17th June DSC

Current Affairs 17th June 2025.

An FIR and a High Court's Outrage

Case Background

On May 14, the Madhya Pradesh High Court instructed the State Police to file a First Information Report (FIR) against State Cabinet Minister Vijay Shah.
Accusation: Shah allegedly made provocative comments targeting Colonel Sofiya Qureshi, a serving Army officer.
The FIR was registered under Sections 152, 196(1)(b), and 197(1)(c) of the Bharatiya Nyaya Sanhita (BNS), which pertain to:

- Actions threatening national integrity
- Provocation of hostility among different social or religious communities
  Relevance: Pertains to GS Paper 2 – Judiciary and Governance.

Court's Critique

Despite the FIR being filed on the same day, the High Court reprimanded the police for inadequacies in the FIR's content.
Concern: The FIR lacked detailed descriptions linking Shah's alleged statements to specific offences.
The Court cautioned that a vague FIR risks being invalidated during judicial scrutiny.

Judicial Measures

The Bench:

- Ordered that its entire judgment from May 14 be incorporated into the FIR's content.
- Announced that it would oversee the probe to safeguard the integrity and impartiality of the process.

Essentials of Proper FIR Filing

According to Section 171(1) of the BNS, any report of a cognisable offence must be clearly documented.
Recommended Practice: Clearly spell out all elements of the offence in the FIR to:

- Justify the application of legal provisions
- Help the accused pursue bail or other legal remedies
  Commonly, after an initial inquiry, the complainant's statement is fully replicated in the FIR.

Examples Where FIRs Were Quashed

- *Vinod Dua v. Union of India (2021)*: Supreme Court nullified the FIR, citing lack of a prosecutable offence.

- *Arnab Goswami v. State of Maharashtra (2020)*: FIR dismissed due to insufficient evidence to support charges of abetment to suicide.

Bhajan Lal Guidelines for FIR Dismissal (1992)

An FIR may be invalidated if:

- The allegations, even if accepted as true, don't indicate a criminal offence.
- There is no basis to treat the issue as a cognisable offence under Section 156(1).
- Allegations appear frivolous, illogical, or motivated by malice.

Application in the Current Matter

Since the Court's detailed order is now embedded in the FIR, the legal foundation is fortified. Although the police should have quoted sections of Shah's remarks directly, their absence doesn't render the FIR void.

Author's Perspective

The FIR could have been better composed, yet the police stayed within the limits of legality.
The Court's strong disapproval may be seen as premature.
While judicial oversight of the case is laudable, excessive criticism could erode procedural impartiality.

Takeaway

This case highlights the necessity of:

- Comprehensive FIR documentation
- Balanced judicial commentary
- Procedural justice
- Harmonising free speech with public peace

Flue Gas Desulphurisation (FGD) Units

Introduction

FGDs are devices used in coal-fired thermal power plants (TPPs) to filter sulphur dioxide (SO_2) from exhaust gases.
SO_2 is generated during combustion of sulphur-heavy fuels such as coal.
These units use basic materials like limestone to chemically neutralise SO_2.
Relevance: Pertinent to GS Paper 3 – Environment and Ecology.

Common FGD Technologies

- **Dry Sorbent Injection**: Utilises powdered limestone or similar materials; reacts with SO_2 and is captured via filters.
- **Wet Limestone Scrubbing** *(most widely used)*: Uses limestone slurry to capture SO_2, forming gypsum—a commercially useful by-product.

- **Seawater FGD**: Suited for coastal plants; absorbs SO_2 using seawater which is later treated before being discharged.

Why SO_2 Is Dangerous

- It contributes to climate change as a greenhouse gas.
- Causes respiratory ailments and deteriorates air quality.
- Reacts to form PM2.5 particles, a key pollutant.
  Roughly 15% of India's PM2.5 levels stem from coal use, of which 80% comes from SO_2-derived particles.

Current State of FGD Compliance in India

- 2015: FGDs made mandatory for all 537 coal-based plants.
- Deadlines extended several times (from 2018 to 2027–29).
- As of April 2025, only 39 plants had complied.
- A committee led by PSA Ajay Sood, in April 2025, proposed scrapping the FGD requirement.

Why FGD Rollout Faces Resistance

- **Cost**: ₹1.2 crore per MW → ₹97,000 crore for 97,000 MW expansion.
- **Tariff Impact**: Increase of ₹0.72/kWh, largely due to fixed costs.
  Government is balancing environmental, economic, and energy concerns.

Expert Opinions on Proposed Rollback

- Critics argue removing FGDs jeopardises air quality and public health.
- FGDs are vital to lowering SO_2 and PM2.5 levels.
- Financial impact on tariffs is manageable.

Are Alternatives to FGD Available?

No reliable replacement currently exists for eliminating SO_2 emissions from flue gas.
Experts like Dr. Ganesan stress the urgency of implementing FGDs.

Conclusion

Though FGDs are financially demanding, they are indispensable for environmental protection.
Delays in implementation could significantly worsen air pollution from coal power generation.

Relaxation of SEZ Rules to Boost Semiconductor Manufacturing

Why Semiconductors Matter

Semiconductors are the backbone of modern electronics—from phones to automobiles.
They are integral to AI, automation, and the digital economy.
Global supply disruptions, especially post-COVID, highlighted India's dependence on major

producers like China.
Relevance: GS Paper 3 – Economy.

SEZ Rules: Why the Relaxation?

To encourage domestic production of semiconductors and electronic parts.
Part of the ₹76,000 crore "Semicon India" initiative.

Key Regulatory Easing (June 2024)

- **Rule 5**: Minimum land size lowered from 50 to 10 hectares for semiconductor-focused SEZs.
- **Rule 7**: Removed need for land to be free from legal encumbrances, given India's complex land documentation.
- **Rule 18**: SEZs allowed to sell domestically (with applicable duties); previously, they could only export.

Early Impact

- **Micron**: ₹13,000 crore project in Sanand, Gujarat (37.64 hectares).
- **Aequs Group**: ₹100 crore investment in Dharwad, Karnataka (11.55 hectares).
  Total fresh investment: ₹13,100 crore.

Strategic Importance

- Boosts domestic capabilities in a critical sector.
- Decreases reliance on politically sensitive suppliers.
- Aids in realising the goals of *Make in India* and *Aatmanirbhar Bharat*.

Conclusion

The relaxed rules are strategic steps to support India's rise in electronics manufacturing. Early indicators are encouraging, though long-term success depends on regulatory consistency, infrastructure readiness, and business-friendly reforms.

How Black Boxes Function

What Are Black Boxes?

Despite their name, black boxes are painted orange for visibility during crash recovery.
They typically consist of:

- **Cockpit Voice Recorder (CVR)**: Records conversations, ambient sounds, and alarms.
- **Digital Flight Data Recorder (DFDR)**: Logs flight metrics like altitude, engine stats, and airspeed.
  Modern units often combine both recorders.

Relevance: GS Paper 3 – Technology and Disaster Management

Operational Mechanics

- Black boxes continuously record flight data using durable solid-state memory.
- They are engineered to resist shocks, fires, and water immersion.
- Equipped with underwater beacons that help locate wreckage.
- Usually placed at the aircraft's tail end for greater crash survivability.

Technical Features

- Coated with bright, reflective paint
- Can endure:
    - Heat of up to 1,100°C for 60 minutes
    - Ocean depths of 20,000 feet
    - Impact forces of over 3,400 Gs
- CVRs capture two hours of audio; DFDRs log over 25 hours of flight data

Historical Development

- 1950s: Initial models used metal tape.
- 1953: Commercial debut by General Mills.
- 1954: Invented by David Warren in response to a crash.
- 1960s: Became compulsory equipment.
- 1990s: Transitioned to solid-state tech.

Role in Crash Investigation

Handled by bodies like India's AAIB, which has a specialised lab in Delhi.
Helps recreate events before a crash: pilot actions, technical failures, and external disturbances.
Supports improvements in aircraft design and crew training.

Recent Usage

Instrumental in investigating the Air India Boeing 787-8 crash near Ahmedabad.
Remains a vital component in aviation safety systems.

Cash Plus Model in Rajasthan Boosts Maternal Health

What Is It?

India's first state-led initiative combining:

- Direct cash transfers for expectant and nursing mothers

- Social & Behaviour Change Communication (SBCC) via counselling, digital media, and group sessions
  Builds upon PMMVY by extending support to second-time mothers.
  Relevance: GS Paper 2 – Health, Governance, Social Justice.

Key Outcomes (2021–24)

- 49% rise in early breastfeeding, now at 90%
- Similar 49% improvement in dietary variety
- 54% spent cash benefits on nutritional needs
- 44% more women engaged in counselling
- 80% reported better access to nutritious food

Implementation Timeline

- Launched in 2020 across 5 districts
- Scaled state-wide in 2022 with a ₹210 crore allocation
- Aims to reach 3.5 lakh second-time mothers annually
- Over 3.3 million beneficiaries reached so far

Unique Features

- Covers second-time pregnancies (unlike PMMVY)
- Utilises anganwadi centres for screening and support
- Engages men and youth via digital outreach for cultural shifts

Reported Benefits

- Early anaemia treatment
- Timely vaccinations and safe deliveries
- Healthier newborns (e.g., over 3 kg at birth)

Challenges

- Incomplete maternal mortality data
- Uneven access across tribal and rural zones
- Need for better digital tracking and monitoring tools

Significance

A pioneering model demonstrating how financial incentives coupled with behavioural support can greatly improve maternal and child health.
Holds potential for replication in other states.

AI and Biomanufacturing: Bridging Policy and Innovation

India's Biotech Standing

Already a leader in generic pharmaceuticals and vaccines, India's next target is integrating AI into biomanufacturing.
Modern methods include robotics, AI, and biosensors to refine production.
Relevance: GS Paper 3 – Science & Technology

AI's Role in Biomanufacturing

- **Biocon**: Optimises fermentation and drug screening via AI.
- **Strand Life Sciences**: Applies AI for personalised treatments and genomics.
- **Wipro & TCS**: Use AI for clinical trials and predictive analysis.
  Benefits include:
- Real-time monitoring
- Waste reduction
- Digital replicas to simulate systems
- Accelerated drug development

Policy Support

- **BioE3 Policy (2024)**: Backs AI-biotech hubs and modern manufacturing setups.
- **IndiaAI Mission**: Focuses on responsible AI practices, transparency, and fairness.

Challenges in Law and Regulation

- Drug laws are not equipped to govern AI systems.
- No framework for ensuring reliability in real-world use (especially rural areas).
- Existing laws don't ensure representative data coverage for Indian diversity.

International Benchmarks

- **EU AI Act (2024)**: Risk-based AI categorisation with mandatory audits.
- **US FDA (2025)**: Seven-layer framework for AI validation and adaptive model updates.

Current Legal and Ethical Gaps in India

- The Digital Personal Data Protection Act (2023) lacks biotech-specific coverage.
- Dataset quality and bias controls are not yet standardised.
- IP issues around AI-generated drugs remain unresolved.

Recommendations

- Update laws to classify and regulate AI by use-case and risk.
- Invest in nationwide infrastructure and capacity building.

- Encourage industry-regulator-academic collaboration.
- Transition from generic replication to AI-powered innovation.

17th June 2025: Static MCQS

1. "Sedition has become my religion" was the famous statement given by Gandhiji at the time of

a. **The champaran satyagraha**
b. **Publicly violating salt law at dandi**
c. **Attending the second round table conference in London**
d. **The launch of the quit india movement**

Correct Option: (b)

2. The famous female figurine known as 'Dancing Girl', found at Mohenjo-daro, is made of

a. **Carnelian**
b. **Clay**
c. **Bronze**
d. **Gold**

Correct Option: (c)

3. Who provided legal defence to the people arrested in the aftermath of Chauri Chaura INCIDENT?

a. **R. Das**
b. **Madan Mohan Malaviya and Krishna Kant**
c. **Saifuddin Kitchlew and Khwaja Hasan Nizami**
d. **A. Jinnah**

Correct Option: (b)

4. Subsequent to which one of the following events, Gandhiji, who consistently opposed untouchability and appealed for its eradication from all spheres, decided to include the upliftment of 'Harijans' in his political and social programme?

a. **The poona pact**
b. **The Gandhi-Irwin Agreement (Delhi Pact)**
c. **Arrest of Congress leadership at the time of the quit india movement**
d. **Promulgation of the government of india act, 1935**

Correct Option: (a)

5. Consider the following fruits:

1. **Papaya**
2. **Pineapple**
3. **Guava**

How many of the above were introduced in india by the Portuguese in the sixteenth and seventeenth centuries?

a. **Only one**

b. **Only two**

c. **All the three**

d. **None**

Correct Option: (c)