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Pasmanda Muslim

- **Meaning:** The term "Pasmanda" means "left behind" in Persian and refers to the socially and economically disadvantaged Muslim communities in India.
- **Population:** Pasmanda Muslims constitute about 85% of the Muslim population in India.
- **Composition:** They include various marginalized groups such as Dalits (lower castes), backward classes, and tribes.
- **Social Status:** These communities often face discrimination and exclusion within the broader Muslim society, similar to the caste system in Hinduism.
- **Economic Conditions:** Pasmanda Muslims are generally poorer and have lower literacy rates compared to other Muslim groups.

Coal and lignite have indeed played a dominant role in ensuring India's energy security. Here's a breakdown based on information from the Press Information Bureau of the Indian Government:

- **Significance:** Coal accounts for a whopping **53% of India's primary energy supply** and a significant **70% of the power generation capacity**. This translates to India being the world's third-largest coal producer, following China and the USA.
- **Security:** Coal offers a dependable source of energy, less susceptible to import disruptions compared to resources like oil and gas. This stability is crucial for maintaining energy security.
- **Government Role:** Recognizing coal's importance, the Ministry of Coal takes responsibility for exploration, production, and distribution [PIB]. Public Sector Undertakings (PSUs) like Coal India Ltd. (CIL) and Neyveli Lignite Corporation Ltd. (NLC) play a major role in these activities.

Limitations of Coal and Lignite:

It's important to acknowledge the environmental concerns associated with coal and lignite:

- **Air Pollution:** Burning coal releases pollutants like sulfur oxides and nitrogen oxides, contributing to air quality issues.
- **Greenhouse Gases:** Coal combustion is a significant source of greenhouse gas emissions, impacting climate change.

While coal has been a mainstay, India is actively pursuing renewable energy sources for a sustainable future:

- **Government Initiatives:** The government promotes solar, wind, and other renewable energy sources through policies and programs.
- **Growing Share:** Renewables' contribution to India's energy mix is steadily increasing

Types of Coal	Carbon Content (% dry basis)	Description (and image)
Peat	30-50%	Peat is the least mature form of coal, with a high moisture content and low carbon content. It's brown and fibrous, often used as a soil amendment. 
Lignite	50-70%	Lignite is a soft, brown coal with a higher carbon content than peat. It burns easily but produces less heat. 
Sub-bituminous Coal	70-85%	Sub-bituminous coal is a dark brown to black coal with a higher carbon content and heating value than lignite. It burns with a smoky flame. 
Bituminous Coal	85-95%	Bituminous coal is the most common type of coal, black and relatively hard. It burns well and is used for electricity generation and steel production 
Anthracite	92-98%	Anthracite is the highest rank of coal, with the most carbon content and the highest heating value. It's a hard, shiny black coal that burns with a blue flame. 

Patriotic

The takeaway from Mumbai hoarding tragedy

Did the massive structure at Ghatkopar meet size and safety norms? Who is responsible for the construction and maintenance of advertisement hoardings and ensuring rules are being followed? With extreme weather, what do infrastructure projects need to look out for?

G. Ananthkrishnan

The story so far:

A giant advertisement hoarding in Mumbai's Ghatkopar area collapsed in a dust storm in Mumbai on May 13, killing at least 16 people. The brunt of the monstrous 250-tonne structure's fall was borne by a petrol pump below, where many of the victims were either fuelling up or going about their duties. The owner of the hoarding erected on massive metal frames in April, 2023 on Government Railway Police (GRP) land, Bhavesh Bhide, absconded after the crash, but was later arrested in Rajasthan.

Who is responsible?

Pressure has built up on the Municipal Corporation of Greater Mumbai (BMC) to inspect and take action on illegal or unstable hoardings in the city, and to ask Railways and Mumbai Port Trust to provide stability certificates for others. Other cities too responded to the incident. Officials in Chennai, where a ban on hoardings is being lifted, removed over 460 structures. Several hundred applications to install hoardings are pending in the city. In Pune, a large hoarding fell on a parked truck soon after the Ghatkopar incident, but caused no injuries.

What safety norms apply to hoardings?

Local bodies issue licences for advertisement hoardings, particularly in bigger cities, stipulating that these structures should be approved by an executive authority. In Mumbai's case, the Mumbai Municipal Corporation Act (MMC) dating back to 1888 and amended over time stipulates that written permission of the Municipal Commissioner is needed to put up such structures under Section 328A.

Advertisement hoardings must meet norms, and these were apparently liberalised for Greater Mumbai through the Policy Guidelines for Display of Advertisements 2018 to tap the city's full financial potential. It is this document

The Ghatkopar disaster makes it evident that high winds or a cyclone expose the weakest infrastructure links, with deadly consequences

that makes structural stability certification from a registered structural engineer a condition for putting up hoardings, including sky signs that are larger than 100 sq. ft. For an on-ground hoarding on a site other than the business premises, the size limit is 40 feet by 40 feet as per this document. By all accounts, the massive hoarding in Ghatkopar did not meet size norms but was not brought down by official agencies in spite of being a highly visible hazardous structure. The Government Railway Police, on whose land the collapsed hoarding and others elsewhere have been put up, cited an ongoing dispute with the Corporation for not enforcing the law on hoardings, and took action only after the disaster. It is notable that the policy guidelines say hoardings existing as of May 1, 2014 should be reinstalled incorporating structural stability requirements, on a single pole or bipole, indicating that the Ghatkopar display would have had to meet safety norms.

From a technical perspective, the Bureau of Indian Standards (BIS) lays out specifications for wind loads on hoardings under IS875, Part 3, giving formulae on how to calculate the force coefficients applicable to these wind-facing structures. If such standards are indeed applied by municipal bodies around the country, the data is not made public. No database of permits could be located on the BMC website in the hoardings section.

Why are technical standards important?

State governments keen to raise revenues through outdoor advertisement hoardings have been adopting a more liberal attitude to big displays in public places, as urbanisation and consumption drive the economy. The advent of digital boards has brought with it the possibility of moving displays, opening up avenues for different advertisers to use the same screens to show messages, raising rents for hoardings companies greatly.

Several legacy-style hoardings built on heavy metal frames but lacking an adequately solid foundation coexist with the new displays, particularly along highways and wide urban roads. The MMC Act of 1888 provides some regulatory exemptions to hoardings on railway land. The Ghatkopar disaster demonstrates that extreme weather, such as high winds or a cyclone sweeping a city, quickly exposes the weakest infrastructure links, with deadly consequences. The focus now is also on how prepared municipal and disaster management authorities are to deal with the fallout in crowded cities. In the Mumbai incident, the presence of a petrol pump prevented personnel from using gas cutters to remove the twisted metal frame for fear of triggering a fire. Allowing hazardous structures to come up thus reduces the efficiency of disaster management expertise. Several local bodies lack the capability or administrative machinery to ensure structural stability of hoardings. Implicit in such incidents

is the role of corruption.

How is climate change a challenge?

The biggest threat to cities, especially along India's peninsular coastline, is extreme weather such as cyclones intensified by climate change. The northern Indian Ocean, which contributes extreme weather systems to the region, hosts 6% of global cyclones but has disproportionately high impacts each year. Scientist Roxy Mathew Koll of the Centre for Climate Change Research, Indian Institute of Tropical Meteorology, Pune, says the intensity of cyclones in the Arabian Sea has increased 20% to 40% over the past four decades. The Indian Ocean, which has a big impact on peninsular weather events, is projected to warm continuously and rapidly in coming years, intensifying cyclones in a matter of days. The sea surface temperature of the Arabian Sea responsible for cyclone formation is 1.2-1.4 degrees C higher than four decades ago, while the Bay of Bengal is comparatively less warm with a 0.8 degrees C rise.

Data shows that summer monsoon rainfall over the sub-continent may be decreasing overall, but the number of extreme weather events involving heavy rain in a short period is rising. Along with cyclonic winds, torrential rainfall and heavy winds threaten coastal cities. This is a clear call to city governments to review conventional ideas on giant outdoor open-sky hoardings put up close to human activity.

Don't governments have legal liability?

Yes, the government and the owners of the private structures do have liability. Most recently, in 2022, the Delhi High Court dismissed an appeal filed by the Bank of Baroda, against a single judge's order in *BoB versus Mahesh Gupta*, granting compensation in a case where a man was struck by a sign board and the head injury led to his death.

The bank contended that heavy wind struck Delhi on the day of the incident and it was thus an act of god. This was rejected by the court, which observed that since Delhi witnesses such winds in May each year, it was a foreseeable risk. Moreover, the bank had control of the signboard and had not proved that it had periodically inspected it to ensure its stability and integrity. Extreme rainfall and winds are foreseeable events now across the country, with clear warnings available from weather agencies. Governments have to show due diligence to avert harm to citizens from official actions. Much like the Ghatkopar case, where many people were trapped in a hoarding collapse, the court held in the Delhi case thus: the deceased writ petitioner was a passer-by who met with the accident while exercising his right of passage on a public pathway which abutted the building in which the bank was housed.

Applying such a principle clearly makes several connected individuals liable for negligence in the Ghatkopar case, beginning with the owners of the land, the agency that put up the structure and the line officials responsible for enforcement, extending to the civic officials and police who witnessed flagrant violation of rules but took no action.

The writer is a Chennai-based journalist.



Deadly fall: Rescue and relief work underway at the site of the hoarding collapse at Ghatkopar, in Mumbai, on May 14. PTI

The takeaway from Mumbai hoarding tragedy (19 May) (GS Paper III: Disaster Management)

Did the massive structure at Ghatkopar meet size and safety norms? Who is responsible for the construction and maintenance of advertisement hoardings and ensuring rules are being followed? With extreme weather, what do infrastructure projects need to look out for?

- A giant advertisement hoarding in Mumbai's Ghatkopar area collapsed during a dust storm on May 13.
- The collapse resulted in the deaths of at least 16 people.
- The 250-tonne structure fell primarily on a petrol pump located below it.
- Many of the victims were either refueling or performing their duties at the petrol pump.
- The hoarding was erected on Government Railway Police (GRP) land in April 2023.
- The owner of the hoarding, Bhavesh Bhide, fled after the collapse but was later arrested in Rajasthan.

Who is responsible?

- Pressure has increased on the Municipal Corporation of Greater Mumbai (BMC) to inspect and take action against illegal or unstable hoardings in the city.
- There are calls for the BMC to request stability certificates from Railways and Mumbai Port Trust for other hoardings.
- Following the incident in Mumbai's Ghatkopar area, other cities have responded.
- In Chennai, where a ban on hoardings is being lifted, officials removed over 460 structures.
- There are several hundred pending applications for installing hoardings in Chennai.
- In Pune, a large hoarding fell on a parked truck shortly after the Ghatkopar incident, but fortunately, no injuries were reported.

What safety norms apply to hoardings?

- Local bodies in big cities issue licenses for advertisement hoardings, including in Mumbai, where regulations require written permission from the Municipal Commissioner under Section 328A of the Mumbai Municipal Corporation Act.
- The Policy Guidelines for Display of Advertisements 2018 in Mumbai aim to maximize financial potential by allowing larger hoardings, including sky signs over 100 sq. ft., with a requirement for structural stability certification from a registered engineer.
- The collapsed hoarding in Ghatkopar, Mumbai, did not meet size norms and was considered hazardous, but it was not removed by official agencies despite its visibility.
- The Government Railway Police, on whose land the collapsed hoarding and others are situated, cited a dispute with the Municipal Corporation for not enforcing hoarding laws until after the disaster.
- According to policy guidelines, hoardings existing since May 1, 2014, must be reinstalled with structural stability requirements.
- The Bureau of Indian Standards (BIS) specifies wind load specifications for hoardings under IS875, Part 3, providing formulas to calculate force coefficients for wind-facing structures.
- Municipal bodies nationwide are expected to apply these standards, but there is no public database of permits available on the BMC website in the hoardings section.

Why are technical standards important?

- State governments are increasingly permitting larger outdoor advertisement hoardings in public spaces to generate more revenue, driven by urbanization and economic consumption trends.
- The introduction of digital boards allows multiple advertisers to use the same screens for messages, significantly increasing rents for hoarding companies.
- Older hoardings built on heavy metal frames without a solid foundation still exist alongside new displays, especially along highways and wide urban roads.
- The Mumbai Municipal Corporation (MMC) Act of 1888 provides regulatory exemptions for hoardings on railway land.
- The Ghatkopar hoarding collapse highlighted that extreme weather conditions, like high winds or cyclones, quickly expose weak infrastructure, leading to deadly consequences.
- There is a growing focus on the preparedness of municipal and disaster management authorities to handle such incidents in densely populated cities.
- During the Mumbai incident, the presence of a petrol pump prevented the use of gas cutters to remove the twisted metal frame due to the risk of fire.
- Allowing hazardous structures to be erected undermines the effectiveness of disaster management efforts.
- Many local bodies lack the capability or administrative machinery to ensure the structural stability of hoardings.
- These incidents often raise concerns about corruption playing a role in permitting unsafe hoardings to be erected.

How is climate change a challenge?

- Extreme weather, particularly cyclones intensified by climate change, pose the biggest threat to cities along India's peninsular coastline.
- The northern Indian Ocean contributes 6% of global cyclones but has disproportionately high impacts due to these weather systems.
- Scientist Roxy Mathew Koll from the Indian Institute of Tropical Meteorology, Pune, notes that cyclone intensity in the Arabian Sea has increased by 20% to 40% over the past four decades.
- The Indian Ocean is projected to continue warming rapidly, which will intensify cyclones in a matter of days.
- Sea surface temperatures in the Arabian Sea, where cyclones form, have risen by 1.2-1.4 degrees C over the past four decades, while the Bay of Bengal has seen a rise of 0.8 degrees C.
- Despite a decrease in overall summer monsoon rainfall across the sub-continent, the number of extreme weather events with heavy rain in short periods is increasing.
- Coastal cities face threats from cyclonic winds, torrential rainfall, and heavy winds, necessitating a review of conventional ideas such as installing giant outdoor open-sky hoardings near human activity.
- City governments are urged to reconsider the placement of hoardings that could pose risks during extreme weather events, ensuring safety for residents and infrastructure.

Don't governments have legal liability?

- In 2022, the Delhi High Court dismissed an appeal by the Bank of Baroda in a case where a man died after being struck by a signboard. The court upheld the compensation granted to the victim's family.
- The bank argued that the incident was due to an act of god, citing heavy winds in Delhi that day, but the court rejected this, stating that such winds in May are foreseeable.

- The court noted that the bank had control over the signboard but failed to prove it had periodically inspected it for stability.
- Extreme rainfall and winds are now foreseeable across the country, with clear warnings available from weather agencies.
- Governments are responsible for ensuring due diligence to prevent harm to citizens from official actions.
- The Delhi High Court applied a principle similar to the Ghatkopar case, holding that the deceased was a passer-by exercising his right of passage on a public pathway when the accident occurred.
- The court's decision makes several parties liable for negligence in the Ghatkopar case, including the landowners, the agency that erected the structure, and the officials responsible for enforcement, extending to civic officials and police who witnessed violations but took no action.

What are the NIA's allegations against NSCN?

Why has the National Investigation Agency filed a chargesheet against five people in a Guwahati court? What is the link with the Naga insurgency group? Is the hill tribal group helping valley-based insurgents in Manipur? What are the three main ethnic communities in the State?

Vijaita Singh

The story so far:

In March 7, the National Investigation Agency (NIA) filed a chargesheet in a Guwahati court where it accused the "China-Myanmar module" of the Isak-Muivah faction of the National Socialist Council of Nagaland (NSCN) of supporting cadres of two banned Meitei outfits, the People's Liberation Army (PLA) and Kanglei Yaol Kanba Lup (KYKL), to infiltrate India. The NIA alleged that their aim was to exploit the current ethnic unrest in Manipur, which began in May 2023, with a larger goal to destabilise the State and wage a war against the Government of India.

Which are the main ethnic groupings?

The Meitei, Naga and Kuki-Zomi-Mizo are the three main ethnic groupings in Manipur. The Meiteis, the largest community, account for about 53% of the State's total population of 27.21 lakh (2011 Census). The Nagas and the Kuki-Zo which are categorised into 34 Scheduled Tribes

The chargesheet is the first official statement of links between the NSCN-IM and Imphal valley-based insurgent groups in the current crisis

constitute 17% and 26% of the population respectively. India and Myanmar share a 1,643 km unfenced border of 398 km along Manipur. In January, the Government decided to fence the entire border and end the Free Movement Regime (FMR) which allowed people to cross over without any documents or passport. People on both sides of the border share ethnic ties prompting the arrangement since 1968.

What is the significance of the chargesheet?

The chargesheet was filed against five persons, M. Anand Singh, A. Kajit Singh, Keisham Johnson, L. Michael Mangangcha and K. Romojit Meitei, and is the first official statement of links between the NSCN-IM and Imphal valley-based insurgent groups during the current ethnic crisis. The accused were arrested on September 16, 2023 by the Manipur Police while travelling in a vehicle dressed in camouflage, resembling uniforms worn by security personnel. Three weapons and ammunition looted from police armouries were recovered. Following the arrests, Meira Paibi, the women's collective in Manipur, staged protests and clashed with the police demanding their release. A court granted them bail, but Anand Singh was picked up by the NIA and brought to Delhi.

The NIA said that Anand Singh is a trained cadre of the PLA, one of the eight Meitei insurgent groups that have been banned by the MHA for "advocating secession of Manipur from India through armed struggle." According to the NIA, Singh revealed that at the height of ethnic clashes, he was involved in other subversive activities along with other valley-based insurgent groups. The NIA said Singh mobilised local youth for armed training and that in July 2023 he participated in a weapons training camp organised at the Selloi Langamai Ecological Park near Keikhu by PLA cadres where around 80-90 young men received training in handling firearms. The PLA was formed in 1978 and

continues to be one of the most violent terror outfits in the northeast and is currently led by M.M. Ngouba.

The NIA said the accused "criminally conspired with intent to carry out violent terror attacks targeting the rival Kuki-Zo community with prohibited arms and ammunition which were looted from various government sources."

Are there other active insurgent groups?

In 2008, 24 Kuki-Zo insurgent groups under the umbrella of the United Peoples' Front (UPF) and the Kuki National Organisation (KNO) signed a tripartite suspension of operations pact with the MHA and the Manipur government. On February 29 this year, when the pact came up for an annual extension, the Manipur government refused to send a representative, leaving the agreement in a limbo. Manipur Chief Minister N. Biren Singh has accused the groups of violating the ground rules and instigating violence in the State. According to the ground rules, after a peace pact is signed, camps are earmarked for cadres and their weapons are accounted for through regular checks conducted by a security force decided by the government.

The agreement was signed in the wake of the Kuki-Naga clashes in the 1990s where hundreds were killed. The insurgent groups demanded an independent land for the Kuki-Zo people. The clashes and killings happened after the NSCN demanded that Kuki-Zo-inhabited areas be included in its proposed 'Greater Nagaland' project in the 1980s.

What is the NSCN's stand?

After *The Hindu* reported the NIA findings on May 14, the NSCN issued a statement, accusing the Indian security forces of helping the Kuki militant groups to wage war against the Meitei revolutionary groups in Myanmar. It said: "It is sensitive to the propaganda war waged by the Government of India against NSCN who had signed ceasefire with GOI and engaged in political talks for the last 27 years." Distancing itself from the violence in Manipur, the NSCN had said in a statement in August 2023 that "no ethnic blood should flow in Naga areas in the name of Meitei- Kuki-Zo ethnic conflicts."



Under the scanner: Cadres of the NSCN-IM in Dimapur in 2018. PTI

What are the NIA's allegations against NSCN? | Explained (19 May) (GS Paper III: Internal Security)

Why has the National Investigation Agency filed a chargesheet against five people in a Guwahati court? What is the link with the Naga insurgency group? Is the hill tribal group helping valley-based insurgents in Manipur? What are the three main ethnic communities in the State?

- The National Investigation Agency (NIA) filed a charge sheet in a Guwahati court on March 7.
- The charge sheet accuses the "China-Myanmar module" of the Isak-Muivah faction of the National Socialist Council of Nagaland (NSCN).

- This module supported cadres of two banned Meitei groups: the **People's Liberation Army (PLA)** and **Kanglei Yaol Kanba Lup (KYKL)**.
- Their aim was to infiltrate India.
- The NIA alleges they wanted to exploit the ethnic unrest in Manipur, which started in May 2023.
- The larger goal was to **destabilize Manipur and wage a war against the Government of India**.

Which are the main ethnic groupings?

- Manipur has three main ethnic groups: **Meitei, Naga, and Kuki-Zomi-Mizo**.
- **Meiteis are the largest community, making up about 53% of Manipur's 27.21 lakh population (2011 Census)**.
- **Nagas constitute 17% and Kuki-Zo groups, categorized into 34 Scheduled Tribes, make up 26% of the population.**
- India and Myanmar share a 1,643 km unfenced border, with 398 km along Manipur.
- In January, the Indian Government decided to fence the entire border and end the Free Movement Regime (FMR).
- **The FMR allowed people to cross the border without documents or passports due to shared ethnic ties since 1968.**



What is the significance of the chargesheet?

- The NIA filed a charge sheet against five individuals: M. Anand Singh, A. Kajit Singh, Keisham Johnson, L. Michael Mangangcha, and K. Romojit Meitei.
- **This charge sheet is the first official evidence of links between NSCN-IM and Imphal valley-based insurgent groups during the current ethnic crisis.**
- The accused were arrested on September 16, 2023, by Manipur Police while traveling in a vehicle dressed in camouflage, similar to security personnel uniforms.
- Three weapons and ammunition stolen from police armories were recovered from them.
- Following the arrests, **Meira Paibi, a women's collective in Manipur, protested and clashed with police, demanding their release.**
- A court granted them bail, but Anand Singh was later taken into custody by the NIA and brought to Delhi.
- The NIA stated that Anand Singh is a trained cadre of the banned Meitei insurgent group **PLA, which seeks Manipur's secession from India.**
- Singh revealed his involvement in subversive activities during ethnic clashes and mobilized local youth for armed training.
- In July 2023, he participated in a weapons training camp at **Selloi Langamai Ecological Park near Keikhu**, where 80-90 young men were trained by PLA cadres.
- The NIA claimed the accused conspired to carry out violent terror attacks targeting the Kuki-Zo community using prohibited arms and ammunition stolen from government sources.

Are there other active insurgent groups?

- **In 2008, 24 Kuki-Zo insurgent groups signed a suspension of operations pact with the Ministry of Home Affairs (MHA) and the Manipur government.**
- These groups were under the **United Peoples' Front (UPF)** and the **Kuki National Organisation (KNO)**.
- The pact is renewed annually, but on February 29 this year, the Manipur government refused to send a representative, putting the agreement in limbo.
- Manipur Chief Minister N. Biren Singh accused the groups of violating the pact's ground rules and instigating violence.
- Ground rules of the peace pact include designated camps for insurgent cadres and regular checks of their weapons by a government-decided security force.
- The agreement was initially signed after violent Kuki-Naga clashes in the 1990s, where hundreds were killed.
- The Kuki-Zo insurgent groups demanded an independent land for their people.
- Clashes began after the NSCN demanded that Kuki-Zo-inhabited areas be included in its proposed 'Greater Nagaland' project in the 1980s.

What is the NSCN's stand?

- NSCN accused Indian security forces of helping Kuki militant groups against Meitei revolutionary groups in Myanmar.
- NSCN claimed the Indian government is waging a propaganda war against them.
- NSCN highlighted their 27-year ceasefire and political talks with the Indian government.
- In August 2023, NSCN distanced itself from Manipur violence.
- NSCN stated no ethnic blood should be shed in Naga areas due to Meitei-Kuki-Zo conflicts.

When did the NSCN-IM sign a 'framework agreement'?

- **NSCN-IM**, a major group representing Naga tribes, is in peace talks with the Indian government.

- They signed a **ceasefire agreement in 1997**.
- A **framework agreement was signed on August 3, 2015, aimed at finding a political solution to the Naga issue**.
- **NSCN-IM demands 'Greater Nagaland,' which would include Naga-dominated areas in Assam, Manipur, and Arunachal Pradesh, along with a separate flag and constitution.**
- The Indian government has repeatedly stated it will not allow the disintegration of Assam, Arunachal Pradesh, and Manipur.
- More than a hundred rounds of talks have occurred over 24 years.
- **NSCN-IM was founded in 1980 by Isak Chishi Swu and Thuingaleng Muivah to oppose the Shillong Accord signed by the Naga National Council.**
- After Isak Chishi Swu passed away in 2016, Thuingaleng Muivah has been leading the talks.
- **A.K Mishra, a former Special Director of Intelligence Bureau (IB), appointed as an advisor in the Ministry of Home Affairs in 2020, is currently leading the peace talks.**
- The peace talks are currently in a state of uncertainty or limbo.



The National Investigation Agency (NIA) is a specialized counter-terrorism law enforcement agency in India. Here's some basic information based on official Indian government sources:

- **Function:** The NIA investigates and prosecutes offenses that have national and cross-border implications, focusing on terrorism, insurgency, and other related matters.
- **Formation:** Established on December 31, 2008.
- **Headquarters:** New Delhi, India.
- **Leadership:** Headed by a Director General, an Indian Police Service (IPS) officer with the rank of Director General of Police.
- **Activities:** NIA investigates terror-related crimes across states, tackles organized crime, and gathers intelligence. They can take over investigations from state police with permission from the Ministry of Home Affairs

The National Socialist Council of Nagaland (NSCN) is a militant and separatist group operating mainly in Nagaland, India, with some activity in Myanmar [SATP].

Formation:

- Founded in 1980 by Isak Chishi Swu, Thuingaleng Muivah, and S.S. Khaplang. It emerged in opposition to a previous agreement between the Indian government and the Naga National Council (NNC).

Objective:

- The NSCN's primary goal is to establish a sovereign Naga state called "Nagalim" encompassing Naga-inhabited areas in Northeast India and Myanmar.

Activities:

- The group has been involved in armed insurgency against the Indian government. The Indian government has designated the NSCN as a terrorist organization.

Factions: The NSCN has split into two main factions:

- NSCN (Khaplang) - led by S.S. Khaplang (deceased).
- NSCN (Isak-Muivah) - often abbreviated NSCN-IM, led by Thuingaleng Muivah.

Important to Note:

- Violence and insurgency are complex issues. It's important to rely on credible sources for information and avoid glorifying violence.
- NSCN activities are illegal in India.

MAINS PRACTICE QUESTION:

Question: Discuss the historical and current demands of the NSCN-IM, particularly in light of the framework agreement signed in 2015. (250 Words/15 Marks)

ANSWER APPROACH

ANSWER

The National Socialist Council of Nagaland-Isak-Muivah (NSCN-IM) has been a pivotal insurgent group representing Naga interests since its formation in 1980. Originating from the dissatisfaction with the Shillong

Accord of 1975, which was perceived as a betrayal of Naga aspirations, the NSCN-IM has consistently pursued the establishment of a sovereign Naga homeland. This pursuit has involved armed struggle, negotiations, and eventual engagement in peace talks with the Government of India.

Historical Demands

The NSCN-IM's demands can be traced back to the Naga nationalist movement that emerged during British colonial rule and intensified post-independence.

- **Sovereign Naga Homeland:** The primary demand has been for an independent Naga state, separate from India.
- **Greater Nagaland (Nagalim):** This envisages the integration of all Naga-inhabited areas in the Northeast, including parts of Assam, Manipur, Arunachal Pradesh, and Nagaland.
- **Distinct Naga Identity:** The demand for recognition of Naga identity and culture, which includes preserving their customs, traditions, and way of life.
- **Separate Constitution and Flag:** NSCN-IM has sought a separate constitution and flag, symbolizing the unique status of Nagaland.

Framework Agreement of 2015

The Framework Agreement signed on August 3, 2015, between the Government of India and NSCN-IM marked a significant milestone in the peace process. It aimed at a political solution to the decades-long conflict. The key aspects of the agreement include:

- **Recognition of Unique Naga History and Culture:** The agreement acknowledges the unique history and culture of the Nagas.
- **Shared Sovereignty:** The concept of shared sovereignty was introduced, recognizing the Nagas' right to self-govern within the Indian Union.
- **Decentralization:** Greater autonomy for Naga-inhabited areas through a special arrangement within the Indian constitutional framework.
- **Inclusive Dialogue:** Ensuring that all Naga groups and stakeholders are part of the peace process to arrive at a comprehensive solution.

Current Demands and Challenges

Despite the Framework Agreement, several core demands remain contentious and unresolved:

- **Integration of Naga Areas:** The demand for integrating Naga-inhabited areas from neighboring states remains a major hurdle, with strong opposition from Assam, Manipur, and Arunachal Pradesh.
- **Separate Constitution and Flag:** The insistence on a separate Naga constitution and flag is another sticking point, with the Indian government reluctant to concede.
- **Autonomy and Governance:** The extent of autonomy and the specific mechanisms for governance within the Indian Union continue to be debated.
- **Economic Development and Rehabilitation:** Ensuring economic development, rehabilitation of former insurgents, and addressing socio-economic grievances are also part of the broader demands.

The NSCN-IM's journey from armed struggle to the Framework Agreement reflects a significant shift towards seeking a negotiated settlement. However, the historical and current demands, particularly the issues of territorial integration, separate constitution, and flag, present complex challenges. A lasting solution requires addressing these demands while balancing the interests of all stakeholders in the region. The ongoing dialogue process underscores the need for patience, flexibility, and a genuine commitment to peace and development in the Northeast. The resolution of the Naga issue remains crucial for regional stability and national integration.

Why is RBI keeping an eye on gold loans?

What prompted the central bank to increase its scrutiny of the gold loan business of NBFCs?

Prashanth Perumal

The story so far:

The Reserve Bank of India (RBI) earlier this month asked gold loan lenders to stick to regulatory norms while lending in a bid to tighten its grip over Non-Banking Financial Companies (NBFCs). The RBI has increased its scrutiny of NBFCs after it found certain NBFCs to be flouting regulatory norms. In March, the RBI banned IIFL Finance from issuing fresh gold loans after the firm was found violating lending norms.

What are the RBI's gold loan norms?

The RBI stipulates lenders to comply with certain norms while lending money in lieu of gold. For instance, lenders are not allowed to lend any amount of money that is greater than 75% of the value of the gold that is submitted as collateral by the borrower. This is to ensure that banks have sufficient cushion to absorb any losses by selling the gold in case the borrower defaults on the loan.

And in order to comply with income tax rules, the RBI also mandates that when a loan is disbursed to a borrower, no more than ₹20,000 can be disbursed in the form of cash; the remaining loan amount needs to be deposited in the borrower's bank account. It also instructs lenders to conduct the auction of any gold (in case a borrower defaults) in a fair and transparent manner in locations that are accessible to the borrowers.

It is believed that the RBI is working on detailed guidelines for gold loans that lenders will have to follow.

Why does the RBI want to reinforce these norms now?

The RBI says it has found some NBFCs to be violating regulations linked to gold-based lending. IIFL Finance was disciplined in March

Many non-banking financial companies (NBFCs) may have to become less aggressive in their lending practices as the Reserve Bank of India enforces the loan-to-value rules more strictly

for violating norms related to the size and form of loan disbursements, the evaluation and assaying of gold, the levying of charges, and irregularities in the auction process. For instance, the RBI found that there were loan-to-value irregularities in over two-thirds of defaulted accounts in the case of IIFL Finance.

It should be noted that NBFCs may want to increase the size of their loan book at an aggressive pace in an attempt to grow their business, and thus may be willing to offer loans of value that exceed 75% of the value of the underlying collateral. To do this, NBFCs may try to deliberately overestimate the value of the gold that the borrowers submit as collateral. It is thus not surprising that the RBI has raised concerns about the way in which gold is assayed and valued by NBFCs.

Lenders such as IIFL Finance were using internal assayers to evaluate the value and the purity of the gold offered as collateral by borrowers. This is in contrast to gold loans extended by banks wherein external assayers determine the value and purity of the gold. It should be noted that the gold loan portfolio of NBFCs has increased at an aggressive pace since the pandemic, growing over four fold from about ₹35,000 crore at the end of financial year 2020 to about ₹1,31,000 crore by the end of FY 2023.

The RBI may fear that such aggressive lending by NBFCs is happening in widespread violation of lending norms and that this could potentially cause systemic trouble in the future as the gold loan industry grows in size rapidly.

How will the RBI's scrutiny affect NBFCs?

The NBFCs expect the RBI's scrutiny of their lending practices to affect their growth and profitability. The RBI's insistence that no more than ₹20,000 shall be disbursed as cash when a loan is approved, for instance, is expected to make NBFC gold loans less attractive.

The NBFCs have taken pride in offering emergency cash to borrowers at short notice unlike banks, particularly to those who are not part of the banking system and deal primarily in cash. Many NBFCs might also have to become less aggressive in their lending practices as the RBI enforces the loan-to-value rules more strictly.

It should be noted that the RBI had temporarily allowed lenders to make loans up to 90% of the value of the underlying gold collateral during the pandemic to help borrowers, and this also helped NBFCs expand their loan books aggressively.

Further, measures to make the auction process more transparent and accessible to borrowers could increase the cost of doing business for NBFCs and lead to higher borrowing rates for lenders. The RBI, on the other hand, may believe that its lending norms will make the gold loan business more sustainable and help avoid systemic risks in the long run.

Why is RBI keeping an eye on gold loans? (19 May) (GS Paper III: Banking System)

What prompted the central bank to increase its scrutiny of the gold loan business of NBFCs?

- The Reserve Bank of India (RBI) recently instructed gold loan lenders to adhere strictly to regulatory norms while lending.
- This move is part of the RBI's efforts to strengthen its oversight of Non-Banking Financial Companies (NBFCs).
- The RBI has intensified its scrutiny of NBFCs following instances where certain companies were found to be violating regulatory norms.
- In March, the RBI imposed a ban on IIFL Finance from issuing fresh gold loans after it was discovered that the company had violated lending norms.
- The regulatory tightening aims to ensure that NBFCs maintain compliance with all prescribed guidelines to safeguard financial stability and protect borrowers.

What are the RBI's gold loan norms?

- The Reserve Bank of India (RBI) sets specific norms for lenders when disbursing loans against gold.
- Lenders are restricted from lending more than 75% of the value of the gold submitted as collateral by the borrower.
- This rule ensures that banks have enough margin to cover potential losses by selling the gold if the borrower defaults on the loan.
- To comply with income tax regulations, the RBI mandates that when a loan is disbursed, no more than ₹20,000 can be given in cash to the borrower.
- The remaining loan amount must be deposited directly into the borrower's bank account.
- The RBI also requires lenders to conduct auctions of defaulted gold in a fair and transparent manner.
- Auctions should be held in locations that are accessible to borrowers.
- Currently, the RBI is in the process of developing detailed guidelines for gold loans that lenders will be required to follow.

Why does the RBI want to reinforce these norms now?

- The Reserve Bank of India (RBI) has found that some Non-Banking Financial Companies (NBFCs) are violating regulations related to gold-based lending.
- IIFL Finance was disciplined in March due to violations including the size and form of loan disbursements, evaluation and assaying of gold, levying of charges, and irregularities in the auction process.
- Specifically, the RBI discovered loan-to-value irregularities in over two-thirds of defaulted accounts at IIFL Finance.
- NBFCs may aim to rapidly expand their loan books and business, leading them to offer loans that exceed 75% of the value of the gold collateral.
- To achieve this, NBFCs may overestimate the value of the gold submitted by borrowers as collateral.
- The RBI has raised concerns about how NBFCs assay and value gold, as they were found to use internal assayers, unlike banks which use external assayers.
- Since the pandemic, the gold loan portfolio of NBFCs has grown significantly, from about ₹35,000 crore in FY 2020 to about ₹1,31,000 crore by the end of FY 2023.
- The RBI is concerned that such aggressive lending practices by NBFCs could potentially lead to systemic issues in the future, especially as the gold loan industry continues to rapidly expand.

How will the RBI's scrutiny affect NBFCs?

- Non-Banking Financial Companies (NBFCs) anticipate that the RBI's increased scrutiny of their lending practices will impact their growth and profitability.
- The RBI's directive that no more than ₹20,000 can be disbursed as cash when a gold loan is approved is expected to reduce the attractiveness of NBFC gold loans.
- NBFCs have been known for offering emergency cash quickly, especially to individuals outside the banking system who primarily deal in cash.
- Many NBFCs may need to become less aggressive in their lending practices as the RBI enforces stricter loan-to-value rules.
- During the pandemic, the RBI temporarily allowed lenders to issue loans up to 90% of the value of the gold collateral, which helped NBFCs expand their loan books rapidly.
- Making the auction process more transparent and accessible to borrowers could increase the operational costs for NBFCs and potentially lead to higher borrowing rates.
- The RBI believes that its stringent lending norms will make the gold loan business more sustainable and mitigate systemic risks in the long term.

Chabahar | India's gateway to Central Asia (19 May) (GS Paper II: India Iran)

The project, which was launched in early 2000s and saw sporadic progress over the years, mainly due to geopolitical reasons, got a booster last week as India and Iran signed a long-term agreement to further develop and operate the port

- Chabahar, formerly known as Tiz, was located near India's border in Iran's Sistan Baluchistan province before Partition.
- Persian versions of Indian stories like the Panchatantra were read there, and Hindustani Urdu was commonly spoken.

- India and Iran had distant relations before Iran's 1979 revolution, partly due to Iran's close ties with the U.S. and India's Non-Aligned stance.
- In 1970, the Shah of Iran proposed developing Chabahar, planning even a U.S. submarine base, due to its strategic location as Iran's only warm-water port in the Indian Ocean.
- Prime Minister Narasimha Rao's visit to Tehran in 1993 aimed to strengthen relations.
- The visit secured Tehran's support for India on the international stage, including stopping a Pakistan-backed proposal against India at the UN.
- It initiated talks between India and Iran about developing Chabahar as a strategic port.
- Prime Minister Narasimha Rao's 1993 visit to Tehran strengthened India's ties with Iran.
- **Iran supported India internationally, stopping a Pakistan-backed OIC proposal against India at the UN HRC in 1994.**
- This visit also initiated discussions between India and Iran about developing Chabahar.
- In the 1990s, Iran offered India the opportunity to develop Chabahar, and initial groundwork was laid.
- **Prime Minister Atal Bihari Vajpayee's visit to Tehran in 2001 and President Mohammad Khatami's visit to Delhi in 2003 sealed the Chabahar deal.**
- According to the Delhi Declaration, India and Iran agreed to build a sea link to Chabahar and connect to the National Iranian Rail Road, enabling access to Central Asia and Europe.
- Iran invited India to develop a railway link from Chabahar to Bam, connecting to Afghanistan and Turkmenistan.
- This link, part of the North-South Corridor (INSTC), also connected India through Iran to Russia.
- Afghanistan was a significant part of discussions, with joint efforts to counter the Taliban and promote construction and rehabilitation projects.
- Both countries aimed to develop alternate trade routes to Afghanistan through Iran and work on joint rail and road reconstruction projects.

Strategic location

- India has historically traded with Iran through **the Bandar Abbas port.**
- Chabahar became important to India due to its strategic location, offering an alternative route to Afghanistan via the town of **Zaranj in Iran.**
- Pakistan's reluctance to allow Indian trade through its territory made Chabahar a more viable option.
- In 2005, India started building Route-606, known as the Zaranj-Delaram Highway, to connect the Iranian border to Afghanistan, facilitating trade.
- The construction was dangerous, with 135 personnel killed in Taliban attacks, including six Indian border road and ITBP personnel.
- Chabahar was envisioned as a connectivity hub with strategic significance, aiming to help Afghanistan rebuild despite ongoing conflict.
- Progress at Chabahar was inconsistent due to U.S. sanctions and pressure on India to sever ties with Iran.
- China's competitive activities in the region also posed challenges.
- In 2012, U.S. Secretary of State Hillary Clinton urged countries like India to isolate Iran to pressure Tehran into agreeing to the nuclear deal terms.
- India did not comply with U.S. demands to sever ties with Iran. Despite reducing oil imports by about 20%, India proceeded with the development of Chabahar port.
- In 2012, as China expanded its presence in the Indian Ocean, India sent its first shipment of 100,000 tonnes of wheat to Afghanistan through Chabahar port.
- In May 2013, three months after China announced the development of Gwadar port in Pakistan, External Affairs Minister Salman Khurshid visited Tehran and announced plans for a trilateral partnership with Afghanistan to upgrade Chabahar port.
- In 2016, Prime Minister Narendra Modi, Afghan President Ashraf Ghani, and Iranian President Hassan Rouhani signed an agreement to allow India to invest \$500 million to build the Shahid Beheshti terminal and a railway line to Zahedan at Chabahar port.
- Geopolitical tensions affected Chabahar's progress again in 2018 when U.S. President Donald Trump withdrew from the Joint Comprehensive Plan of Action (JCPOA) with Iran and reinstated sanctions.

Trouble in ties

- The Modi government negotiated an exemption from sanctions for Chabahar to support Afghanistan, but stopped all oil imports from Iran in 2019.
- Sanction threats delayed India's progress on the railway project to Zahedan, and Iran excluded India from the project in August 2020.
- After the Taliban took over Kabul in 2021, India continued sending humanitarian aid to Afghanistan through Chabahar, but trade remained slow.
- Despite challenges, the **Shahid Beheshti terminal at Chabahar** handled significant traffic, including 90,000 TEUs of container traffic, 2.5 million tonnes of wheat, and other aid for Afghanistan, as well as 40,000 litres of pesticide for Iran.
- A new agreement signed recently in Tehran involves Indian Ports Global Ltd and Ports and Maritime Organisation of Iran signing a 10-year Long Term Contract.
- India committed **\$120 million and offered a \$250 million credit line** to further develop the Chabahar project.
- The agreement aims to build 32 jetties and process about 82 million tonnes of cargo per year by the end of the fourth phase.
- The U.S. has hinted at the risk of sanctions against Indian companies involved in the contract, but India's interest in Chabahar remains strong.

- Chabahar, despite its slow progress, remains an irreversible reality with strategic importance due to its location and geopolitical positioning.

Human papillomavirus (HPV) vaccine prevents cervical cancer in deprived groups: study (19 May) (GS Paper III: Disease)

- The HPV vaccine is significantly reducing cases of cervical cancer across all socio-economic groups.
- A major study funded by Cancer Research UK found that the vaccine is preventing most cases of cervical cancer in more deprived communities.
- There were previous concerns about the HPV vaccine having unequal impacts across society.
- Researchers at Queen Mary University of London conducted the longest follow-up study on the effectiveness of the HPV vaccine.
- They concluded that the HPV vaccination program in England is helping to reduce inequalities in cervical cancer.
- The findings were published in the journal BMJ.

Public interventions

- A study found that the HPV vaccine is preventing more cases of cervical cancer in deprived groups compared to less deprived groups.
- Approximately 650,000 people aged 12-18 years were offered vaccination across five deprivation groups.
- The school-based vaccination program was highly successful, demonstrating that well-executed public health interventions can reduce health inequalities.
- **Over a 12-year period, the HPV vaccine reduced cervical cancer incidence rates by nearly 90% and pre-cancerous conditions by around 95%.**
- **The vaccine is most effective when administered at ages 12-13, showing higher effectiveness than when given later in life.**
- Despite the vaccine's success, some inequalities in cervical cancer incidence remain, particularly in deprived groups.
- Cancer Research UK warns that more efforts are needed to improve the health of the most deprived groups and reduce cervical cancer rates.
- Cervical cancer rates are higher in people from deprived backgrounds across the UK, partly due to higher HPV risk and lower screening attendance.
- Cancer Research UK scientists established the link between HPV and cervical cancer 25 years ago.
- Cervical cancer rates in the UK have dropped by almost a third since the early 1990s.
- The HPV vaccination program was first introduced in England in 2008.

Women with no sexual autonomy twice likely to get STIs (19 May) (GS Paper I: Society)

One in nearly every twelve married women in the age group of 15-49 years in India had experienced at least **one sexually transmitted infection or reproductive tract infection** over a period of one year

- A recent study examined data from 73,895 women in India aged 15-49 from the National Family Health Survey-5 (2019-2021).
- Researchers from Tata Institute of Social Sciences in Mumbai and JNU's Centre for Study of Regional Development conducted the study.
- The study found that women who had controlling husbands and experienced intimate partner violence (IPV) were more likely to develop sexually transmitted infections (STIs) or reproductive tract infections (RTIs).
- It revealed that approximately one in every 12 married women in this age group reported having at least one STI or RTI within the past year.
- The survey asked sexually active women about diseases from sexual contact, abnormal genital discharge, or genital sores or ulcers in the previous 12 months.
- A recent study analyzed data from the National Family Health Survey-5 (2019-2021) regarding sexual autonomy and **intimate partner violence (IPV)** among women in India.
- Conducted by researchers from Tata Institute of Social Sciences in Mumbai and JNU's Centre for Study of Regional Development.
- The study focused on questions related to **sexual autonomy, such as whether wives can ask their husbands to use condoms if they know he has a sexually transmitted disease, refuse sex if they know he is having sex with others, or say no to sex if they do not want it.**
- The study found that **73% of women surveyed claimed to have sexual autonomy.**
- About 31% of women reported experiencing intimate partner violence, which included physical violence like pushing or punching, sexual violence including forced sex, and emotional abuse such as humiliation or threats.
- Additionally, **46% of women said they faced controlling behaviors from their husbands, such as jealousy, accusations of infidelity, restricting contact with others, and controlling finances.**
- Women who experienced IPV had a higher incidence of sexually transmitted infections (STIs) or reproductive tract infections (RTIs) (18.4%) compared to those who did not (9.7%).
- Similarly, women who faced controlling behaviors from their husbands also reported higher rates of STI/RTI (15.9%) compared to those who did not experience control (9.4%).

- The study highlights the correlation between intimate partner violence, controlling behaviors, and increased risk of STIs/RTIs among women in India.

Controlling attitudes

- **Women who lacked sexual autonomy and experienced intimate partner violence were 2.3 times more likely to have sexually transmitted infections (STIs) or reproductive tract infections (RTIs) compared to those who had sexual autonomy and were not exposed to intimate partner violence.**
- Similarly, women who lacked sexual autonomy and whose husbands exhibited controlling behaviors were over twice as likely to be exposed to RTIs compared to those who had sexual autonomy and did not face controlling behaviors from their husbands.
- According to Mr. Pintu Paul, women who had sexual autonomy and freedom of physical mobility were 24% less likely to experience RTIs compared to those who did not have these freedoms.
- The study found that women's household decision-making autonomy had a greater impact than physical mobility in reducing the risk of RTIs. Women who had sexual autonomy and decision-making autonomy were 36% less likely to have RTIs compared to those who did not have these autonomies.
- Household decision-making autonomy includes a woman's ability to make decisions about her own healthcare, make significant purchases for the household, and visit family or relatives.
- These findings underscore the importance of sexual autonomy and decision-making autonomy in reducing the risk of STIs and RTIs among women.
- According to Mr. Pintu Paul, after adjusting for sociodemographic factors, women with sexual autonomy were associated with a 12% lower likelihood of having sexually transmitted infections (STIs) or reproductive tract infections (RTIs) compared to those without sexual autonomy.
- The prevalence of STIs/RTIs was higher among younger women aged 15 to 24 years (13%) and 25 to 34 years (13.2%) compared to older women aged 35 to 49 years (11.6%).
- Mr. Paul emphasized the need for policy-level interventions to address issues such as child marriage, domestic violence against women, and regressive social norms that restrict women's decision-making ability and freedom of movement.
- These interventions are crucial to reducing the prevalence of STIs and RTIs among women and promoting their sexual autonomy and overall health.

The Role of Light and the Eye:

- Light exists as a wave with varying wavelengths. These wavelengths are what our eyes perceive as different colors.
- Our eyes contain **photoreceptor cells called rods and cones located in the retina**. Rods handle low-light vision, while cones are responsible for color vision.
- Cones come in three main types, each most sensitive to specific wavelengths of light: **red, green, and blue**.

From Eye to Brain:

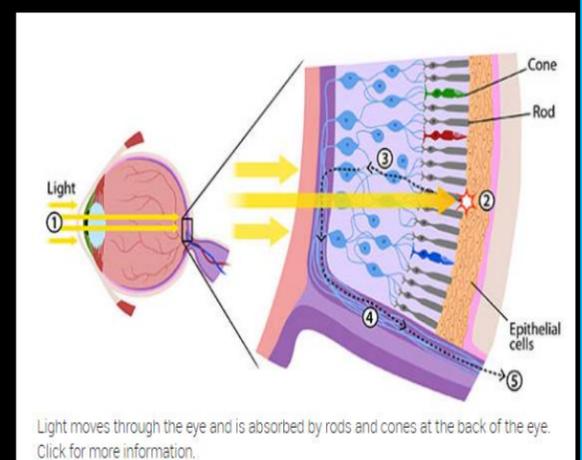
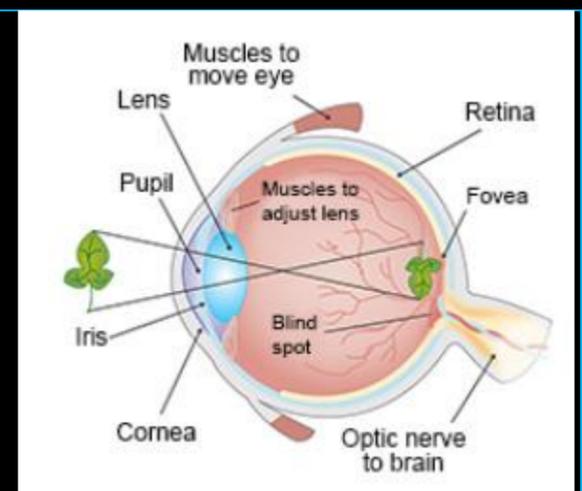
- **When light strikes the cones, it triggers a chemical reaction. This reaction generates electrical signals that travel through the optic nerve to the brain.**

Brain Interpretation:

- Here's where the magic happens! The brain doesn't inherently perceive color – it interprets the signals from the cones.
- The specific combination of signals from the different cone types creates the perception of various colors.
- For instance, **if red and green cones are stimulated equally, we perceive yellow.**

Beyond the Basics:

- There's more to color perception than just cone stimulation. The brain also considers factors like light intensity, surrounding colors, and past experiences to create a richer color experience.
- This is why colors can sometimes appear to change depending on the context in which we see them



Perceiving colour (19 May)

How does the brain turn light waves into experiences of colour?

- **Discovery of Neuronal Networks in Fruit Flies:**
 - Researchers have identified **specific networks of neurons** in fruit flies that respond selectively to various hues.
 - Hue refers to the perceived colors associated with specific wavelengths or combinations of wavelengths of light.
- **Previous Findings and Challenges:**
 - Scientists had previously found neurons in animals' brains that respond selectively to different colors or hues like red or green.

- However, the neural mechanisms underlying hue selectivity were not fully understood until now.
- **New Research Findings:**
 - Researchers have mapped the brain connections in fruit flies, detailing how approximately 130,000 neurons and 50 million synapses are interconnected in their tiny brains.
 - This intricate map served as a reference to develop a diagram representing the neuronal circuitry responsible for hue selectivity.
 - Modeling based on their observations helped reveal that these circuits can support the activity necessary for hue selectivity.
- **Significance of the Research:**
 - The findings provide insight into how the brain processes and distinguishes between different colors or hues.
 - Understanding these neural circuits could lead to further insights into how sensory information is processed in the brain.
 - This research could have implications for understanding vision and perception in other organisms, including humans.

H5N1 Avian Influenza Virus Overview:

- **Nature:** H5N1 is an influenza virus that primarily infects birds, causing avian influenza or "bird flu."
- **Infections in Mammals:** H5N1 infections have also been documented in mammals, including humans.
- **Human Health Impact:**
 - **Severity:** In humans, H5N1 infection can range from mild to severe, with some cases being fatal.
 - **Symptoms:** Symptoms are primarily respiratory, but non-respiratory symptoms such as conjunctivitis have also been reported.
 - **Asymptomatic Infections:** Some individuals exposed to infected animals or environments may not show any symptoms.
- **Origins and Spread of H5N1:**
 - **Emergence:** The goose/Guangdong-lineage of H5N1 avian influenza viruses first emerged in 1996.
 - **Outbreaks in Birds:** Since its emergence, H5N1 has caused outbreaks in birds worldwide.
 - **Variant in 2020:** A variant of H5N1 emerged in 2020, leading to unprecedented deaths in wild birds and poultry globally.
 - **Geographical Spread:**
 - **2021:** The virus spread from Africa, Asia, and Europe to North America.
 - **2022:** Central and South America also experienced outbreaks.
- **Epidemics in Europe and North America:**
 - **2021-2022:** Europe and North America faced their largest and most extended epidemic of avian influenza.
 - **Impact:** The virus persisted unusually in wild bird populations during this period.
- **Emerging Threat to Mammals:**
 - **From 2022 Onwards:** Increasing reports of deadly outbreaks among mammals caused by influenza A(H5) viruses, including A(H5N1).
 - **Affected Animals:**
 - **Land Mammals:** Farmed fur animals, seals, sea lions, foxes, bears, otters, raccoons.
 - **Domestic Animals:** Cats, dogs, cows, goats, and others.
 - **Likelihood of Undetected Outbreaks:** There are likely more outbreaks that have not been detected or reported yet.
- **Conclusion:**
 - H5N1 poses a significant threat to both bird and mammal populations, including humans, and requires ongoing monitoring and response efforts globally.

Sachetisation of F&O trade risks savings (19 May)

CEA Nageswaran emphasises need to reconsider making trade in futures and options accessible to smaller investors given the requirement of a higher level of financial literacy for derivatives trading as well as the potential diversion of household savings that poses dangers to financial stability

- **Chief Economic Advisor's Caution:**
 - V. Anantha Nageswaran, the Chief Economic Advisor, warned against households investing their savings in futures and options (F&O) trading.
 - He suggested that F&O trading, especially when made accessible in small amounts (sachetisation), requires a higher level of financial literacy.
- **Financial Literacy Concerns:**
 - Nageswaran emphasized that many investors may not fully understand the complexities and risks associated with F&O trading.
- **Historical Perspective:**
 - He referred to historical instances where rapid financial sector growth preceded national development and led to economic crises, citing the Asian financial crisis of 1997-98 as an example.
- **Trading Volume Reflection:**

- Despite having the world's largest trading volume in futures and options, Nageswaran questioned whether this reflects economic progress or excessive speculation.

- **Summit Context:**

- Nageswaran made these comments during the CII's Annual Business Summit, where he addressed the implications of high F&O trading volumes and the need for careful consideration and regulation.

'Productive purposes'

- **Responsibility of the Financial Sector:**

- V. Anantha Nageswaran emphasized that the financial sector has a responsibility to ensure that capital markets grow in areas where Indian household savings can be used productively.

- **Concerns about Financial Literacy:**

- Many individuals currently participating in the market do not fully understand the complexities of futures and options trading.
- Nageswaran highlighted that the level of financial literacy required for trading stocks is significantly different from that needed for trading futures and options.

- **Sachetisation of Futures and Options:**

- Nageswaran suggested that the practice of sachetisation (making financial products available in smaller, more manageable packets) of futures and options needs to be reconsidered.
- He pointed out that trading in futures and options requires a higher level of financial literacy compared to trading in stocks.

- **Household Savings and Investments:**

- Household net savings decreased sharply by ₹9 lakh crore over three years, falling to ₹14.16 lakh crore at the end of FY23.
- Investment in mutual funds nearly tripled to ₹1.79 lakh crore in three years from ₹64,084 crore in FY21.
- Household investment in shares and debentures almost doubled to ₹2.06 lakh crore in FY23.

- **Government Caution and Regulatory Concerns:**

- Finance Minister Nirmala Sitharaman warned against an unchecked explosion in retail futures and options trading, which could potentially create financial problems for households.
- She stressed the need to safeguard household finances and urged exchanges like NSE and BSE, along with market regulator SEBI, to collaborate and develop robust regulatory standards to protect investors' interests.

- **Impact of the Pandemic:**

- Participation in the futures and options segment surged more than sixfold during the pandemic, reflecting increased retail trading activity in these instruments.

Definition of Derivative:

- A derivative is a **formal financial contract that allows an investor to buy or sell an asset at a future date.**
- **It has a fixed and predetermined expiry date.**
- **Advantages of Derivative Trading:**
 - **Enhanced Gains:** Derivative trading can amplify gains significantly compared to buying the underlying asset.
 - **Leveraged Trading:** It allows investors to control a larger amount of assets with a small initial investment.
 - **Range of Derivatives:** Derivatives can be based on various assets like stocks, commodities, currencies, and benchmarks.
- **Types of Derivative Contracts:**
 - **Futures:** Contracts where both the buyer and seller are legally obligated to fulfill the contract at the expiry date.
 - **Options:** Contracts that give the buyer the right (but not the obligation) to buy or sell the asset at a predetermined price before expiry.
- **Types of Options:**
 - **Call Option:** Allows the buyer to buy the underlying asset at a specified price because they believe the asset's value will rise.
 - **Put Option:** Allows the buyer to sell the underlying asset at a specified price because they expect the asset's value to decrease.

Futures and options are financial contracts, **considered derivatives, that derive their value from an underlying asset, like a stock, commodity (like oil or gold), or currency (Securities and Exchange Commission (SEC)).** They are traded on a derivatives exchange, such as the **Chicago Mercantile Exchange (CME) or the National Stock Exchange of India.**

Key Differences

- **Obligation:** A futures contract creates an obligation for the buyer to purchase or the seller to sell the underlying asset at a predetermined price on a specific future date, unless the contract is closed beforehand. Options contracts, however, grant the buyer the right, but not the obligation, to buy (call option) or sell (put option) the underlying asset at a certain price by a specific date.
- **Risk and Reward:** Both futures and options offer the potential for profit, but also carry significant risk. Futures require a margin deposit, which can magnify gains and losses. Options have a premium cost, which represents the maximum loss for the buyer, but the potential loss for the seller is much higher.

Purposes

- **Hedging:** Futures and options are commonly used to hedge existing holdings, such as stocks or commodities, by locking in a price for a future date [CFTC]. This can help to protect against potential price fluctuations.
- **Speculation:** Traders can also use futures and options to speculate on the future price movements of the underlying asset. This can be a profitable strategy, but also carries a high degree of risk.

N. Vaghul – A rare diamond (19 May)

- **Vaghul's Reputation:**
 - Vaghul was highly respected and considered a rare diamond of splendid colors.
 - He was acknowledged for his outstanding ability to build institutions.
- **Areas of Influence:**
 - He played a significant role in founding multiple prestigious institutions.
 - These institutions covered diverse fields such as finance, education, academic research, and technology.
- **Impact and Legacy:**
 - His contributions left a lasting impact on various sectors and disciplines.
 - Vaghul's initiatives helped shape and develop numerous reputed institutions across different domains.

Outstanding banker

- **Vaghul as an Outstanding Banker:**
 - Vaghul was recognized as an exceptional banker.
 - He played a crucial role in encouraging and promoting several entrepreneurs.
 - Many of these entrepreneurs now lead business groups that occupy top positions in industry listings.
- **Ethical Conduct:**
 - He achieved this while working in the stifling confines of a development banking institution.
 - Vaghul maintained high ethical standards throughout his career.
 - His ability to achieve so much ethically is a testament to his genius.
- **Transformation of ICICI:**
 - The speaker had the privilege of being on the Board of ICICI during its transformation.
 - ICICI changed from a development financial institution to a 'universal bank' in the late 1990s.
 - This transformation was unprecedented and marked a significant milestone in ICICI's history.

'Leadership school'

- **Leadership and Transformation:**
 - Vaghul led an audacious transformation of ICICI.
 - He created a group of exceptional leaders whom he identified, mentored, and developed.
 - ICICI became known as a leadership school under his leadership.
 - Alumni like K.V. Kamath, Kalpana Morparia, Shikha Sharma, Nachiket Mor, and others emerged from ICICI and went on to lead institutions and transform the financial sector.
- **Impactful Board Meetings:**
 - Board meetings at ICICI were exciting and educational.
 - Many pioneering concepts were born in these meetings.
 - ICICI was involved in launching the first credit rating institution, insurance companies, and venture capital funds.
 - These initiatives contributed significantly to the evolution of the financial sector landscape.

Master raconteur

- Vaghul was an outstanding banker who encouraged and promoted several entrepreneurs.
- He did so while adhering to ethical boundaries, despite working in a development banking institution.
- He was instrumental in transforming ICICI from a development financial institution to a universal bank in the late 1990s.
- Vaghul created a group of exceptional leaders at ICICI whom he mentored and developed.
- ICICI became a leadership school under his leadership, producing alumni who transformed the financial sector.

- Board meetings at ICICI were innovative and educational, where pioneering concepts were born.
- Post-meeting gatherings with Vaghul were lively, filled with laughter, and his captivating storytelling.
- Vaghul's contributions in the financial sector have paved the way for significant advancements that are now integral to the industry.

Faith in research

- Vaghul's genius extended beyond the financial sector, where he excelled as a banker.
- He was a voracious reader and could be considered an academician who masqueraded as a banker.
- Vaghul founded or mentored institutions like the Institute of Financial Management & Research, Krea University, and Pratham.
- He believed deeply in the importance of high-quality education and research for realizing his vision of a New India.
- Vaghul engaged in conversations with reputed historians, had erudite comments on cricket, and could discuss Advaita philosophy like a professional lawyer.
- He had an insatiable appetite for learning and curiosity about the world around him.

Incredibly simple

- **Vaghul's Background and Mentoring:**
 - Vaghul was mentored by R.K. Talwar, a former Chairman of State Bank of India.
 - Talwar was known for his professional brilliance, humility, and simplicity.
 - Talwar considered Vaghul a better manager than himself, highlighting their greatness.
- **Personal Traits and Interactions:**
 - Despite receiving numerous accolades, including the Padma Bhushan, Vaghul remained incredibly simple.
 - The speaker spoke with Vaghul frequently over the last several years, sometimes multiple times a week.
 - They exchanged notes on books, discussed philosophy, politics, and people.
 - The speaker was always amazed at Vaghul's razor-sharp analysis, wisdom, and deep erudition.
- **Recent Conversations:**
 - Recently, they discussed the impact of AI on education.
 - The speaker believes Vaghul would continue his spirited conversations in the afterlife.
 - Vaghul would engage with smarter people, learning and challenging, all with his undiminished wicked sense of humor.

FSSAI asks fruit traders, food biz not to use banned product 'calcium carbide' for fruit ripening (19 May)

- The Food Safety and Standards Authority of India (FSSAI) has issued a warning against the use of calcium carbide for ripening fruits.
- Calcium carbide is a banned substance used to artificially ripen fruits like mangoes.
- It releases acetylene gas, which contains harmful traces of arsenic and phosphorus.
- Consumption of fruits ripened using calcium carbide can lead to serious health issues such as dizziness, frequent thirst, irritation, weakness, difficulty in swallowing, vomiting, and skin ulcers.
- Handling acetylene gas is equally hazardous.
- FSSAI has alerted traders, fruit handlers, and food business operators to strictly comply with the ban, especially during the mango season.
- State and Union Territory Food Safety Departments have been advised to remain vigilant and take strict action against those using calcium carbide, as per the provisions of the FSS Act, 2006.
- There is a risk that calcium carbide residues containing arsenic and phosphorus may remain on fruits, posing health risks to consumers.
- Calcium carbide has been banned for ripening fruits under the Food Safety and Standards (Prohibition and Restrictions on Sales) Regulations, 2011.
- The regulation explicitly prohibits the sale of fruits that have been artificially ripened using acetylene gas, known as carbide gas.
- Due to the risks associated with calcium carbide, the FSSAI has allowed the use of ethylene gas as a safer alternative for fruit ripening in India.
- Ethylene gas can be used at concentrations up to 100 ppm, depending on the crop, variety, and maturity.
- Ethylene is a natural hormone in fruits that helps regulate the ripening process by initiating and controlling chemical and biochemical activities.
- Treating unripe fruits with ethylene gas stimulates the natural ripening process until the fruit itself starts producing ethylene in sufficient amounts.
- The Central Insecticides Board and Registration Committee (CIB & RC) have approved Ethephon 39% SL for uniform ripening of mangoes and other fruits.

- This approval ensures that fruits ripened with ethylene or Ethephon are safe for consumption and do not pose health risks like those ripened with calcium carbide.

Burkina Faso, Mali and Niger finalise regional alliance project (19 May)

The three countries said late January they were quitting The Economic Community of West African States (ECOWAS), which they said was under French influence

- Burkina Faso, Mali, and Niger, governed by military juntas, have decided to form a confederation.
- They are moving away from their former colonial ruler, France, and are seeking closer ties with Russia.
- The Foreign Ministers of the three countries met in Niamey, Niger's capital, to finalize plans for the Confederation of the Alliance of Sahel States (AES).
- Niger's Foreign Minister, Bakary Yaou Sangare, announced the completion of the draft text to establish and operate the AES.
- The heads of state of Burkina Faso, Mali, and Niger will adopt the text at an upcoming summit, although the specific date was not mentioned.
- Malian Foreign Minister, Abdoulaye Diop, confirmed the official establishment of the AES after meeting with General Abdourahamane Tiani, the head of Nigerien military regime.
- Burkina Faso's Foreign Minister, Karamoko Jean-Marie Traore, was also present at the meeting.
- The Sahel region, where these countries are located, has faced severe jihadist violence for years, which they feel France has been unable to effectively address.
- In late January, Burkina Faso, Mali, and Niger announced their withdrawal from the Economic Community of West African States (ECOWAS), citing French influence, to establish their own regional group.

The Economic Community of West African States (ECOWAS) is a regional political and economic union of fifteen countries located in West Africa [ECOWAS]. Their primary goal is to promote economic cooperation among member states in order to raise living standards and foster economic development. They also work on addressing regional security issues.

- **Members:** The fifteen member states of ECOWAS are Benin, Burkina Faso, Cabo Verde, Cote d'Ivoire, The Gambia, Ghana, Guinea, Guinea-Bissau, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone, and Togo.
- **Formation:** ECOWAS was founded on May 28, 1975, by the Treaty of Lagos, Nigeria.
- **Headquarters:** Abuja, Federal Capital Territory, Nigeria

Kerala's move to build check-dam across Silandhi river poses risk to water security, say experts (19 May)

- Kerala is constructing a check-dam across the Silandhi River, a tributary of the Amaravathy River.
- The Amaravathy dam, built in 1958, holds 4 tmcft of water and supports irrigation for 55,000 acres in Tiruppur and Karur districts.
- The Silandhi River is crucial for maintaining the water levels in the Amaravathy dam.
- Previously, Kerala built a check-dam at Pambaru, affecting the river's flow.
- The new check-dam in Vattavada village, Idukki district, threatens to further reduce water inflow to the Amaravathy River.
- Velu Sivakumar, VCK's Farmers' Wing State Deputy Secretary, criticizes Kerala's move, saying it will harm thousands of farmers who depend on the Amaravathy River.
- Kerala justifies the check-dam as necessary for local drinking water needs, but farmers fear it will divert all water away from the Amaravathy dam.
- A demonstration is planned on May 27 at the Amaravathy basin Executive Engineer's office in Dharapuram against Kerala's construction.
- Public Works Department officials confirm that Kerala has begun construction, and they are checking if it follows the Cauvery Water Management Board's final ruling.

When Earth passed through the tail of Halley's Comet (19 May)

Did you know that our planet passed through the tail of Halley's Comet during its 1910 visit on May 19? And that apocalyptic predictions still held sway at that time, despite being in the 20th Century? A.S.Ganesh takes a look at how the arrival of the most popular comet created a stir in 1910

- Halley's Comet is named after Edmond Halley, an English astronomer who lived in the 17th-18th centuries.
- The comet had been observed for over two millennia before Halley, but he is credited with predicting its return.
- Halley was also a mathematician and physicist, in addition to being an astronomer.
- He succeeded John Flamsteed as the second Astronomer Royal in Britain in 1720.

- Halley's prediction of the comet's return in 1758, based on his calculations, proved accurate.

Calculus + astronomy

- Edmond Halley, while assisting John Flamsteed, used mathematics, specifically calculus, to calculate the parabolic paths of comets.
- By 1705, he had computed the parabolic orbits of several comets that had been observed over previous centuries.
- Halley discovered that the orbits of comets observed by Johannes Kepler in 1531 and 1607, as well as the comet he observed in 1682, were nearly identical.
- Intrigued, Halley traced back historical comet observations and found similar orbital characteristics.
- He determined that these comets appeared approximately every 75 years, including one observed by Italian painter Giotto di Bondone.

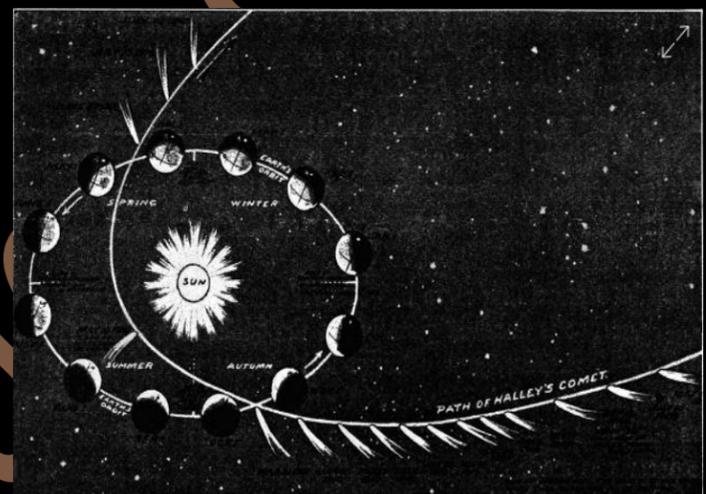


Predicts future occurrence

- Halley concluded that comets observed in different years with identical paths were actually the same comet returning periodically.
- He used science to predict that this comet, now known as 1P/Halley, would return near Earth in 1758.
- Halley died in 1742, but Halley's Comet returned as predicted in December 1758.
- Halley's Comet has returned approximately every 76 years: 1835, 1910, and 1986.
- The 1910 return of Halley's Comet generated significant apocalyptic hype due to limitations in tracking its full orbit with telescopes at the time.

Anticipation turns into concern

- Astronomers anticipated spectacular views as Halley's Comet made a close approach to Earth.
- Concern arose when astronomers realized Earth would pass through the comet's 25-million-kilometer-long tail.
- Yerkes Observatory in the U.S. used spectroscopy to analyze Halley's Comet and discovered cyanogen, a deadly poison, in its tail in February.
- French astronomer Camille Flammarion suggested that cyanogen in the comet's tail "would impregnate the atmosphere and possibly snuff out all life on the planet."
- Flammarion's statement sparked widespread fear, and it was sensationalized by popular media worldwide.
- Attempts by other scientists to calm fears were largely unsuccessful.



Comet pills and all-night vigils

- Concerns grew as Earth's passage through Halley's Comet's tail was set for May 19.
- Some individuals capitalized on the panic by selling comet pills that claimed to protect against the comet's supposed poison.
- Religious organizations held all-night prayer vigils in anticipation of potential harm.
- May 19 passed without any catastrophic events, easing fears among the public.
- Rational observers worldwide enjoyed a unique opportunity to witness Halley's Comet from rooftops.
- Halley's Comet is scheduled to return to Earth in 2061, without the doomsday predictions that surrounded its 1910 appearance.



Halley's Comet on May 19, 1910 as photographed at the Lowell Observatory

Popular sightings

- The first known observation of Halley's Comet dates back to 239 B.C., recorded by Chinese astronomers in the Shih Chi and Wen Hsien Thung Khao chronicles. Some studies suggest an even earlier observation in 466 B.C.
- In 1066, Halley's Comet was spotted shortly before William the Conqueror invaded England and defeated King Harold at the Battle of Hastings. William interpreted the comet as a sign of his impending success.
- The Bayeux Tapestry, which depicts the Norman conquest of England, includes an image of Halley's Comet as a symbol of William's victory.
- Halley's Comet reappeared in 1301, and it is believed that Italian painter Giotto di Bondone may have been inspired by this sighting when he depicted the Star of Bethlehem in his work "The Adoration of the Magi."

Inter-Twain-ed

- Samuel Langhorne Clemens, known by his pen name Mark Twain, was an American author, humorist, and essayist.

- He was born on November 30, 1835, just weeks after Halley's Comet passed through its perihelion (closest point to the sun) during its 1835 visit.
- Twain famously predicted his own death in 1909, knowing that Halley's Comet was due to pass by Earth again the following year.
- He remarked, "I came in with Halley's Comet. It is coming again next year. The Almighty has said, no doubt, 'Now here are these two unaccountable freaks; they came in together, they must go out together.'"

PRELIMS PRACTICE QUESTIONS:

<p>Question 1: Consider the following statements regarding the classification of coal based on carbon content:</p> <ol style="list-style-type: none"> 1. Anthracite has the highest carbon content among all types of coal. 2. Bituminous coal has a lower carbon content compared to lignite. 3. Lignite has the lowest carbon content among the different types of coal. <p>Which of the statements given above is/are correct?</p> <p>A) 1 only B) 1 and 2 only C) 1 and 3 only D) 2 and 3 only</p>	<p>Answer: C) 1 and 3 only</p> <p>Explanation:</p> <p>Statement 1 is correct: Anthracite coal has the highest carbon content, typically above 86% carbon.</p> <p>Statement 2 is incorrect: Bituminous coal has a higher carbon content (45-86%) compared to lignite, which has a lower carbon content (25-35%).</p> <p>Statement 3 is correct: Lignite, also known as brown coal, has the lowest carbon content among the types of coal.</p>
<p>Question 2: Which of the following types of coal has the highest energy content due to its high carbon percentage?</p> <p>A) Peat B) Lignite C) Bituminous D) Anthracite</p>	<p>Answer: D) Anthracite</p> <p>Explanation:</p> <p>Option A is incorrect: Peat is the precursor to coal and has the lowest energy content with the least amount of carbon.</p> <p>Option B is incorrect: Lignite has low energy content and low carbon percentage.</p> <p>Option C is incorrect: Bituminous coal has a higher energy content and carbon percentage compared to peat and lignite, but not as high as anthracite.</p> <p>Option D is correct: Anthracite has the highest energy content due to its high carbon percentage, typically above 86%.</p>
<p>Question 3: Arrange the following types of coal in ascending order based on their carbon content:</p> <ol style="list-style-type: none"> 1. Lignite 2. Anthracite 3. Bituminous 4. Peat <p>Select the correct order using the codes given below:</p> <p>A) 4-1-3-2 B) 1-4-3-2 C) 1-3-2-4 D) 4-3-1-2</p>	<p>Answer: A) 4-1-3-2</p> <p>Explanation:</p> <p>Peat (4) has the lowest carbon content.</p> <p>Lignite (1) has a higher carbon content than peat but lower than bituminous coal.</p> <p>Bituminous (3) has a higher carbon content than lignite but lower than anthracite.</p> <p>Anthracite (2) has the highest carbon content.</p>
<p>Question 4: Which of the following initiatives has the Government of India undertaken to address the environmental impact of coal mining and usage?</p> <p>A) Implementation of the National Solar Mission B) Promotion of Ultra Mega Power Projects (UMPPs) using supercritical technology C) Launch of the Clean Ganga Mission D) Establishment of the National Biodiversity Authority</p>	<p>Answer: B) Promotion of Ultra Mega Power Projects (UMPPs) using supercritical technology</p> <p>Explanation:</p> <p>Option A is incorrect: The National Solar Mission focuses on solar energy, not specifically on mitigating the environmental impact of coal.</p> <p>Option B is correct: Ultra Mega Power Projects (UMPPs) using supercritical technology aim to improve the efficiency of coal-fired power plants, thereby reducing emissions and the environmental impact.</p> <p>Option C is incorrect: The Clean Ganga Mission focuses on cleaning the Ganges River, not directly related to coal.</p> <p>Option D is incorrect: The National Biodiversity Authority focuses on biodiversity conservation, not specifically on coal.</p>
<p>Question 5: Consider the following statements about the role of coal and lignite in India's energy sector:</p> <ol style="list-style-type: none"> 1. Lignite has a higher moisture content and lower carbon content compared to bituminous coal. 2. India imports a significant portion of its coal requirements despite having large domestic reserves. 3. The environmental impact of coal mining and usage is a major concern for India's energy policies. <p>Which of the statements given above is/are correct?</p> <p>A) 1 only B) 2 and 3 only C) 1 and 3 only D) 1, 2, and 3</p>	<p>Answer: D) 1, 2, and 3</p> <p>Explanation:</p> <p>Statement 1 is correct: Lignite indeed has higher moisture content and lower carbon content compared to bituminous coal.</p> <p>Statement 2 is correct: Despite having large domestic reserves, India imports a significant amount of coal, particularly high-quality coking coal for the steel industry.</p> <p>Statement 3 is correct: The environmental impact of coal mining and usage, including air pollution and greenhouse gas emissions, is a major concern for India's energy policies.</p>

<p>Question 6: Which of the following is a key characteristic that distinguishes an NBFC from a bank? A) NBFCs are not required to maintain reserve ratios such as CRR or SLR. B) NBFCs can issue demand deposits. C) NBFCs are part of the payment and settlement system. D) NBFCs are regulated by the Ministry of Finance.</p>	<p>Answer: A) NBFCs are not required to maintain reserve ratios such as CRR or SLR. Explanation: Option A is correct: NBFCs are not required to maintain reserve ratios like Cash Reserve Ratio (CRR) or Statutory Liquidity Ratio (SLR), unlike banks which are mandated to maintain these reserves. Option B is incorrect: NBFCs cannot issue demand deposits. Option C is incorrect: NBFCs are not part of the payment and settlement system. Option D is incorrect: NBFCs are regulated by the Reserve Bank of India (RBI), not directly by the Ministry of Finance.</p>
<p>Question 7: Consider the following differences between NBFCs and banks: 1. Banks can issue demand deposits whereas NBFCs cannot. 2. Banks are part of the payment and settlement system, while NBFCs are not. 3. The banking sector is regulated by the RBI, while NBFCs are regulated by SEBI. Which of the statements given above is/are correct? A) 1 only B) 1 and 2 only C) 2 and 3 only D) 1, 2, and 3</p>	<p>Answer: B) 1 and 2 only Explanation: Statement 1 is correct: Banks can issue demand deposits (such as savings and current accounts), while NBFCs cannot. Statement 2 is correct: Banks are part of the payment and settlement system, allowing them to issue cheques and participate in the clearing system, while NBFCs are not. Statement 3 is incorrect: Both banks and NBFCs are regulated by the Reserve Bank of India (RBI), although NBFCs may also be subject to regulations from other bodies depending on their specific activities.</p>
<p>Question 8: Which of the following is a key function of the National Investigation Agency (NIA)? A) Conducting border security operations B) Investigating and prosecuting offenses affecting the security of India C) Managing disaster relief efforts D) Regulating financial markets</p>	<p>Answer: B) Investigating and prosecuting offenses affecting the security of India Explanation: Option A is incorrect: Conducting border security operations is the responsibility of the Border Security Force (BSF) and other related agencies. Option B is correct: The primary function of the NIA is to investigate and prosecute offenses affecting the security of India, particularly those related to terrorism. Option C is incorrect: Managing disaster relief efforts is the responsibility of agencies like the National Disaster Response Force (NDRF) and the National Disaster Management Authority (NDMA). Option D is incorrect: Regulating financial markets is the responsibility of the Securities and Exchange Board of India (SEBI)</p>
<p>Question 9: Which of the following statements is true regarding the jurisdiction and powers of the NIA? A) The NIA can investigate crimes across India without special permission from states. B) The NIA only has jurisdiction over crimes committed within India's borders. C) The NIA needs the state government's consent to investigate in that state. D) The NIA is only responsible for intelligence gathering and not for prosecution.</p>	<p>Answer: A) The NIA can investigate crimes across India without special permission from states. Explanation: Option A is correct: The NIA has the power to investigate crimes across India without requiring special permission from state governments for offenses listed in the NIA Act. Option B is incorrect: The NIA can also operate internationally if the crime has implications for India's security, as per mutual legal assistance treaties and international cooperation frameworks. Option C is incorrect: The NIA does not need state government consent to investigate offenses under its purview. Option D is incorrect: The NIA is responsible for both intelligence gathering and prosecution of cases related to its mandate.</p>
<p>Question 10: Which of the following types of cancers can the HPV vaccine help prevent? A) Lung cancer B) Cervical cancer C) Liver cancer D) Pancreatic cancer</p>	<p>Answer: B) Cervical cancer Explanation: Option A is incorrect: The HPV vaccine does not prevent lung cancer. Option B is correct: The HPV vaccine helps prevent cervical cancer, which is caused by certain high-risk strains of the Human Papillomavirus. Option C is incorrect: The HPV vaccine does not prevent liver cancer. Option D is incorrect: The HPV vaccine does not prevent pancreatic cancer.</p>
<p>Question 11: Consider the following statements regarding the Human Papillomavirus (HPV) vaccine: 1. The HPV vaccine is primarily used to prevent cervical cancer. 2. The HPV vaccine is recommended for both males and females. 3. The HPV vaccine provides protection against all types of HPV. Which of the statements given above is/are correct? A) 1 only B) 1 and 2 only C) 2 and 3 only D) 1, 2, and 3</p>	<p>Answer: B) 1 and 2 only Explanation: Statement 1 is correct: The HPV vaccine is primarily used to prevent cervical cancer, which is caused by certain strains of the Human Papillomavirus. Statement 2 is correct: The HPV vaccine is recommended for both males and females to protect against various HPV-related cancers and conditions. Statement 3 is incorrect: The HPV vaccine does not provide protection against all types of HPV; it protects against the most common high-risk strains that cause cervical cancer and other HPV-related diseases.</p>
<p>Question 12: Which of the following statements about the global impact of H5N1 is true? A) H5N1 has caused pandemics affecting millions of people worldwide. B) H5N1 has been responsible for significant economic losses in the poultry industry. C) H5N1 has a low mortality rate among infected humans. D) H5N1 is primarily a concern in North America.</p>	<p>Answer: B) H5N1 has been responsible for significant economic losses in the poultry industry. Explanation: Option A is incorrect: H5N1 has not caused pandemics; it causes sporadic human infections but has not spread widely among humans. Option B is correct: H5N1 has caused significant economic losses in the poultry industry due to the culling of infected birds and trade restrictions. Option C is incorrect: H5N1 has a high mortality rate among infected humans. Option D is incorrect: H5N1 is primarily a concern in Asia, Africa, and parts of Europe, not North America.</p>
<p>Question 13: Consider the following statements about Futures contracts:</p>	<p>Answer: b) 1 and 3 only Explanation:</p>

<ol style="list-style-type: none"> 1. Futures contracts are standardized agreements to buy or sell an asset at a predetermined price at a specified time in the future. 2. Futures contracts can only be traded on over-the-counter (OTC) markets. 3. Futures contracts involve an obligation to buy or sell the underlying asset. 4. Which of the statements given above is/are correct? <p>a) 1 and 2 only b) 1 and 3 only c) 2 and 3 only d) 1, 2 and 3</p>	<p>Statement 1 is correct. Futures contracts are standardized agreements traded on exchanges.</p> <p>Statement 2 is incorrect. Futures contracts are traded on organized exchanges, not OTC markets.</p> <p>Statement 3 is correct. Futures contracts do involve an obligation to buy or sell the underlying asset.</p>
<p>Question 14: Consider the following statements about Options:</p> <ol style="list-style-type: none"> 1. A Call Option gives the holder the right to sell an underlying asset at a specified price. 2. A Put Option gives the holder the right to buy an underlying asset at a specified price. 3. The buyer of an option pays a premium to the seller for this right. <p>Which of the statements given above is/are correct?</p> <p>a) 1 only b) 2 and 3 only c) 3 only d) 1, 2 and 3</p>	<p>Answer: c) 3 only</p> <p>Explanation:</p> <p>Statement 1 is incorrect. A Call Option gives the holder the right to buy, not sell.</p> <p>Statement 2 is incorrect. A Put Option gives the holder the right to sell, not buy.</p> <p>Statement 3 is correct. The buyer of an option does pay a premium to the seller for this right.</p>
<p>Question 15: Consider the following statements regarding the settlement of Futures and Options:</p> <ol style="list-style-type: none"> 1. Futures contracts are settled daily through a process called mark-to-market. 2. Options can be settled either through physical delivery or cash settlement. 3. In futures contracts, the final settlement always involves physical delivery of the underlying asset. 4. American options can be exercised only on the expiration date. <p>Which of the statements given above are correct?</p> <p>a) 1 and 2 only b) 1, 2, and 3 only c) 2 and 3 only d) 1 and 4 only</p>	<p>Answer: a) 1 and 2 only</p> <p>Explanation:</p> <p>Statement 1 Correct. Futures positions are marked-to-market daily, meaning gains and losses are settled on a daily basis.</p> <p>Statement 2 Correct. Depending on the terms of the option contract, settlement can be through physical delivery of the underlying asset or cash payment.</p> <p>Statement 3 While some futures contracts involve physical delivery, many are settled in cash.</p> <p>Statement 4 Incorrect. American options can be exercised at any time before or on the expiration date.</p>
<p>Question 16: Which of the following is an example of a derivative product?</p> <p>a) Equity shares b) Bonds c) Foreign exchange forward contracts d) Fixed deposits</p>	<p>Answer: c) Foreign exchange forward contracts</p> <p>Explanation: Foreign exchange forward contracts are a type of derivative product. Equity shares, bonds, and fixed deposits are not derivatives; they are primary financial instruments.</p>
<p>Question 17: Which of the following is true regarding margin requirements in derivatives trading?</p> <p>a) Margin is not required for futures contracts. b) Initial margin is the amount of money required to open a position. c) Maintenance margin is the minimum amount that must be maintained in the margin account to keep a position open. d) Both b) and c) are correct.</p>	<p>Answer: d) Both b) and c) are correct.</p> <p>Explanation:</p> <p>Initial margin is the deposit required to open a position.</p> <p>Maintenance margin is the minimum amount that must be maintained to keep a position open.</p>
<p>Question 18: Consider the following statements about the risks of derivatives trading:</p> <ol style="list-style-type: none"> 1. Derivatives can amplify losses as well as gains. 2. Futures contracts carry the risk of margin calls. 3. Options have no risk for the buyer because they are not obligated to exercise. 4. Derivatives trading is generally considered less risky than traditional equity trading. <p>Which of the statements given above are correct?</p> <p>a) 1 and 2 only b) 1, 2, and 3 only c) 2 and 4 only d) 1, 2, 3, and 4</p>	<p>Answer: a) 1 and 2 only</p> <p>Explanation:</p> <p>Statement 1 Correct. Derivatives, especially futures and options, can magnify both profits and losses due to leverage.</p> <p>Statement 2 Correct. Futures contracts require margin deposits, and if the value of the contract falls below a certain level, a margin call is issued.</p> <p>Statement 3 Incorrect. While the buyer is not obligated to exercise, they do risk losing the premium paid if the option expires worthless.</p> <p>Statement 4 Incorrect. Derivatives trading is often considered more risky than traditional equity trading due to the leverage involved.</p>