DAILY CURRENT AFFAIRS ANALYSIS

07 JUNE 2024

1 - Draft Law on Explosives:

GS III

Internal Security:

- **Context:**

- The Government of India aims to replace the Explosives Act 1884 with the new Explosives Bill 2024.

- The Department for Promotion of Industry and Internal Trade (DPIIT) has proposed the draft bill.
- The key objectives are to raise fines for regulatory violations and enhance the efficiency of licensing procedures.

- **What are the Key Provisions of the Proposed Explosives Bill 2024?**

- Designation of Licensing Authority: Under the proposed bill, the Union government will designate the authority responsible for granting, suspending, or revoking licences.
- Currently, the Petroleum and Explosives Safety Organisation (PESO) operates under the DPIIT and serves as the regulatory body.
- Specified Quantity in Licences: Licences will specify the quantity of explosives that a licensee can manufacture, possess, sell, transport, import, or export for a specified period.
- Penalties for Violations: The proposed bill outlines stricter penalties for violations. Offenders may face imprisonment for up to three years, a fine of Rs 1,00,000, or both for manufacturing, importing or exporting explosives in violation of regulations.
- Possession, use, sale, or transportation of explosives in violation may lead to imprisonment for up to two years, a fine of Rs 50,000, or both, whereas the current fine stands at Rs 3,000.
- Streamlined Licensing Procedures: Efforts are underway to enhance the efficiency of licensing procedures, making it easier for businesses to obtain necessary permits while maintaining stringent safety standards.

- **Petroleum and Explosives Safety Organization (PESO):**

- The PESO, formerly known as the Department of Explosives, since its inception in 1898, has been serving the nation as a nodal agency for regulating the safety of hazardous substances such as explosives, compressed gas and petroleum.
- PESO's major work is to administer the responsibilities delegated under the Explosives Act 1884 and Petroleum Act 1934 and the Rules made thereunder related to the manufacture, import, export, transport, possession, sale and use of Explosives, Petroleum products and Compressed gases.
- It operates under the DPIIT, Ministry of Commerce and Industry.

- The organisation has provided training to law enforcement, security, and intelligence personnel in handling explosives safely, filling a critical gap in the country's training resources.

- **What is the Explosives Act of 1884?**

- Historical Context: Enacted during British colonial rule, the Explosives Act of 1884 aimed to regulate various aspects of explosives.
- Safety Regulations: The Act applies to various types of explosives, including gunpowder, dynamite, nitroglycerin, and other similar substances.
- The Act mandated safety standards and procedures to mitigate risks associated with explosives, encompassing handling, transportation, and storage guidelines to prevent accidents.
- The Act empowers the Central Government to make rules regulating the manufacture, possession, use, sale, transport, import, and export of explosives.
- These rules govern the issuance of licences, fees, conditions, and exemptions.

- **Prohibition of Dangerous Explosives:**

- The Central Government can prohibit the manufacture, possession, or importation of especially dangerous explosives in the interest of public safety.

- **Exemption:**

- The Act does not affect the provisions of the Arms Act, 1959, and provisions are made for licences issued under the Explosives Act to have the effect of licences under the Arms Act.
- The Arms Act of 1959 regulates the possession, acquisition, and carrying of ammunition and firearms. It also aims to curb illegal weapons and violence. The act replaced the Indian Arms Act of 1878.
- Evolution and Amendments: Over time, the Explosives Act underwent several amendments to adapt to technological advancements and emerging challenges, primarily focusing on enhancing safety standards and regulatory mechanisms.

Source → The Hindu

2 - Central Bank Digital Currency:

GS III

Indian Economy:

- **Context:**

- Recently, the Governor of the Reserve Bank of India emphasised the innovative features being developed for India's Central Bank Digital Currency (CBDC), also known as the e-rupee.

- He emphasised the potential of features like permanent transaction deletion to boost user anonymity.

-
- **What is Central Bank Digital Currency (CBDC)?**

- **About:**

- A CBDC is a legal tender issued by a central bank in digital form.
- Unlike private cryptocurrencies, CBDCs are backed by the central bank, ensuring stability and trust.
- It is the same as a fiat currency and is exchangeable one-to-one with the fiat currency.
- A fiat currency is a national currency that is not pegged to the price of a commodity such as gold or silver.
- The digital fiat currency or CBDC can be transacted using wallets backed by blockchain.
- Though the concept of CBDCs was directly inspired by Bitcoin, it is different from decentralised virtual currencies and crypto assets, which are not issued by the state and lack the 'legal tender' status.

- **Objectives:**

- The main objective is to mitigate the risks and trim costs in handling physical currency, costs of phasing out soiled notes, transportation, insurance and logistics.
- It will also wean people away from cryptocurrencies as a means for money transfer.
- Global Trends:
- Bahamas was the first economy to launch its nationwide CBDC namely Sand Dollar in 2020.
- Nigeria is another country to have rolled out eNaira in 2020.
- China became the world's first major economy to pilot a digital currency e-CNY in April 2020.

- **What are the Major Advantages of CBDC?**

- Enhanced Security: CBDCs leverage digital security measures, potentially reducing the risk of counterfeiting and theft compared to physical cash.
- Improved Efficiency: Digital transactions can be settled instantly and efficiently, facilitating faster and more cost-effective payments.
- Financial Inclusion: CBDCs can potentially reach unbanked and underbanked populations by offering a secure and accessible digital payment option.
- The increased use of CBDC could be explored for many other financial activities to push the informal economy into the formal zone to ensure better tax and regulatory compliance.
- Enhanced Anonymity: The possibility of permanent transaction deletion is being explored to provide users with a level of anonymity comparable to cash transactions.
- Offline Functionality: The e-rupee is envisioned to be transferable offline, potentially overcoming limitations of internet connectivity in rural areas.
- Programmability: Programmable features could be introduced to enable targeted disbursement of government benefits or encourage specific financial behaviours, promoting financial inclusion.
- Cross-Border Transactions: CBDCs possess unique attributes that can revolutionise cross-border transactions.
- The instant settlement features of CBDCs are a significant advantage, making cross-border payments cheaper, faster, and more secure.
- Traditional and Innovative: CBDC can gradually bring a cultural shift towards virtual currency by reducing currency handling costs.
- Improved Monetary Policy: Central banks might have greater control over the money supply and interest rates with CBDCs. This could allow for more targeted and effective monetary policy interventions.

- **What are the Challenges Associated with the CBDC?**

- Cybersecurity Concerns: Robust security measures are crucial to protect the e-rupee system from cyberattacks.
- Privacy Issues: Balancing user privacy with the need for anti-money laundering and countering financing of terrorism measures is a critical aspect.
- Concerns have arisen about the CBDC's privacy, with its electronic nature potentially leaving a traceable trail, unlike cash.
- UPI Preference and Interoperability: Despite efforts to promote the CBDC, there is a continued preference for UPI among retail users.
- However, the RBI expressed hope for a change in this trend and highlighted the RBI's efforts to enable the interoperability of CBDC with UPI.
- Non-Remunerative CBDC: The RBI made CBDC non-remunerative and non-interest-bearing to mitigate potential risks of bank disintermediation.
- However, non-banks are included in the CBDC pilot to leverage their reach for distribution and value-added services.

- Competition with Private Banks: CBDCs could potentially compete with private banks for deposits, impacting their ability to lend and invest.
- Finding a way for CBDCs to coexist with the existing financial system is necessary.
- Monetary Policy: The impact of CBDCs on monetary policy tools like interest rates remains unclear.
- Central banks will need to adapt their policies to accommodate CBDCs effectively.

- **Conclusion:**

- The RBI's commitment to addressing privacy concerns surrounding the CBDC through technological and legislative means reflects its dedication to ensuring the successful implementation of digital currency.
- This emphasis on maintaining anonymity, alongside efforts to enhance accessibility and functionality, indicates India's progressive stance in adapting to the evolving digital currency landscape.

Source → The Hindu

3 - Artificial Intelligence:

GS III

Science and Technology:

- **Context:**

- During a recent interview, the CEO of OpenAI stated his dedication to investing in the advancement of Artificial General Intelligence (AGI).

- AGI is highly advanced, has more scope, and is more capable than Artificial Intelligence (AI), more commonly used in present times.

- **What is Artificial General Intelligence (AGI)?**

- **About:**

- It is highly advanced and more capable than Artificial Intelligence (AI) used commonly.
- AGI envisions a broader, more generalised form of intelligence, not confined to any particular task.
- It aims to create machines that possess human-like intelligence across a wide range of tasks.

- This includes reasoning, common sense, abstract thinking, background knowledge, transfer learning, ability to differentiate between cause and effect, etc.
- AGI aims to emulate human cognitive abilities such that it allows it to do unfamiliar tasks, learn from new experiences, and apply its knowledge in new ways.

- **Characteristics:**

- Generalisation: AGI can generalise knowledge and skills across tasks and domains, applying learning from one context to solve new problems.
- Complex Reasoning: AGI can engage in intricate reasoning and problem-solving.
- Learning: AGI exhibits robust learning capabilities, allowing it to acquire knowledge and skills from data, experience, or instruction.
- Self-Awareness and Consciousness: AGI would be aware of its own existence and able to set goals.
- Human-Level Abilities: AGI's capabilities would match or surpass human intelligence.
- Creativity: AGI demonstrates creativity by generating novel solutions, ideas, or artefacts that are not explicitly programmed or predefined.

- **Applications of AGI:**

- Healthcare: AGI has numerous positive implications in various fields, including healthcare.
- Personalised medicine, which tailors medical treatment to individual characteristics, can be greatly enhanced by AGI's ability to analyse diverse datasets and identify personalised treatment options.

- **Finance and Business:**

- AGI has the potential to automate different tasks and improve decision-making, providing real-time analysis and accurate market predictions.
- Education Sector:
- AGI has the potential to revolutionise adaptive learning platforms that cater to the individual requirements of students, potentially making personalised education accessible to people all over the world.

- **Space Exploration:**

- It can boost the space industry by operating autonomous systems for space exploration and research.
- AGI could also analyse data from space missions to develop insights and contribute to discoveries.
- Military and Defense: A typical use of AGI would be enhanced surveillance, military involvement, real-time strategies on the battlefield, and combat systems.

- **What is Artificial Intelligence (AI)?**

- AI refers to a broad field of computer science where machines are designed to perform tasks that typically require human intelligence in particular task.
- These tasks can include language translation, image recognition, decision-making, etc.
- It is also called as 'Narrow or Weak AI' as they excel at specific tasks but lack broader cognitive abilities. These AI tools are task-specific and optimised for predefined goals.
- Examples:
- Chatbots: AI-powered chatbots can handle customer inquiries.
- Recommendation Systems: AI algorithms suggest personalised content (e.g., Netflix recommendations).
- Image Recognition: AI identifies objects in images.
- Some Major AI Tools: ChatGPT Chatbot, Google's Bard, Chatbot.

- **What are Some Concerns Related to AGI?**

- Environmental Concern: The significant computational power needed for developing AGI systems raises concerns about its environmental impact, including energy consumption and e-waste generation.
- Job Losses and Unemployment: AGI has the potential to result in a substantial decrease in job opportunities and create extensive social and economic inequality, with a concentration of power among those who oversee the AGI.
- Human Oversight and Accountability: The immense cognitive abilities of AGI could potentially enable it to control information environments and influence results, especially in important areas like elections.
- Loss of Basic Human Skills and Creativity: Due to less involvement of humans even for small work.
- Reducing human involvement may reduce creativity at work and AGI's work may be a more innovative carbon copy of human works.
- Existential Risk: AGI could surpass human intelligence and potentially pose existential risks. Its capabilities may surpass those of human beings, making its behaviour challenging to comprehend and anticipate.
- This could result in a scenario where it becomes excessively autonomous, to the extent that humans lose their ability to control it.
- Ethical Dilemmas: The advancement of AGI raises ethical challenges, such as concerns about responsibility, confidentiality, and the risk of biassed decision-making.
- It is crucial to guarantee that AGI systems comply with ethical norms in order to avoid unintended outcomes and inequalities.

- **Way Forward:**

- Robust Ethical Frameworks: It is essential to create and enforce thorough ethical guidelines and regulations to steer the responsible advancement and utilisation of AGI.

- Collaborative efforts among governments, industry stakeholders, and researchers are essential to create guidelines emphasising safety, transparency, and accountability.
- Transparency and Accountability: Prioritising transparency and explainability in AGI systems is essential for ensuring understandable and verifiable decision-making processes, which in turn helps build trust and minimises the risk of unintended consequences.
- Ongoing Monitoring and Oversight: Establishing mechanisms for continuous monitoring and oversight is vital to identify and address potential risks associated with AGI. Regular assessments of AI systems can help prevent misuse and ensure alignment with societal values.

Source → The Hindu

4 - India's Aviation Sector:

GS II

Government Policies and Interventions:

- **Context:**

- After ruling the Indian skies, IndiGo is now attempting to make a mark globally with non-stop, long-haul, and low-cost flights from Indian airports.

- However, the long-haul, low-cost airline model has been a challenge for many airlines, with numerous failures and few relatively stable and profitable operations.

- **What is the Long-haul, Low-cost Air Travel Model?**

- **About:**

- The long-haul, low-cost air travel model is an attempt by low-cost carriers (LCCs) to expand their operations beyond short-haul domestic and regional routes and offer non-stop, long-duration flights at lower fares.
- This model aims to replicate the success of LCCs in the short-haul segment by applying similar cost-cutting strategies and business practices to long-haul operations.

- **Challenges:**

- Higher fuel costs for operating larger, wide-body aircraft on long-haul routes.
- Increased operating costs for wider aircraft, such as more crew, maintenance, and airport fees.

- Difficulty in maintaining the rapid turnaround times and high aircraft utilisation levels that are critical to the LCC business model.
- Balancing the need for passenger comfort and amenities on long flights with the low-cost carrier's focus on minimising costs.
- Establishing a viable network and flight schedule that can sustain demand and profitability on long-haul, low-density routes.
- Competition from established full-service carriers with stronger brand recognition and loyalty on long-haul international routes.

- **Successful Examples:**

- A few long-haul LCCs like Scoot, Jetstar, and French Bee have managed to establish relatively stable and profitable operations.
- Key strategies include offering a hybrid product with some premium/business class amenities, targeting underserved routes, and leveraging strong domestic/regional networks.

- **What is the Progress of India's Aviation Sector?**

- **India's Aviation Boom:**

- India has emerged as the third-largest domestic aviation market in the world, after the USA and China.
- The industry has undergone a remarkable transformation, shedding its previous limitations and evolving into a vibrant and competitive sector.
- Proactive policies and strategic initiatives by the government have catalysed the growth of the aviation sector, fostering a conducive environment for expansion and innovation.

- **Infrastructure Development:**

- India's airport network has witnessed a remarkable transformation, doubling its operational airports from 74 in 2014 to 148 in April 2023, facilitating increased air travel accessibility.

- **Regional Connectivity Scheme-UDAN:**

- The Regional Connectivity Scheme–Ude Desh ka Aam Nagrik (RCS-UDAN) was launched in 2016 to provide connectivity to unserved and underserved airports in the country.
- The scheme aims to revive existing airstrips and airports, bringing essential air travel access to isolated communities and boosting regional economic development.
- With 517 RCS routes operational, connecting 76 airports, UDAN has facilitated air travel for over 1.30 crore people, promoting accessibility and economic growth

- **Passenger Growth:**

- The aviation industry is experiencing a remarkable resurgence post-Covid, with a surge in passenger demand.
- From January to September 2023, domestic airlines carried 112.86 million passengers, a 29.10% increase compared to the same period in 2022.
- International airlines carried 45.99 million passengers between January and September 2023, a 39.61% increase compared to the same period in 2022.

- **Carbon Neutrality:**

- The Ministry of Civil Aviation (MoCA) has taken initiatives to work towards carbon neutrality and achieving net zero carbon emissions at airports in the country.
- Airport operators have been advised to map carbon emissions and work towards carbon neutrality and net zero emissions in a phased manner.
- Greenfield airports are being encouraged to prioritise carbon neutrality and net zero emissions in their development plans.
- Airports like Delhi, Mumbai, Hyderabad, and Bengaluru have achieved Level 4+ ACI Accreditation and become carbon neutral.
- 66 Indian Airports are operating on 100% Green Energy.

- **What are the Challenges Facing India's Aviation Industry?**

- **High Fuel Costs:**

- Aircraft Turbine Fuel (ATF) expenses can represent 50-70% of an airline's operational costs and import taxes add to the financial burden.
- Dollar Dependency:
- Fluctuations in the dollar rate impact profits as major expenses like aircraft acquisition and maintenance are dollar-denominated.

- **Cutthroat Pricing:**

- Airlines often engage in aggressive price competition to attract passengers, leading to thin profit margins amidst high operational costs.

- **Limited Competition:**

- Currently, IndiGo and a resurgent Air India hold the majority share, possibly nearing 70% combined. This concentration of power can lead to:
- Limited Competition: With fewer major players, there's a risk of reduced competition on routes, potentially leading to higher fares for consumers.

- Pricing Power: The dominant airlines may have more leverage to influence ticket prices, especially if they coordinate strategies.

- **Grounded Fleet:**

- A large portion (over a quarter) of Indian aeroplanes are grounded due to safety concerns and financial issues, hindering capacity.

- **Environmental Concerns:**

- Pressure to reduce carbon emissions and adopt sustainable practices can add complexity to growth strategies.
- India's Initiatives Related to Aviation Industry
- UDAN Scheme (Ude Desh ka Aam Nagrik).
- National Civil Aviation Policy, 2016.
- Goods and Services Tax (GST) rate reduced to 5% from 18% for domestic Maintenance, Repair and Overhaul (MRO) services.

- Digi Yatra for Seamless Travel: This digital platform facilitates a contactless experience for air travellers, with features like facial recognition and paperless check-in.

- **Way Forward:**

- Diversification of Fuel Sources: Emulate initiatives to incorporate biofuels into the fuel mix, reducing dependence on traditional ATF and mitigating the impact of import taxes.
- Implement fuel hedging strategies to manage the volatility of fuel prices, a practice used by many international airlines.
- Ancillary Revenue Streams: Develop ancillary revenue streams such as cargo services, in-flight sales, and premium services to bolster profits.
- Competitive Pricing Strategies: Utilise advanced yield management systems to optimise pricing and maintain profitability without engaging in detrimental price wars.
- Strengthen customer loyalty programs to encourage repeat business and reduce the need for aggressive pricing tactics.
- Regulatory Reforms: Advocate for regulatory reforms that encourage new entrants and prevent monopolistic practices in the industry.
- Route Rationalisation: Encourage airlines to explore under-served routes, thereby increasing competition and offering more choices to consumers.
- Consider aircraft leasing options to maintain operational flexibility and reduce financial burdens associated with owning a fleet.
- Carbon Offset Programs: Implement carbon offset programs like the ICAO Carbon Emissions Calculator (ICEC) to measure and mitigate the environmental impact.