – Granting the **government control over disciplinary matters and advocate registration** raised concerns that **political motives could influence decisions** about who can practice law and under what conditions.

Threat to Judicial Independence and Autonomy of the Bar

- **Government Influence Over the BCI** – The legal fraternity opposed the **Centre's role in nominating members to the BCI** and issuing **binding directions**, arguing

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Ban on Strikes and Restrictions on Protest Rights



- **Historical Importance of Lawyers' Protests** – Strikes have been used as a powerful tool for lawyers to oppose government overreach and safeguard constitutional values. The legal community cited past instances like the boycott of British courts during colonial rule against the Rowlatt Act, 1919. A blanket ban on strikes was seen as an attack on lawyers' right to protest against judicial or governmental excesses.

- **Impact on Judicial Accountability** – Lawyers argued that without the ability to protest, they would have no means to oppose unjust laws, judicial corruption, or government encroachment into the legal profession. While court boycotts disrupt judicial proceedings, legal bodies maintained that strikes are rare and exercised only in extreme situations.

Concerns Over Foreign Law Firms and Corporate Lawyers

- **Threat to Indian Lawyers' Employment** – Recognizing corporate lawyers and foreign law firms raised fears that Indian lawyers, particularly small practitioners, could face unfair competition from large international firms.
- **Unclear Legal Standing of In-House Counsel** – The Bill blurred the distinction between "advocates" and "legal practitioners," raising concerns about whether in-house counsel would gain the right to argue in courts. This could lead to corporate influence over the legal profession, as multinational companies could directly participate in legal proceedings instead of hiring independent advocates.
- **Lack of Consultation with the BCI** – The BCI already has regulations on foreign lawyers through the 2022 Bar Council of India Rules. The Bill's provision allowing the government to set

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rules for foreign law firms was seen as an attempt to **bypass the BCI's authority**, raising concerns about arbitrary policymaking.

Bill Was Withdrawn due following concerns :**WHY THE GOVERNMENT WITHDREW THE BILL**

- **MASSIVE PROTESTS & STRIKES:**
 - Widespread demonstrations by attorneys and bar associations
- **GOVERNMENT DECISION:**
 - Draft revoked to address significant concerns
 - Plans to revise the bill for balanced modernization and protection of legal independence
- **LOOKING AHEAD:**
 - A forthcoming revision that upholds global best practices while preserving professional autonomy

- **Strong Opposition from the BCI and Lawyers** – The BCI sent a formal letter to Union Law Minister Arjun Ram Meghwal, expressing concerns over the Bill's impact on judicial independence and legal profession autonomy.
- **Nationwide Protests and Bar Association Boycotts** – Lawyers staged protests, particularly against the **ban on strikes and government control over the BCI**. The backlash led to the **government reconsidering the Bill**.
- **Assurance of Public Consultation** – The government announced that it would **introduce a revised version**, ensuring input from legal stakeholders before finalizing the amendments.

Prelims Practice Question

With reference to the Advocates (Amendment) Bill, 2025, consider the following statements:

1. The Bill proposed a complete ban on strikes and boycotts by lawyers, with no exceptions.
2. It allowed the Central Government to nominate members to the Bar Council of India (BCI).
3. The Bill expanded the definition of "legal practitioner" to include corporate lawyers and foreign law firms.
4. It aimed to decentralize the powers of the BCI and grant more autonomy to State Bar Councils.

Which of the statements given above are correct?

- (a) 1 and 4 only
- (b) 2 and 3 only
- (c) 1, 2, and 3 only
- (d) 1, 2, 3, and 4

Answer: (b) 2 and 3 only

Explanation:

- **Statement 1 is incorrect** – The Bill did propose a ban on strikes and boycotts, but it **allowed exceptions** for protests that do not hinder justice and relate to working conditions or administrative matters.
- **Statement 2 is correct** – The Bill allowed the **Central Government to nominate up to three members** to the

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BCI, which was a major point of contention.

- **Statement 3 is correct** – The Bill expanded the definition of "legal practitioner" to include **corporate lawyers and foreign law firms**, allowing the government to regulate their entry into India.
- **Statement 4 is incorrect** – Instead of decentralizing, the Bill **centralized power** by giving the BCI **greater control over State Bar Councils**, allowing it to dissolve them if deemed ineffective.

Thus, the correct answer is **(b) 2 and 3 only**.

Mains Model Question

The Advocates (Amendment) Bill, 2025, was withdrawn following strong opposition from the legal fraternity. Critically examine the key concerns raised by lawyers and the Bar Council of India (BCI) regarding the Bill. Also, suggest measures to balance legal reforms with judicial independence.

The Advocates (Amendment) Bill, 2025, aimed to modernize the legal profession by aligning it with contemporary global practices. However, it faced intense opposition from the Bar Council of India (BCI) and various legal associations, leading to its withdrawal. The primary concern was the erosion of judicial independence and the autonomy of legal institutions. The provision allowing the central government to nominate members to the BCI and issue binding directions was viewed as an attempt to exert executive

control over the legal profession. Since the government is the largest litigant in India, its influence over lawyer regulations and disciplinary actions could compromise fairness in legal proceedings.

Raising The Bar

As India opens up legal field to foreign lawyers and firms, here's the lowdown on all the changes

WHAT THEY CAN DO

Practise foreign law, diverse international law and international arbitration matters

Set up offices in India
Advise clients on transactional and corporate work

JVs, intellectual property matters, M&As, drafting of contracts among areas opened up

It's only for lawyers from jurisdictions that allow Indian lawyers

WHAT THEY CAN NOT DO

Can't appear before any courts, tribunals

Or any other statutory or regulatory authorities

Can't work on conveyancing of property, title investigation or similar matters

WHY IT MATTERS

Will help attract foreign investment, trading partners

Law firms to benefit from exposure to global best practices

Will provide foreign cos and investors some jurisdictional comfort

Another major point of contention was the proposed ban on strikes and boycotts by lawyers. While intended to prevent disruptions in the judiciary, this was seen as a direct infringement on the right of legal professionals to protest against judicial misconduct, administrative inefficiencies, and government overreach. Historically, lawyers have played a crucial role in defending democratic values, and restricting their ability to dissent was widely criticized.

The bill also sought to centralize power within the BCI by granting it authority to hear complaints against advocates nationwide, bypassing State Bar Councils. Additionally, the provision allowing the BCI to dissolve State Bar

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Councils was seen as an attack on the federal structure of the Advocates Act, 1961. Lawyers argued that such changes would render State Bar Councils powerless, reducing them to mere administrative bodies without real decision-making authority.

Concerns were also raised about the bill's expansion of the definition of "legal practitioner" to include corporate lawyers and foreign law firms. While this move was intended to integrate India's legal sector into the global market, critics feared it would create an uneven playing field. Small and independent lawyers could struggle against well-funded international firms, potentially leading to an over-commercialization of the legal profession. Furthermore, the bill lacked clarity on whether in-house corporate lawyers would gain the right to argue in courts, raising concerns about conflicts of interest and corporate influence over the judiciary.

To balance legal reforms with judicial independence, a more consultative approach is necessary. Any amendments must be formulated with active participation from legal bodies, including the BCI, State Bar Councils, and the judiciary. Instead of an outright ban on strikes, a structured grievance mechanism should be developed to allow lawyers to raise concerns without disrupting judicial proceedings. Additionally, while foreign law firms can contribute to legal sector growth, regulations should ensure that Indian lawyers are not disadvantaged. Preserving the autonomy of legal institutions while implementing necessary

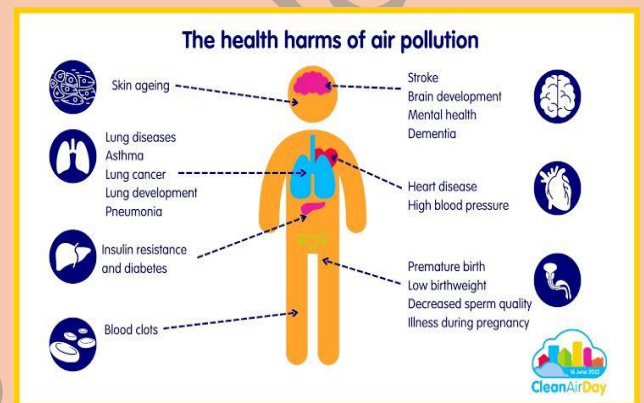
reforms is essential for maintaining the integrity of India's judicial system.

Topic : PM2.5 Pollution in Northern India

Relevance : GS Paper 3 Environment

Source : The Hindu

Context :



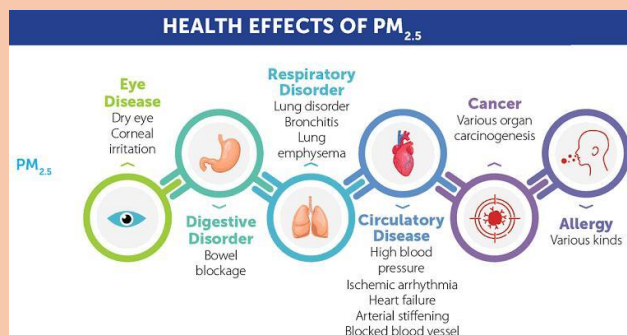
Sources and Impact of PM2.5 in Northern India

- **Composition and Sources**
 - PM2.5 in Delhi is primarily composed of **ammonium chloride and organic aerosols** from vehicular emissions, fossil fuel combustion, and residential heating.
 - Outside Delhi, **ammonium sulfate, ammonium nitrate, and biomass-burning aerosols** dominate.
- **Role of Traffic Emissions**
 - **Vehicular emissions contribute up to 40% of total organic**

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aerosols at urban roadside locations.

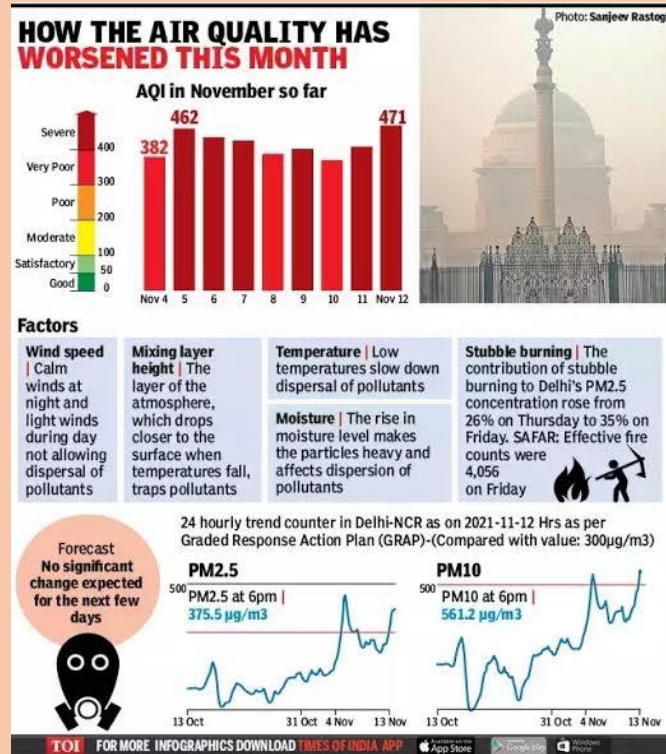
- Hydrocarbon-like organic aerosols from **vehicle tailpipe emissions** remain consistently high across seasons.
- **Seasonal Variation in Pollution**
 - During winters, **cow dung combustion for heating and cooking** significantly increases primary organic aerosol concentrations, up to **10 times higher than in summer**.
 - Cold weather also leads to a **shallower boundary layer**, trapping pollutants and worsening air quality.
- **Toxicity and Health Risks**
 - The **oxidative potential of PM_{2.5} in Indian cities** is among the highest globally, exceeding pollution levels in **China and Europe by up to five times**.
 - High oxidative potential makes PM_{2.5} more **harmful to human health**, increasing risks of **respiratory and cardiovascular diseases**.

Delhi's Population and PM_{2.5} Crisis

- **Population Impact**
 - Delhi has a population of **over 32 million** (as of 2023), making it **one of the most densely populated cities in the world**.
 - The city's high population density, rapid urbanization, and increasing vehicle ownership **worsen air pollution levels**.
- **PM_{2.5} Concentration**
 - Delhi frequently records **PM_{2.5} levels far exceeding safe limits** set by the World Health Organization (WHO) and India's National Ambient Air Quality Standards (NAAQS).
 - Smog episodes during winter are **aggravated by stubble burning in neighboring states, industrial emissions, and lower temperatures**.

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Initiatives to Reduce PM2.5 in Delhi



- **Vehicular Pollution Control**

- Introduction of **Bharat Stage (BS-VI) emission norms** to reduce vehicular emissions.
- Implementation of the **Odd-Even traffic rule** to curb road congestion and pollution levels.
- Promotion of **electric vehicles (EVs)** through incentives under the **Delhi EV Policy**.

- **Stubble Burning and Biomass Control**

- Use of **bio-decomposers** to reduce **crop residue burning** in Punjab and Haryana.
- Encouragement of **alternative farming practices** to minimize reliance on stubble burning.

- **Industrial and Construction Emissions**

- Ban on use of **coal and other polluting fuels** in industrial areas.
- Strict **dust control measures** at construction sites, including **anti-smog guns and covering materials**.

- **Public Transport and Urban Planning**

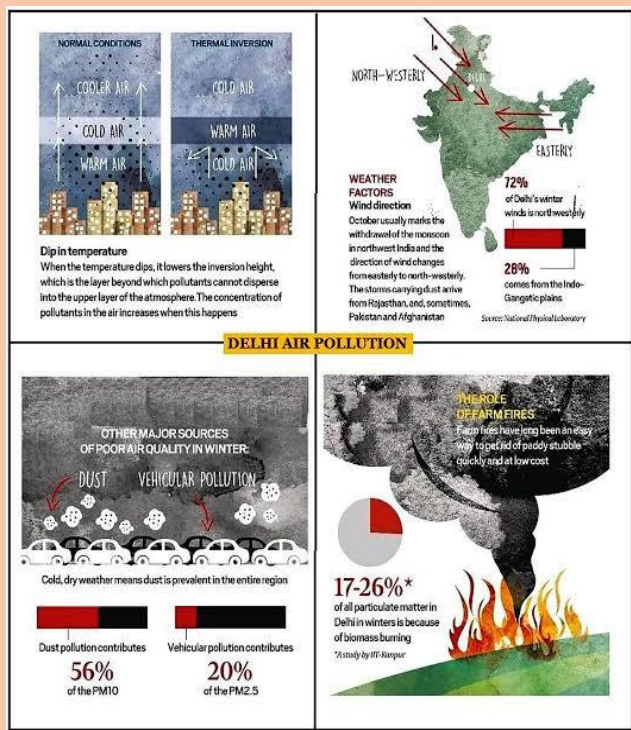
- Expansion of the **Delhi Metro network** to reduce reliance on personal vehicles.
- Introduction of **CNG (Compressed Natural Gas) buses** and restrictions on diesel vehicles.

- **Monitoring and Regulation**

- Use of **real-time air quality monitoring systems** to track PM2.5 levels and enforce pollution control measures.
- Implementation of **Graded Response Action Plan (GRAP)** during severe pollution episodes, including restrictions on industrial activity and vehicle movement.

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What is the Air Quality Index (AQI)?



The **Air Quality Index (AQI)** is a numerical scale that measures air pollution levels in a specific location. It helps the public understand how clean or polluted the air is and its potential health effects. The AQI is calculated based on the concentration of major pollutants such as **PM2.5**, **PM10**, **carbon monoxide (CO)**, **sulfur dioxide (SO₂)**, **nitrogen dioxide (NO₂)**, **ozone (O₃)**, and **ammonia (NH₃)**. The higher the AQI value, the greater the level of air pollution and its associated health risks.

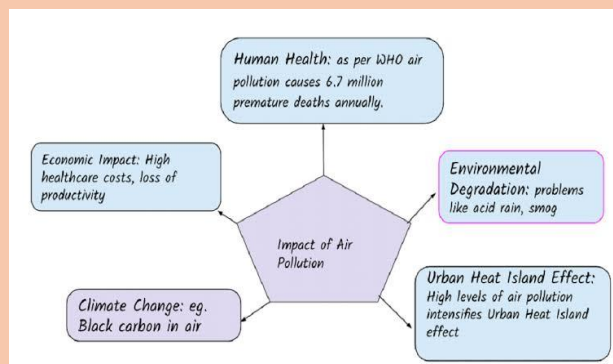
The AQI is divided into six categories based on pollution levels and their health implications.

- **Good (0-50):** Air quality is clean, with little or no impact on health.

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- **Satisfactory (51-100):** Air quality is acceptable, though some pollutants may cause mild discomfort to sensitive individuals.
- **Moderate (101-200):** Prolonged exposure may cause breathing discomfort, particularly for people with asthma, lung disease, or heart conditions.
- **Poor (201-300):** Children, the elderly, and individuals with respiratory illnesses may experience significant discomfort. Prolonged outdoor activity should be avoided.
- **Very Poor (301-400):** Serious health effects are likely, with increased respiratory and cardiovascular complications. People with existing health conditions are at a higher risk.
- **Severe (401-500):** The air is dangerously polluted, affecting even healthy individuals. Prolonged exposure can lead to severe respiratory illnesses, and outdoor activity should be minimized.

Significance of AQI Monitoring



Monitoring AQI is crucial for implementing air pollution control measures. It allows

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policymakers to take immediate action, such as **traffic restrictions, industrial shutdowns, and public health advisories** during periods of high pollution. Additionally, individuals can use AQI data to make informed decisions about outdoor activities, reducing exposure to harmful pollutants.

Prelims Practice Question

Consider the following statements regarding the Air Quality Index (AQI):

1. The AQI measures air pollution levels based on pollutants such as PM_{2.5}, PM₁₀, NO₂, SO₂, CO, O₃, and NH₃.
2. An AQI value of 150 falls under the "Poor" category and can cause severe respiratory issues for healthy individuals.
3. The AQI helps policymakers implement pollution control measures and issue public health advisories.

Which of the statements given above is/are correct?

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

Answer:

- (c) 1 and 3 only**

Explanation:

- **Statement 1 is correct:** The AQI is calculated using the concentration of major air pollutants, including PM_{2.5}, PM₁₀, NO₂, SO₂, CO, O₃, and NH₃.
- **Statement 2 is incorrect:** An AQI value of 150 falls under the "**Moderate**" category, not "**Poor**." It may cause discomfort for sensitive individuals but does not lead to severe respiratory issues for healthy people.
- **Statement 3 is correct:** The AQI is a key tool for **policymakers and public health officials** to monitor air pollution, enforce regulations, and issue advisories to the public.

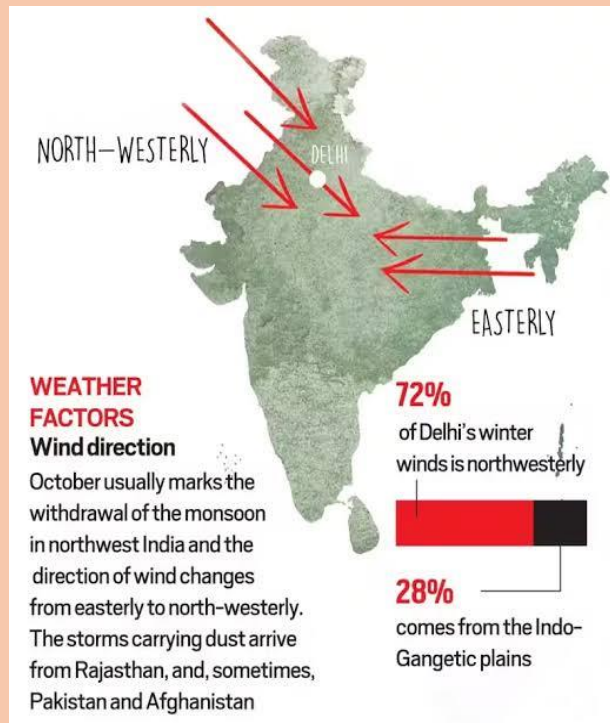
Mains Model Question

Discuss the major sources of air pollution in Delhi and its impact on public health. What initiatives have been taken to mitigate pollution levels, and how effective have they been? Suggest further measures to improve air quality in the region.

Delhi faces severe air pollution due to a combination of local emissions and external factors. Vehicular emissions, industrial activities, construction dust, biomass burning, and crop residue burning in neighboring states contribute significantly to deteriorating air quality. During winter, weather conditions such as temperature inversion trap pollutants close to the surface, worsening the problem. The concentration of PM_{2.5} and PM₁₀, along with high levels of

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nitrogen dioxide, sulfur dioxide, and ozone, poses serious health risks, leading to respiratory illnesses, cardiovascular diseases, and reduced lung function, particularly among children and the elderly.



Several initiatives have been implemented to combat Delhi's air pollution. The **Graded Response Action Plan (GRAP)** introduces emergency measures based on AQI levels, including bans on construction and traffic restrictions. The **Odd-Even scheme** aims to reduce vehicular emissions by alternating days for private vehicles based on license plate numbers. Efforts such as the **introduction of BS-VI fuel standards**, expansion of **CNG-based public transport**, and promotion of **electric vehicles (EVs)** have been steps in the right

direction. The **anti-smog tower** and large-scale afforestation projects have also been introduced, though their effectiveness remains limited.

Despite these measures, pollution levels remain dangerously high. Further steps should include stricter enforcement of construction dust regulations, incentivizing green energy alternatives, strengthening public transport infrastructure, and enhancing regional cooperation to curb stubble burning. Technological interventions such as real-time emissions monitoring and the use of artificial rain during peak pollution periods could also be explored. Addressing Delhi's pollution crisis requires a multi-pronged approach combining regulation, innovation, and public participation.

Topic : UGC's New Draft Regulations on Discrimination in Higher Education Institutions

Relevance : GS Paper 2 Polity and Governance

Source : Indian Express

Context :

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UGC to release norms to end caste bias in colleges, varsities

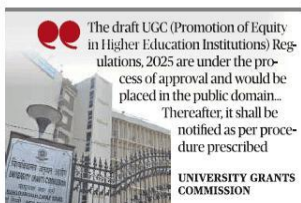
The UGC has received 1,314 complaints on caste discrimination under 2012 Regulations, out of which 1,276 have been resolved; the top court had directed UGC to collate this data on Jan. 3

Krishnadas Rajagopal
NEW DELHI

The University Grants Commission (UGC) on Thursday informed the Supreme Court that new regulations to prevent caste discrimination in higher educational institutions and universities across India have been drafted and will be placed in the public domain for soliciting comments.

The UGC was responding to a Supreme Court order in January on a petition filed six years ago by the mothers of Rohith Vemula and Payal Tadv, represented by advocates Prasanna S. and Disha Wadekar, who had appealed to the Supreme Court to act against the “rampant” caste discrimination in universities. Rohith Vemula, a Ph.D. scholar at Hyderabad Central University, and Payal Tadv, a tribal student of Topiwala National Medical College, died by suicide in January 2016 and May 2019, respectively, after being subject to on-campus caste bias.

The UGC said its expert panel chaired by Shailesh N. Zala, former Vice-Chan-



cellor of Maharaja Krishnakumarshihji Bhavnagar University in Gujarat, had revisited the existing UGC regulations and schemes concerning the promotion of members of the Scheduled Castes, Scheduled Tribes, and Other Backward Classes and Persons with Disabilities in higher educational institutions.

The draft University Grants Commission (Promotion of Equity in Higher Education Institutions) Regulations, 2025 are under the process of approval and would be placed in the public domain... Thereafter, it shall be notified as per procedure prescribed,” the UGC affidavit filed in the apex court said. The court on January 3 directed the UGC to collate

The draft UGC (Promotion of Equity in Higher Education Institutions) Regulations, 2025 are under the process of approval and would be placed in the public domain... Thereafter, it shall be notified as per procedure prescribed

UNIVERSITY GRANTS COMMISSION

the total number of complaints of caste discrimination received under its 2012 Regulations across higher educational institutions.

Six weeks’ time

A Bench of Justice Surya Kant and Ujjal Bhuyan had given the Commission six weeks to collect the data on how many Central, State, deemed and private universities and institutions of higher learning had set up Equal Opportunity Cells under 2012 Regulations; the number of complaints received by them; and action taken on them. The UGC affidavit said that it had received 3,522 responses from higher educational institutions with information the court

had asked for. Based on the information received, the UGC said 3067 Equal Opportunity Cells and 3273 SC/ST Cells were set up. “The number of total caste discrimination complaints received by these Cells so far is 1503, out of which 1426 complaints have been resolved,” the UGC said. It added that 1,314 complaints were received under the 2012 Regulations, out of which 1,276 were resolved.

“The UGC is making all possible efforts to curb the menace of discrimination in higher education institutions and is also trying to effectively curb and control any such incidents by regular monitoring and setting up of helpline so as to ensure no complaint is left unattended or unresolved,” the Commission said. In January, Justice Bhuyan had said it was time the UGC showed “some sympathy” in this sensitive issue. Senior advocate Indra Jaising, appearing for the mothers, said the UGC must come clean on whether the 820-odd universities and other institutions were actually implementing the 2012 Regulations.

discrimination. The draft defines it as bias **only against members of Scheduled Castes (SCs) and Scheduled Tribes (STs)**, excluding other marginalized communities. In contrast, the **2012 regulations** had a broader approach, recognizing discrimination based on **caste, creed, language, religion, ethnicity, gender, and disabilities**.

Furthermore, the **new regulations define discrimination in general terms** as “any unfair, differential, or biased treatment” based on “religion, race, caste, sex, place of birth, or any of them.” However, the specific mention of caste-based discrimination applies solely to SCs and STs, potentially **excluding discrimination faced by other backward communities (OBCs) and other marginalized groups**.

Expansion of Stakeholder Coverage

A key difference from the **2012 regulations** is the expansion of the term “**stakeholders**”. While the previous regulations primarily focused on **students**, the new draft extends discrimination protections to **any stakeholder within the institution**, which could include faculty, administrative staff, and other members of the academic community.

The University Grants Commission (UGC) has released **draft regulations for 2025** aimed at **redefining discrimination** and specifically addressing **caste-based discrimination** in higher education institutions. These regulations, submitted before the Supreme Court, introduce significant changes to previous rules, expanding their scope while also raising concerns regarding their clarity and inclusivity.

Redefining Discrimination and Caste-Based Discrimination

One of the most notable changes in the UGC (Promotion of Equity in Higher Education Institutions) Regulations, 2025 is the **narrowing of the definition of caste-based**

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ISSUES AND DEMANDS		
<ul style="list-style-type: none"> ● Draft regulations severely curtail the federal structure of the country by diminishing the role of states and by increasing central authority ● State governments must be given a greater role in determining the administrative aspects of the university and appointment of VCs ● Attempt to bring persons without proper academic credentials as vice chancellors will augment the commercialisation 	<p>of higher education</p> <ul style="list-style-type: none"> ● UGC must desist from attempts to curtail the universities' academic autonomy by making academic content a mandatory criteria for compliance. ● Inclusion of punitive provisions on non-compliance or violations of the draft Regulations is excessive and undemocratic and has a colour of authoritarianism ● Indiscriminately imposing all proposals in the NEP as mandatory and 	<p>threatening punitive action against the violators is dictatorial</p> <ul style="list-style-type: none"> ● Entrance examination for undergraduate courses is detrimental to the states' efforts to increase enrolment in institutions and should not be insisted upon. ● Withdraw the draft regulations and engage with the universities and state authorities to re-frame them with greater flexibility and freedom

Creation of an 'Equity Committee'

The regulations propose the formation of an **Equity Committee** within institutions under the **Equal Opportunity Centres**. This committee will be responsible for handling discrimination complaints and will include:

- **Two representatives from civil society** with relevant experience.
- **Two student representatives** as special invitees.
- **Four faculty members.**
- **The head of the institution as an ex-officio chief.**

The inclusion of **civil society members and student representatives** marks a shift towards external oversight, potentially enhancing transparency in handling discrimination cases.

Penalties for False Complaints

The draft introduces provisions for **punishment against false complaints**, proposing **finances and disciplinary action** for individuals found guilty of filing baseless complaints. However, it **does not define what constitutes a false complaint**, leading to concerns about its **misuse against genuine grievances**. Critics argue that this could **discourage students from reporting discrimination** due to fear of repercussions.

Prelims Practice Question

With reference to caste-based discrimination in India, consider the following statements:

1. The Constitution of India explicitly prohibits discrimination based on caste under Article 15.
2. The Scheduled Castes and Scheduled Tribes (Prevention of Atrocities) Act, 1989, provides legal protection against caste-based discrimination and violence.
3. The University Grants Commission (UGC) is the primary authority responsible for addressing caste-based discrimination in all educational institutions, including private schools.
4. The Supreme Court of India has ruled that caste-based discrimination is unconstitutional only in public institutions, not in private entities.

Which of the statements given above are correct?

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- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1, 2, and 4 only
- (d) 1, 2, 3, and 4

Answer:

- (a) 1 and 2 only

Explanation:

- **Statement 1 is correct:** Article 15 of the Indian Constitution prohibits discrimination on grounds of **religion, race, caste, sex, or place of birth.**
- **Statement 2 is correct:** The **Scheduled Castes and Scheduled Tribes (Prevention of Atrocities) Act, 1989,** criminalizes **caste-based discrimination, violence, and atrocities** against SCs and STs.
- **Statement 3 is incorrect:** The **UGC primarily regulates discrimination in higher education institutions,** but it does not oversee **all educational institutions, including private schools.** School education falls under different regulatory bodies such as **NCERT, CBSE, and state education boards.**
- **Statement 4 is incorrect:** The **Supreme Court has ruled that caste-based discrimination is unconstitutional in both public and private institutions,** including workplaces, private schools, and businesses, under **Article 17 (Abolition of Untouchability) and Article 15.**

Mains Model Question

Caste-based discrimination remains a significant challenge in India, despite constitutional safeguards and legal frameworks. Discuss the persistence of caste discrimination in educational institutions and society at large. Suggest measures to address this issue effectively.

Caste-based discrimination in India continues to manifest in various forms, particularly in educational institutions and workplaces, despite strong constitutional protections. Article 15 prohibits discrimination based on caste, and Article 17 abolishes untouchability, yet subtle and overt biases persist. In universities, caste discrimination often takes the form of social exclusion, biases in grading, lack of representation in faculty positions, and differential treatment of students from marginalized backgrounds. Cases like those of Rohith Vemula and Payal Tadvil highlight the grave consequences of such discrimination, including mental distress and even suicide. The Supreme Court has acknowledged caste-based discrimination as a serious issue, leading to policy interventions like the University Grants Commission's (UGC) draft regulations on equity in higher education.

In society at large, discrimination is evident in employment, housing, and access to public spaces. Dalits and marginalized communities often face social segregation, economic disparities, and systemic exclusion from opportunities. Even in urban settings, caste

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remains a major factor in social interactions, marriage, and professional mobility. Laws like the Scheduled Castes and Scheduled Tribes (Prevention of Atrocities) Act, 1989, exist to curb caste-based violence, but enforcement remains inconsistent.

To address this issue, institutions must strengthen anti-discrimination policies, ensure better representation of marginalized communities, and sensitize faculty and students. Legal mechanisms should be effectively implemented, and awareness programs should be conducted to change societal attitudes. Social inclusion policies, along with economic empowerment through education and skill development, can help bridge caste-based disparities. Ending caste discrimination requires a combination of legal measures, institutional reforms, and social change driven by awareness and collective responsibility. Only with sustained efforts can India achieve true social equity and uphold the constitutional vision of justice and equality for all.

Landmark cases and judgements

Cases	Judgement	Fallout
State of Madras v. Champakam Dorairajan, 1950	Court ruled that caste-based reservations violate Article 15(1) of the Constitution. It said reservation was an exception to equality and hence violated the right to equality.	Led to the introduction of the First Amendment of the Constitution, which invalidated the judgment.
M. R. Balaji v. State of Mysore, 1963	The Mysore government's 68% reservation in college admissions was ruled as excessive and unreasonable, and was capped at 50%.	The Supreme Court in the Indra Sawhney case imposed the 50% limit on reservations in 1992.
Devadasan v Union of India, 1964	The court ruled that if reservations go beyond 50% they would be invalid.	Reservation was rationalised and was termed a facet of equality.
State of Kerala v NM Thomas	Reaffirmed the idea that reservation is not an exception but is necessary to establish equality. It ruled that Article 16(1)'s conception of equality itself includes remedial action to ensure due representation for hitherto excluded classes.	The ruling is considered to be the first definite judicial endorsement of the philosophy of reservation
Indra Sawhney & Others v. Union of India, 1992	The court upheld separate reservation for OBCs but excluded the "creamy layer". It rejected economic reservation and set a ceiling of 50% for all reservations.	The case was pressed again in 1999 and the Supreme Court reaffirmed the creamy layer exclusion and extended it to SCs and STs.
M. Nagaraj & Others v. Union of India and Others, 2007	Upheld 77th Amendment which extended reservations for promotion in employment for SCs and STs.	The court ruled that promotions should satisfy the triple test of backwardness, representation and the need for efficiency. Backlog vacancies were excluded from the 50% limit.
I. R. Coelho (deceased) by LRS. v. State of Tamil Nadu, 2007	Tamil Nadu advised by Supreme Court to follow 50% reservation limit	Tamil Nadu reservations were put under the 9th Schedule of the constitution, which had already been upheld by the court.
P. A. Inamdar v. State of Maharashtra, 2005	Reservations cannot be enforced on private educational institutions which do not receive government funding.	Led to 93rd Constitution Amendment introduced Art 15(5).
Ashoka Kumar Thakur v. Union of India, 2007	Upheld the 93rd Amendment on reservation for admission to unaided educational institutions	Recommended reviews of backwardness every 10 years.
Ram Singh & Ors v Union of India, 2014	Struck down the inclusion of Jats in the Central list of OBCs	Proposed new ways to determine backwardness
Jaisri Laxmanrao Patil v Union of India, 2021	Maratha reservation struck down as unconstitutional	The 50% ceiling on reservations was reaffirmed
Janhit Abhyan vs Union Of India, 2022	Upheld 103rd Amendment which introduced 10% reservation for Economically Weaker Sections in education and public employment	A new reservation regime created