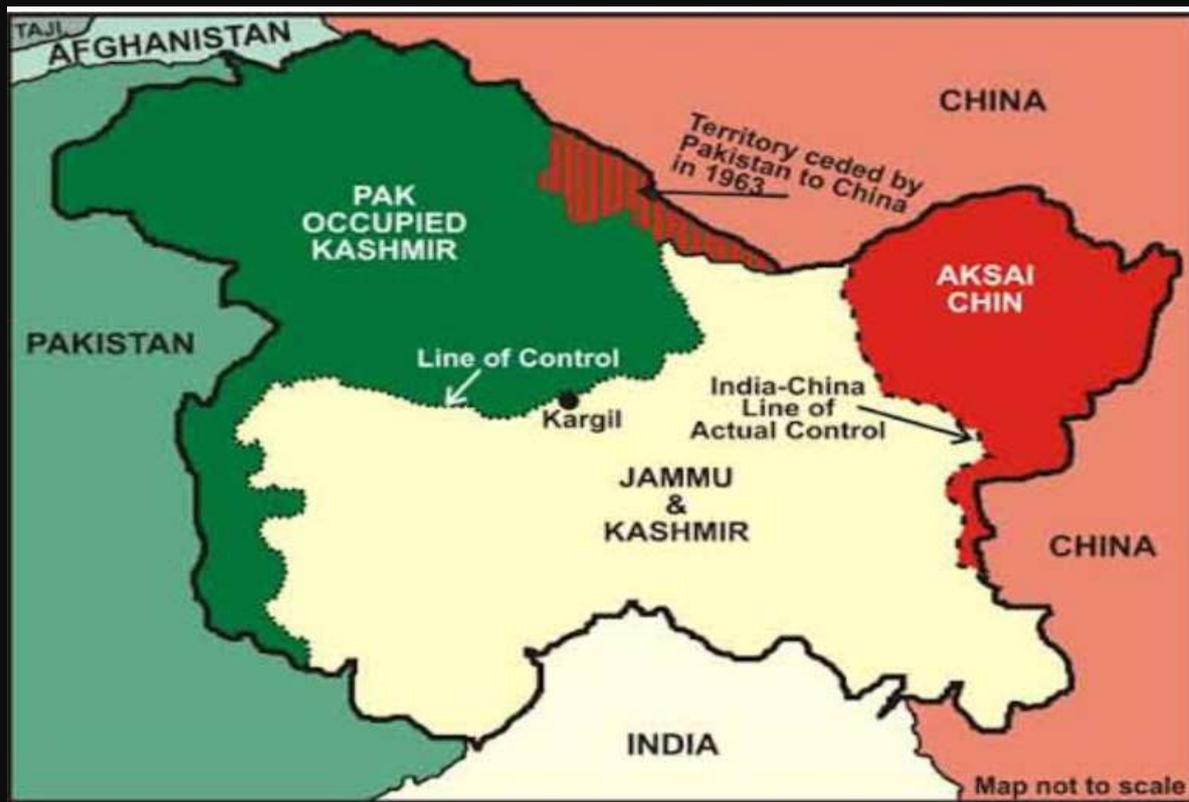


03/05/2024

## TOPICS COVERED

1. India protests Chinese road construction in PoK valley (GS Paper II: IR)
2. Law and order a State subject, says SC on Bengal's suit (GS Paper II: Polity)
3. Removing exotic plants will ensure food for wild animals, finds study (GS Paper III: Environment)
4. The judiciary's shadow over standard essential patents (GS Paper III: Economy, S&T)
5. Tipping point
6. Recognise 'this leave' as a woman's right (GS Paper I: Society)
7. Does PMJAY need a design change? (GS Paper II: Health Sector)
8. Why are Indian spices facing the heat? (GS Paper III: S&T)
9. April PMI signals second-best gain in manufacturing sector in 42 months (GS Paper III: Economy)

India protests Chinese road construction in PoK valley (3 May)



- India has protested against China's actions in the Shaksgam valley of Pakistan-occupied Kashmir.
- The Ministry of External Affairs (MEA) spokesperson, Randhir Jaiswal, addressed the issue during a briefing.
- India considers the Shaksgam valley as part of its territory and rejects the China-Pakistan Boundary Agreement of 1963.
- Recent satellite images indicate Chinese road construction in the lower Shaksgam valley, which has been confirmed by official sources.
- The Shaksgam valley was ceded by Pakistan to China in 1963, a year after the India-China war.
- The Siachen glacier, located near the Shaksgam valley, is Indian territory situated between China and Pakistan.
- India considers control of the Siachen glacier critical, especially after the 2020 standoff between Indian and Chinese troops in eastern Ladakh.
- China's buildup and deployment along the Line of Actual Control pose a threat to Indian positions in areas like Depsang and Daulat Beg Oldie.

## Law and order a State subject, says SC on Bengal's suit (3 May)

- The Supreme Court clarified that law and order is a State subject, responding to West Bengal's complaint about the Central Bureau of Investigation (CBI) claiming the right to investigate offenses committed by Central employees within State jurisdiction.

- Justice B.R. Gavai and Justice Sandeep Mehta, on the two-judge Bench, highlighted examples like dacoity committed by Central employees and offenses by Army personnel to illustrate the jurisdictional issue.
- Senior advocate Kapil Sibal, representing West Bengal, expressed concerns about the CBI's unilateral approach and potential repercussions, suggesting a strategy involving the CBI and Directorate of Enforcement (ED).
- Another Supreme Court Bench is dealing with a similar issue in Tamil Nadu involving an ED officer, Ankit Tiwari, where the Directorate of Vigilance and Anti-Corruption launched a criminal prosecution.
- West Bengal filed an original suit under Article 131 of the Constitution against the Union government, alleging unauthorized CBI investigations within its jurisdiction.
- West Bengal withdrew prior consent for CBI investigations within its territory under Section 6 of the Delhi Police Special Establishment Act.
- Solicitor-General Tushar Mehta, representing the Union government, argued that the State's original suit was not maintainable and should be dismissed, asserting that the CBI is not a 'state' under Article 131 and cannot be made a defendant in the suit.

## Removing exotic plants will ensure food for wild animals, finds study (3 May)

- A study by the Kerala State Forest Protective Staff Organization (KSFPSO) suggests that removing exotic plants from forest areas in Chinnakkal, Munnar, will help ensure food for wild elephants.
- The study involved ground forest teams interacting with local people and panchayat officials to address human-elephant conflict.
- KSFPSO district secretary Santhosh P.G. emphasizes the importance of removing exotic species like *Acacia mearnsii* (black wattle) and eucalyptus from forests to solve the problem.
- Exotic trees dominate many forest areas, leaving no space for other plants to grow and hindering the movement of wild animals, including elephants.
- West Indian Lantana (kongini) is particularly problematic in the Chinnakkal landscape, inhibiting the growth of other species and restricting animal access.
- The area currently hosts 19 wild elephants, including two tuskers and several calves and female elephants, which face confinement due to habitat issues.
- An expert panel, appointed by the High Court, has recommended reopening the elephant corridor from Anayirankal to Old Devikulam in Munnar to facilitate elephant movement and mitigate human-animal conflict.

### Patent Holdup

- **Definition:** Patent holdup is a situation where a patent owner, after an industry standard has been adopted that incorporates their patented technology, tries to extract higher royalties than could have been negotiated before the standard was set. This leverages the standard adopters' investment in the technology and their reduced ability to switch to alternatives.

- **Concern:** Companies implementing the standard might be "held up" and forced to pay excessive royalties because they've already invested significant resources in building products or infrastructure around the now-patented technology.

#### Why Patent Holdup is a Problem

- **Stifles Innovation:** Patent holdup can deter companies from participating in standards development processes, fearing future exorbitant licensing demands.
- **Increased Costs:** Unreasonably high royalties increase costs for manufacturers, which can ultimately trickle down to consumers.
- **Uncertainty:** Uncertainty over future licensing costs can disrupt business planning and investment decisions.

#### Where it's Most Common: Standard-Essential Patents (SEPs)

- **SEPs:** Patents that are essential to implement a particular technology standard.
- **Industries:** Especially prevalent in industries heavily reliant on SEPs, such as telecommunications, electronics, and others.

#### Solutions and Approaches

- **FRAND Commitments:** Standard-setting organizations (SSOs) often require SEP owners to commit to license their patents on Fair, Reasonable, and Non-Discriminatory (FRAND) terms. However, disputes often arise over the definition of "FRAND".
- **Ex-Ante Licensing Negotiations:** Encouraging negotiations on royalty rates before a standard is locked in.
- **Alternative Licensing Models:** Exploring models like patent pools to streamline licensing and reduce potential for holdups.
- **Antitrust Scrutiny:** Antitrust law can be used to challenge excessive royalty demands or other anti-competitive practices by patent holders.

#### The Indian Patent Act and Its Challenges

- **Section 3(d):** This provision in the Indian Patent Act has been hailed for preventing "evergreening" of pharmaceutical patents but has also faced criticism for setting a strict patentability standard.  
pharmaceutical drug
- **Compulsory Licensing:** India has provisions for compulsory licensing (allowing generic production without the patent holder's consent under certain circumstances) to address public health needs. Balancing this with innovation incentives is an ongoing debate.
- **Enforcement:** Challenges persist in enforcement of patent rights, with issues like infringement and counterfeiting.

**Removing exotic plants will ensure food for wild animals, finds study (3 May)**



- A study by the Kerala State Forest Protective Staff Organization (KSFPSO) suggests that removing exotic plants from forest areas in Chinnakkanal, Munnar, will help ensure food for wild elephants.
- The study involved ground forest teams interacting with local people and panchayat officials to address human-elephant conflict.
- KSFPSO district secretary Santhosh P.G. emphasizes the importance of removing exotic species like *Acacia mearnsii* (black wattle) and eucalyptus from forests to solve the problem.
- Exotic trees dominate many forest areas, leaving no space for other plants to grow and hindering the movement of wild animals, including elephants.
- West Indian Lantana (kongini) is particularly problematic in the Chinnakkanal landscape, inhibiting the growth of other species and restricting animal access.
- The area currently hosts 19 wild elephants, including two tuskers and several calves and female elephants, which face confinement due to habitat issues.

An expert panel, appointed by the High Court, has recommended reopening the elephant corridor from Anayirankal to Old Devikulam in Munnar to facilitate elephant movement and mitigate human-animal conflict.

## The judiciary's shadow over standard essential patents (3 May) (GS Paper III: Manufacturing Sector, S&T)

The government must put in place measures to regulate standard essential patents before the judiciary causes further damage to India's manufacturing dreams

### CDMA (Code Division Multiple Access)

- **Technology:** Based on **spread spectrum technology**, where multiple users share the same frequency band by using unique codes to separate their signals.
- **Key Features:**
  - Enhanced call quality and security due to code-based signal separation.
  - Historically associated with networks offered by carriers like Verizon and Sprint (in the US).
- **Status:** While still in use in some legacy networks, CDMA is primarily considered a 2G and 3G technology and is largely being phased out as carriers upgrade to 4G and 5G technologies.

### GSM (Global System for Mobile Communications)

- **Technology:** Based on **TDMA (Time Division Multiple Access)**, where users share the same frequency but are assigned different timeslots for transmission.
- **Key features:**
  - Widespread global adoption, especially in Europe.
  - Use of SIM (Subscriber Identity Module) cards for easy interchangeability between devices.
  - Basis for 2G and early 3G networks.
- **Status:** Much like CDMA, GSM represents a legacy technology. Many older phones supported GSM networks, but it's being increasingly replaced by LTE and 5G.

### LTE (Long-Term Evolution)

- **Technology:** Designed as a true 4G technology, using OFDMA (Orthogonal Frequency Division Multiple Access) and SC-FDMA (Single-carrier FDMA) for efficient data transmission.
- **Key features:**
  - Significantly higher speeds and lower latency (response time) compared to CDMA and GSM.
  - Support for voice over LTE (VoLTE) for improved voice quality.
  - Backbone of modern 4G networks worldwide.
- **Status:** LTE is the dominant cellular technology globally. While upgrades to 5G are ongoing, LTE remains central to infrastructure and will continue to play a significant role.

### Important Notes:

- **Changing Landscape:** Most phones today focus on LTE and 5G compatibility, rendering standalone CDMA and GSM capabilities less common.

- **Carrier Differences:** Specific CDMA/GSM carrier networks in the past gradually migrated towards LTE, sometimes affecting the choice of phones consumers could use.
- India is facing a potential crisis regarding technology companies and their use of 'standard essential patents' (SEP).
- These patents cover technologies adopted as "standards" by industries like telecom.
- Examples of such standards include CDMA, GSM, and LTE in the telecom sector.
- Standards ensure that different brands of cellular phones can work together.
- For instance, once GSM became a standard, all phone manufacturers had to make their handsets compatible with GSM.
- This issue affects India's efforts to build a domestic manufacturing industry for cellular phones.
- The regulation of SEPs has largely been left to the judiciary, but they haven't fully addressed the problem.

### Opaque model

- **Setting standards in the technology sector is controlled by "standard setting organisations" (SSOs), mostly run by private technology companies.**
- Countries like India, with limited innovation in telecom, have little influence over how standards are set or how SEPs are licensed.
- Companies owning SEPs benefit greatly because every cell phone manufacturer must license these standards to compete.
- **Lack of alternatives allows SEP owners to demand high royalties, creating a "patent holdup" problem.**
- SSOs aim to prevent this by requiring SEP owners to license technologies at fair, reasonable, and non-discriminatory (FRAND) rates.
- However, self-regulation by the tech industry has been opaque and ineffective, leading to record fines for anti-competitive practices.
- Qualcomm, a major SEP owner, has faced fines totaling billions of dollars from China, South Korea, Taiwan, and the European Commission.
- While not all fines have been upheld on appeal, they show how other countries address the issue from a competition law perspective.

### The effect of judicial lethargy and activism

- The Indian response to the issue of SEP licensing has been marked by both judicial lethargy and activism at the Delhi High Court.
- **In 2013, the Competition Commission of India (CCI) began investigating Ericsson's alleged abuse of dominant position by demanding high royalties for its SEPs, prompted by a complaint from Micromax.**
- Ericsson challenged CCI's authority to investigate, arguing that only the Patent Office had the power to address patent abuse.
- Initially, a single judge ruled in favor of CCI in 2016, but Ericsson appealed to the Division Bench of the Delhi High Court, leading to a prolonged seven-year legal battle.

- The Division Bench ultimately ruled against CCI in July 2023, prompting CCI to appeal to the Supreme Court of India, leaving India as the only major economy without an investigation into SEP licensing practices.
- Meanwhile, the Delhi High Court proceeded with lawsuits filed by SEPs owners, including Ericsson, against cell phone manufacturers for alleged patent infringement and damages.
- These lawsuits should ideally have been stayed until the competition law issues were resolved.
- Typically, such litigation involves trials on patent validity, infringement, and damages, which can be complex and time-consuming.
- For instance, a lawsuit by Ericsson against Lava International took eight years to be decided, resulting in a 500-page judgment delivered recently by Justice Amit Bansal of the Delhi High Court.
- The Delhi High Court has been granting interim remedies in patent infringement cases, requiring manufacturers to deposit money with the court during trials.
- These deposit orders, often involving large sums of money, are unprecedented in commercial law and deprive defendants, mainly Indian companies, of working capital.
- The court justifies this action by invoking its "inherent powers to do justice," similar to arguments used in public interest litigation.
- However, this approach negatively impacts defendants and may deter investment in the manufacturing sector.
- While the government incentivizes manufacturing through schemes like "production linked incentives," the judicial activism in patent cases raises concerns about fairness and investment attractiveness.
- Unlike manufacturers creating jobs in India, SEP owners are seen as taking money out of the country, raising questions about the balance between incentivizing investment and protecting against unfair practices.

### The case of Europe

- The Indian government needs to step in and implement regulations to control SEPs to prevent harm to India's manufacturing ambitions.
- Similar regulatory measures have been enacted by the European Parliament to regulate SEPs.
- India has a stronger case for implementing such regulations, as it lacks influence over SEP selection by SSOs and is obligated by international agreements to enforce patents of foreign tech companies.

## Tipping point: On the GST and reforms (3 May)

### With robust GST revenues, the next government must prioritise vital reforms

- In April, GST revenues surpassed ₹2 lakh crore for the first time.
- April typically sees high GST collections due to activity in March, when taxpayers finalize their books and meet tax filing deadlines.

- Last month's gross GST revenues were slightly over ₹2.1 lakh crore, a 12.4% increase from April 2023.
- It's uncertain if ₹2 lakh crore will become the new normal monthly collection, as subsequent months may see moderation.
- However, if the economy maintains momentum and GST revenue growth continues at 11%-12%, last April's collection of ₹1.87 lakh crore could be this year's monthly average.
- Finance Minister Nirmala Sitharaman hailed the milestone, attributing it to a strong economy and efficient collections.
- **Action against fraud, like fake invoicing, and stricter compliance norms have contributed to revenue growth.**
- Meeting revenue targets for 2024-25 now requires less than 10% growth, with CGST revenues surpassing last year's targets.
- The focus for the next government should be **on expanding the GST net and simplifying the complex rate structure.**
- Reforms should prioritize correcting anomalies, simplifying the tax for consumers and investors, and fostering growth.
- Both BJP and Congress have outlined GST-related promises in their manifestos, highlighting the importance of smart GST reforms.

## Eastern front: On the electoral battle in West Bengal (3 May)

### Polarisation of votes in West Bengal is edging out the Left and the Congress

- The BJP aims to improve its performance in West Bengal after winning 18 seats with 40% vote share in 2019.
- Despite this, the TMC led by Mamata Banerjee won the 2021 Assembly polls with 77 seats and a 38.1% vote share.
- In the current general election, polling is spread across all seven phases, and the BJP hopes to increase its tally to compensate for potential losses elsewhere.
- **The BJP is highlighting allegations of corruption, land grabs, sexual assault, and a school recruitment scam against the TMC.**
- The Calcutta High Court's termination of about 25,000 teacher appointments is seen as a boost for the BJP.
- The TMC's campaign focuses on **New Delhi's stoppage of funds, the Citizenship (Amendment) Act, and cash transfer schemes like Lakshmir Bhandar for women.**
- The BJP emphasizes issues like women's safety and fields a female candidate in Sandeshkhali, where assaults on women were reported.
- The BJP hopes to perform better in north Bengal, while the TMC concentrates on districts with a high proportion of Muslim voters in the south.
- The Left-Congress coalition may influence certain seats in minority-dominated districts, with the Indian Secular Front's withdrawal benefiting the TMC.

- The BJP brings up topics like Ram Mandir, violence during Ram Navami processions, and illegal border crossings with Bangladesh.
- Religious polarization played a role in previous elections, favoring the BJP in 2019 and the Trinamool in 2021, sidelining the Left and Congress.
- The Trinamool emphasizes Bengali identity and portrays the BJP as insensitive to the state's interests, while the BJP sees West Bengal as an opportunity to expand its influence in a region with historical significance in Hindu politics.

## Does the Pradhan Mantri Jan Arogya Yojana need a design change? (3 May)

### PMJAY

Pradhan Mantri Jan Arogya Yojana (Prime Minister's People's Health Scheme).

- **Launched:** September 23, 2018.
- **Nature:** The world's largest government-funded health assurance scheme, providing financial protection to India's most vulnerable populations.
- **Administered by:** The National Health Authority (NHA)

### Key Features

- **Beneficiaries:** Over 10.74 crore poor and vulnerable families (approximately 50 crore individuals) are eligible based on Socio-Economic Caste Census (SECC) data.
- **Coverage:** Provides health insurance coverage of up to INR 5 lakhs (approximately USD \$6000) per family per year.
- **Hospitalization Expenses:** Covers secondary and tertiary care hospitalization at public and private empanelled hospitals across India.
- **Cashless Treatment:** Beneficiaries receive cashless treatment at network hospitals, requiring no out-of-pocket payment.
- **Portability:** Benefits are accessible across the country, ensuring healthcare access for migrant workers and those moving between states.

### How to Check Eligibility and Apply

1. **PMJAY Website:** Visit the official website
2. **Am I Eligible?:** Use the "Am I Eligible" section to check eligibility.
3. **Common Service Centers (CSC):** Find your nearest CSC for assistance in checking eligibility and creating an e-card.

### Benefits beyond Hospitalization

- **Health and Wellness Centres:** PMJAY integrates with the Ayushman Bharat scheme to upgrade primary healthcare through Health and Wellness Centres.
- **Expansion of Coverage:** The scheme continuously identifies new beneficiary families to enhance coverage.

- Ayushman Bharat is a government program launched in 2018 for universal health coverage.
- It has two parts: health and wellness centers, and Pradhan Mantri Jan Arogya Yojana (PMJAY).
- PMJAY aims to provide ₹5 lakh health coverage per year to over 12 crore low-income families.
- PMJAY has issued 34.27 crore cards and treated about 6.5 crore people in over 30,000 hospitals.
- Some hospitals in certain states report unpaid dues, leading to them turning away or accepting fewer PMJAY patients.
- There's a discussion about whether PMJAY needs changes to address these issues.
- Avani Kapur and Nachiket Mor discuss this topic in a conversation moderated by Zubeda Hamid.

### Does PMJAY's design need to be changed to make the scheme more sustainable?

- **Nachiket Mor** : discusses the Pradhan Mantri Jan Arogya Yojana (PMJAY) and its purpose.
- PMJAY was introduced to address deficiencies in public sector healthcare and allow patients to access the private sector.
- However, PMJAY currently covers only about 2.5% of total health expenditure, indicating it wasn't designed for comprehensive universal health coverage.
- Research suggests that pooling government departmental expenditure with PMJAY expenditure in many states could be enough for universal health coverage, including drugs and diagnostics.
- Despite funding, the public sector, especially in states like Kerala, struggles to provide universal healthcare due to underutilization of primary care and inefficiencies.
- Layering schemes like PMJAY on top of a hospital-centric design may lead to misallocation of government resources and create barriers for low-income families.
- Mor questions the effectiveness of PMJAY and suggests focusing on delivering better healthcare to people to eliminate out-of-pocket expenditure.

- He emphasizes the role of the National Health Authority (NHA) and State Health Authority (SHA) in purchasing care in an organized, high-quality manner to improve healthcare delivery.
- **Avani Kapur** : focuses on the demand side of healthcare in PMJAY.
- 43% of empanelled hospitals are private, rest are government-owned.
- People often choose private hospitals over public due to perceived better services.
- Private sector may turn away patients due to capacity issues, payment delays, claim rejections, and caps on charges.
- Strengthening the public sector is crucial for PMJAY success as patients prefer private hospitals or distrust public ones.

### How wide is the performance disparity among States under PMJAY?

- **Avani Kapur** : highlights issues with hospital availability and activity in certain regions.
- In Uttar Pradesh, 39% of empanelled hospitals have been inactive since empanellment.
- Only 50% of empanelled hospitals in Uttar Pradesh have been active in the last six months.
- Coverage varies between states, with some having lower coverage compared to others.
- Within states, the dispersion of hospitals is skewed.
- Governance processes significantly impact PMJAY implementation.
- Some states experience delays of over 45 days in claim payments.
- There is a concentration of claims in Andhra Pradesh, Arunachal Pradesh, Rajasthan, Karnataka, Maharashtra, and Tamil Nadu.
- Further research is needed to understand the reasons behind claim concentration in specific states.
- **Nachiket Mor** : emphasizes that delays in payments are not related to the wealth of states but rather to the capacity of hospitals.
- He gives an example of Shravasti district in Uttar Pradesh where there is insufficient hospital capacity, leading to delays in payments.
- Mor highlights the importance of network adequacy in insurance schemes, meaning hospitals must be nearby for individuals to claim benefits.
- Unlike in many other countries, India lacks restrictions on offering insurance schemes without ensuring hospital proximity.
- This deficiency is particularly evident in northern and north-eastern states of India.
- Mor suggests that the public sector needs to lead in building hospital infrastructure in regions where the private sector is unlikely to invest, such as Bastar.

**India's out-of-pocket expenditure for health has decreased, but it still hovers around the 47-50% mark, which is much higher than global average. Do we need to look at a system where outpatient care, diagnostics and drugs can also be covered?**

- **Nachiket Mor** : argues against equating PMJAY and health and wellness centres with government efforts in healthcare.

- He emphasizes that the majority of healthcare expenditures come from government spending at the state and central levels, which far exceeds the funding of PMJAY and health and wellness centres.
- Mor points out that these schemes are primarily focused on outpatient (OP) care, with a significant portion of expenditure allocated to drugs and OP care.
- He questions whether any governments worldwide have a separate publicly-financed healthcare sector along with an additional insurance layer, as this could lead to fragmentation in the healthcare system.
- Mor suggests addressing this fragmentation to tackle the issue of out-of-pocket expenditure effectively.
- **Avani Kapur** : highlights that the current model of PMJAY may not be capable of covering all healthcare expenses given its fiscal constraints.
- She mentions the effectiveness of various state schemes in providing free medicines, citing Tamil Nadu and Rajasthan as examples.
- India ranks 67th out of 189 countries in terms of out-of-pocket expenditure on healthcare, indicating the need for comprehensive coverage.
- The Union government is supposed to allocate 60% of PMJAY funds, but the actual spending falls short of this target.
- PMJAY was designed to address healthcare cost shocks, particularly for inpatient treatments, which can be expensive compared to outpatient treatments.
- Kapur emphasizes the importance of considering PMJAY as a holistic system rather than focusing on isolated aspects.

**The government said this was a step towards providing UHC. Would you argue that the insurance model is not correct for India's path towards achieving UHC? Has any other country been able to achieve it through an insurance model?**

- **Nachiket Mor** : suggests that the insurance model, which separates funds from healthcare providers and rewards performance, could greatly improve the public sector's performance, especially in poorer states.
- He believes that this insurance model has been successful in delivering Universal Health Coverage (UHC) in countries like Thailand, Turkey, Vietnam, and Uruguay.
- Mor indicates that India's current healthcare model is no longer dominant, and he finds potential in implementing an insurance-based approach through the National Health Authority (NHA) and State Health Authority (SHA).
- He clarifies that this insurance approach wouldn't necessarily follow the traditional indemnity model where claims are filed for reimbursement, as such methods can lead to inflated healthcare prices.
- Mor highlights the importance of the purchaser-provider split, where healthcare funds are separated from service delivery, suggesting it as a viable pathway forward.
- **Avani Kapur** : agrees with Nachiket Mor's assessment.
- She expresses doubt about the effectiveness of the insurance model in its current design.
- Kapur references a recent paper on low- and middle-income countries and health insurance.

- The paper suggests that the issue is not just about how government subsidies are channeled but also about implementing specific payment structures and non-price mechanisms.
- Kapur believes that PMJAY, in its current form, may not achieve the desired outcomes unless there is a greater focus on strengthening the public health system.

### Purchasing Managers' Index (PMI) (GS Paper III: Economy)

- **Economic Indicator:** PMI is a composite indicator that measures the health of a country's manufacturing sector. It's based on surveys conducted among purchasing managers in manufacturing companies.
- PMI includes five sub-indices:
  - New orders
  - Production levels
  - Employment
  - Supplier deliveries
  - Inventories
- **Interpretation:**
  - PMI above 50 indicates expansion in the manufacturing sector.
  - PMI below 50 indicates contraction in the sector.
  - PMI = 50 suggests no change.
- PMI is widely followed by economists, investors, and policymakers as a leading indicator of overall economic activity.

Question 1: Ethylene oxide (EtO) is primarily used in which of the following sectors?  
 (A) Construction and infrastructure  
 (B) Healthcare and medical devices  
 (C) Textile manufacturing  
 (D) Information technology and software development

Answer: (B) Healthcare and medical devices  
**Explanation:** EtO's traditional primary use has been the sterilization of medical devices and equipment due to its effectiveness in killing microorganisms.

Question 2: Which of the following statements about ethylene oxide (EtO) is correct?  
 (A) It is a naturally occurring compound found in fruits and vegetables  
 (B) It is a highly flammable gas with a sweet odor  
 (C) It has been classified as a carcinogen by international health agencies  
 (D) It is considered completely safe for human consumption in trace amounts.

Answer: (C) It has been classified as a carcinogen by international health agencies  
**Explanation:** The International Agency for Research on Cancer (IARC) and other health organizations classify EtO as a known human carcinogen, linked to increased cancer risk.

<p>Question 3: Recent concerns about the use of ethylene oxide (EtO) in food products primarily stem from:</p> <p>(A) Its impact on the taste and nutritional value of foods</p> <p>(B) The risk of allergic reactions in some individuals</p> <p>(C) Potential long-term health risks associated with exposure</p> <p>(D) The environmental damage caused by its release</p>	<p>Answer: (C) Potential long-term health risks associated with exposure</p> <p><b>Explanation:</b> The primary concern surrounding EtO in food is that long-term exposure, even at low levels, may increase the risk of certain cancers.</p>
<p>Question 4: Which of the following countries has recently banned the use of EtO for sterilizing imported food products?</p> <p>(A) China</p> <p>(B) The European Union</p> <p>(C) Brazil</p> <p>(D) Australia</p>	<p>Answer: (B) The European Union</p> <p><b>Explanation:</b> The EU has taken strict measures against EtO residues in food, implementing a ban on its use as a sterilization method for imported food products.</p>
<p>Question 5: Which of the following situations best exemplifies the "patent holdup" problem?</p> <p>(A) A company refuses to license its patented technology to competitors under any circumstances.</p> <p>(B) A company demands exorbitant royalties from other companies seeking to use its standard-essential patents.</p> <p>(C) A company sues another company for patent infringement, even when the infringement claim is weak.</p> <p>(D) A company develops a new product that significantly improves upon a previously patented invention.</p>	<p>Answer: (B) A company demands exorbitant royalties from other companies seeking to use its standard-essential patents.</p> <p><b>Explanation:</b> Patent holdup describes a situation where a company owning patents that are essential to a technology standard (e.g., 5G components) exploits that position by demanding unreasonably high royalties from implementers of the standard</p>
<p>Question 6: Patent holdup is a major issue of contention in the development and implementation of:</p> <p>(A) Pharmaceuticals and medical devices</p> <p>(B) Computer Software</p> <p>(C) Telecommunications technologies</p> <p>(D) Green energy technologies</p>	<p>Answer: (C) Telecommunications technologies</p> <p><b>Explanation:</b> Patent holdup is particularly concerning in complex technological areas with multiple companies contributing to industry standards, such as telecommunications. Many essential patents are involved for technologies like 4G or 5G, creating opportunities for holdup if licensing isn't negotiated fairly.</p>
<p>Question 7: To address the problem of patent holdup, the concept of FRAND licensing terms is often advocated. What does "FRAND" stand for?</p> <p>(A) Fair, Reciprocal, and Non-Discriminatory</p> <p>(B) Flexible, Reasonable, and Negotiated in Detail</p> <p>(C) Fair, Reasonable, and Non-Discriminatory</p> <p>(D) Fixed-rate, Reciprocal, and Non-Disclosure</p>	<p>Answer: (C) Fair, Reasonable, and Non-Discriminatory</p> <p><b>Explanation:</b> FRAND aims to ensure that owners of standard-essential patents (SEPs) license those patents on terms that are fair to everyone using the technology.</p>
<p>Question 8: Which of the following regulatory bodies/organizations often plays a role in</p>	<p>Answer: (A) Competition commissions and antitrust authorities</p>

<p>resolving disputes related to patent holdup issues?</p> <p>(A) Competition commissions and antitrust authorities</p> <p>(B) International Labour Organization (ILO)</p> <p>(C) World Intellectual Property Organization (WIPO)</p> <p>(D) World Health Organization (WHO)</p>	<p><b>Explanation:</b> Patent holdup issues can sometimes raise competition concerns when companies abuse their dominant position with SEPs. Competition commissions and antitrust regulators investigate and intervene in such cases.</p>
<p>Question 9: Which of the following is NOT eligible for patent protection in India under the Patents Act?</p> <p>(A) A new pharmaceutical compound</p> <p>(B) A genetically modified seed variety</p> <p>(C) A software algorithm</p> <p>(D) A mathematical discovery</p>	<p>Answer: (D) A mathematical discovery</p> <p><b>Explanation:</b> Mathematical discoveries, laws of nature, and abstract ideas are generally not patentable as they are considered fundamental knowledge. The other options could potentially be patentable if they meet the criteria of novelty, inventiveness, and industrial applicability.</p>
<p>Question 10: The duration of a patent in India is generally:</p> <p>(A) 10 years</p> <p>(B) 15 years</p> <p>(C) 20 years</p> <p>(D) Indefinite</p>	<p>Answer: (C) 20 years</p> <p><b>Explanation:</b> The Patents Act, 1970 (with amendments) grants a patent protection term of 20 years from the filing date of the patent application.</p>
<p>Question 11: Consider the following statements about patents in India:</p> <ol style="list-style-type: none"> <li>1. A patent grants the holder an exclusive right to make, sell, and use an invention.</li> <li>2. Patents are granted by the state governments where the invention is developed.</li> </ol> <p>Which of the above statements is/are correct?</p> <p>(A) 1 only</p> <p>(B) 2 only</p> <p>(C) Both 1 and 2</p> <p>(D) Neither 1 nor 2</p>	<p>Answer: (A) 1 only</p> <p><b>Explanation:</b></p> <p>Statement 1 is correct. Patents provide the holder with a time-limited monopoly over the invention.</p> <p>Statement 2 is incorrect. Patents in India are granted centrally by the Office of the Controller General of Patents, Designs, and Trademarks.</p>
<p>Question 12: Which of the following is an example of a "process patent"?</p> <p>(A) A patent on a unique design for a mobile phone</p> <p>(B) A patent on a new method of manufacturing a drug</p> <p>(C) A patent on a genetically engineered plant</p> <p>(D) A patent on a computer software program</p>	<p>Answer: (B) A patent on a new method of manufacturing a drug</p> <p><b>Explanation:</b> A process patent protects the specific method or process behind creating something, rather than the final product itself. The other options are more likely to be protected by design patents, product patents, or copyright, respectively.</p>
<p>Question 13: A PMI reading above 50 indicates:</p> <p>(A) Expansion within an economic sector</p> <p>(B) Contraction within an economic sector</p> <p>(C) Stagnation within an economic sector</p> <p>(D) Decline in foreign direct investment</p>	<p>Answer: (A) Expansion within an economic sector</p> <p><b>Explanation:</b> A PMI above 50 points to overall growth or expansion across indicators like output, new orders, and employment within a given sector (manufacturing or services).</p>
<p>Question 14: PMI is calculated based on a survey of:</p> <p>(A) Government economists and statisticians</p>	<p>Answer: (B) Senior executives in relevant industries</p>

<p>(B) Senior executives in relevant industries  (C) Stock market analysts  (D) Consumers across all income groups</p>	<p><b>Explanation:</b> PMI relies on survey data collected from executives (often purchasing managers) within the manufacturing or services sector. Their responses about business activity provide the basis for calculating the index.</p>
<p>Question 15: Which of the following statements is true about the Purchasing Managers' Index (PMI)?</p> <p>(A) It is a leading economic indicator  (B) It provides retrospective insights into economic activity  (C) It is primarily used for tracking inflation  (D) It has no correlation with broader economic health</p>	<p>Answer: (A) It is a leading economic indicator  <b>Explanation:</b> PMI is considered a leading indicator because it surveys executives about current and expected conditions. Changes in PMI can often signal shifts in broader economic trends in the near future.</p>
<p>Question 16: Consider the following statements about PMI:  PMI data is published on a monthly basis.  PMI is compiled by private organizations and independent of government statistics.  Which of the above statements is/are correct?  (A) 1 only  (B) 2 only  (C) Both 1 and 2  (D) Neither 1 nor 2</p>	<p>Answer: (C) Both 1 and 2  <b>Explanation</b>  Statement 1 is correct. PMI data is generally released monthly, providing up-to-date insights.  Statement 2 is correct. While governments may utilize it, PMI is compiled by private bodies like IHS Markit that specialize in economic data.</p>