DAILY CURRENT AFFAIRS 30-08-2024

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CCEA clears 12 industrial parks across 10 States

Syllabus: GS-1; Industries; GS-3; Growth and Development

Context

- *The* **Cabinet Committee on Economic Affairs** *cleared an outlay of ₹28,602 crore to set up 12 industrial parks across 10 States and along six major industrial corridors, in line with an announcement in the Union Budget.*

What are Industrial Parks?

- *Industrial Parks are* **designated areas developed specifically for industrial activities,** *equipped with the necessary infrastructure and facilities to support manufacturing, production, and other industrial operations.*
- *These parks are planned to promote industrial growth by providing a conducive environment for businesses, often including facilities like transportation links, utilities, storage, and sometimes even housing for workers.*

Significance of Industrial Parks

- **Economic Growth:** *Industrial parks contribute significantly to the economic development of a region by attracting investment, fostering industrialization, and creating job opportunities. They help in the growth of ancillary industries, boosting the overall economy.*
- **Regional Development***: They play a crucial role in the balanced regional development by encouraging industries to set up in less developed areas, reducing regional disparities.*
- **Employment Generation***: Industrial parks are hubs of employment, providing jobs across various skill levels, thus contributing to the reduction of unemployment.*
- **Infrastructure Development:** *The establishment of industrial parks leads to the development of essential infrastructure like roads, electricity, water supply, and communication networks, benefiting the surrounding regions.*
- **Foreign Direct Investment (FDI):** *These parks are often designed to attract foreign investors by offering special incentives, thus increasing the inflow of FDI and technological expertise.*
- **Boost to Exports:** *Many industrial parks, particularly Special Economic Zones (SEZs), are focused on export-oriented industries, contributing to the country's export earnings.*
- **Innovation and Technology Transfer:** *Industrial parks, especially those focusing on high-tech industries, serve as centers for innovation, facilitating technology transfer and R&D activities.*

Industrial Parks in India

India has a wide network of industrial parks, including **Special Economic Zones (SEZs), Export Processing Zones (EPZs), and Industrial Corridors**, *aimed at promoting industrial growth. Some notable industrial parks in India include:*

- **National Investment and Manufacturing Zones (NIMZs):** *Large industrial areas aimed at promoting manufacturing activities. Example: NIMZ in Prakasam district, Andhra Pradesh.*
- **Special Economic Zones (SEZs***): SEZs are specifically earmarked zones that have different economic laws than the rest of the country. They focus on attracting investment and promoting exports. Example: Kandla SEZ in Gujarat.*
- **Textile Parks:** *Dedicated zones for textile production, aimed at consolidating and modernizing the textile industry. Example: Surat Textile Park, Gujarat.*
- **Food Parks:** *These parks are developed to boost food processing industries. Example: Mega Food Park in Patanjali, Uttarakhand.*
- **Software Technology Parks (STPs):** *Focused on IT and software services, these parks offer infrastructure and support for IT companies. Example: Software Technology Park of India (STPI) in Bengaluru, Karnataka.*
- **Biotech Parks:** *These parks focus on the biotechnology sector, offering specialized infrastructure for biotech companies. Example: TICEL Bio Park in Chennai, Tamil Nadu.*
- **Industrial Corridors:** *Large zones that integrate industrial parks along major transport routes, enhancing connectivity and industrial activity. Example: Delhi-Mumbai Industrial Corridor (DMIC).*

Government Initiatives and Policies

The Indian government has launched several initiatives to promote the development of industrial parks:

- **Make in India:** *Aims to make India a global manufacturing hub by encouraging companies to manufacture their products in India.*
- **National Manufacturing Policy (NMP):** *Focuses on increasing the share of manufacturing in GDP and creating large-scale employment.*
- **Scheme for Integrated Textile Parks (SITP***): Aims to create state-of-the-art infrastructure for the textile industry.*
- **Atal Mission for Rejuvenation and Urban Transformation (AMRUT):** *Enhances urban infrastructure, which indirectly supports the growth of industrial parks.*
- **Industrial Corridor Projects:** *These are mega projects aimed at developing industrial regions across various parts of the country, such as the DMIC and Chennai-Bengaluru Industrial Corridor.*

Challenges and Future Prospects

- *Despite their significance, industrial parks in India face challenges such as land acquisition issues, inadequate infrastructure, bureaucratic hurdles, and environmental concerns.*
- *However, with continued government support and policy reforms, industrial parks are expected to play a pivotal role in India's journey towards becoming a global manufacturing hub.*

PM-WANI (Prime Minister Wi-Fi Access Network Interface) scheme

Syllabus: GS-2; Government Policies and Interventions

Context

- *Nearly four years after it was launched, the Prime Minister's Wi-Fi Access Network Interface (PM-WANI) scheme to set up public Wi-Fi hotspots across the country to increase internet penetration has failed to garner much interest, falling behind targets.*

About

- *The Prime Minister Wi-Fi Access Network Interface (PM-WANI) scheme is a government initiative aimed at* **enhancing wireless internet connectivity in India, particularly in rural and underserved areas**.
- *It was launched by the* **Department of Telecommunications (DoT***) under the Ministry of Communications on December 9, 2020.*
- *The PM-WANI scheme seeks to create a nationwide network of public Wi-Fi hotspots to provide affordable and accessible internet services to all citizens, thereby bridging the digital divide and boosting digital inclusion.*

Key Features of PM-WANI

- **Public Data Offices (PDOs):**
  - *Role: PDOs are the entities that establish, operate, and maintain Wi-Fi access points. They are akin to Public Call Offices (PCOs) but for internet services.*
  - *No License Requirement: PDOs do not require a license, registration, or any fees to set up Wi-Fi hotspots, making it easier for small businesses and individuals to participate.*

- **Public Data Office Aggregators (PDOAs):**
  - *Role: PDOAs are responsible for aggregating multiple PDOs and managing their operations, including user authentication and accounting.*
  - *Support Structure: They provide backend services to PDOs, enabling them to focus on providing internet services.*
- **App Providers:**
  - *Function: App providers develop and maintain apps that allow users to discover and connect to PM-WANI compliant Wi-Fi networks.*
  - *User Experience: Through these apps, users can easily locate nearby Wi-Fi hotspots and access the internet.*
- **Central Registry:**
  - *Role: The Central Registry, managed by the Centre for Development of Telematics (C-DOT), maintains the database of PDOs, PDOAs, and App Providers.*
  - *Registration Process: Entities involved in the PM-WANI ecosystem register with the Central Registry.*

Objectives of PM-WANI

- **Enhancing Connectivity:** *The scheme aims to improve broadband penetration across India, especially in rural and remote areas where internet connectivity is limited or non-existent.*
- **Affordable Internet Access:** *By creating a large network of public Wi-Fi hotspots, the scheme makes internet services more affordable and accessible to the masses, thereby supporting digital inclusion.*
- **Promoting Digital India:** *PM-WANI aligns with the Digital India mission by promoting the use of digital platforms for education, healthcare, e-commerce, and government services.*
- **Boosting Local Economy:** *The scheme encourages small businesses, entrepreneurs, and local communities to set up and operate Wi-Fi hotspots, thereby generating employment opportunities and boosting the local economy.*
- **Support for MSMEs:** *By providing low-cost internet access, PM-WANI supports the growth of Micro, Small, and Medium Enterprises (MSMEs) by enabling them to access digital platforms and markets.*

Implementation and Impact

- **Implementation:** *The implementation of PM-WANI involves the collaboration of various stakeholders, including PDOs, PDOAs, App Providers, and the government.*
- **Impact:** *The scheme is expected to create a significant increase in internet users in India, especially in rural areas. It also has the potential to accelerate the adoption of*

digital services and applications, contributing to economic growth and social development.

Challenges and Concerns

- **Security Issues:** *Public Wi-Fi networks are often vulnerable to cyber threats and data breaches. Ensuring secure and safe internet access is a major concern.*
- **Quality of Service:** *Maintaining consistent internet speed and quality across numerous Wi-Fi hotspots, particularly in remote areas, can be challenging.*
- **Adoption and Awareness:** *For the scheme to be successful, there must be widespread awareness and adoption by businesses and users, which requires effective communication and training.*

Conclusion

- *The PM-WANI scheme represents a significant step towards achieving universal internet access in India.*
- *By leveraging the concept of public Wi-Fi networks, the government aims to democratize internet access, thereby empowering citizens and supporting the broader goals of the Digital India initiative.*
- *The success of the scheme will depend on effective implementation, security measures, and public participation.*

Lateral entry in Bureaucracy

Syllabus: GS-2; Governance, Government Policies

Context

- *Recent government initiatives to recruit external experts into the bureaucracy, known as lateral entry, have caused political contention.*

About

- *Lateral entry in the Indian bureaucracy refers to the appointment of professionals from the private sector, academia, or other non-governmental sectors into key positions in the Indian government, typically at the level of Joint Secretary or Director.*
- *This is an* **alternative recruitment process**, *distinct from the traditional entry through the Union Public Service Commission (UPSC) Civil Services Examination.*

Background and Rationale

- **Skill Deficit in Bureaucracy:** *The Indian civil services, particularly the Indian Administrative Service (IAS), traditionally recruit officers through the UPSC Civil Services Examination.*
  However, over the years, it has been recognized that certain technical and specialized areas require skills that may not be fully available within the existing cadre of civil servants.
- **Bringing Expertise***: The idea behind lateral entry is to bring in subject matter experts from outside the government who possess deep knowledge and experience in specific sectors.*
  These professionals can provide valuable insights and innovative solutions to complex problems in their respective domains.
- **Enhancing Efficiency:** *Lateral entry is seen as a way to enhance the efficiency of governance by incorporating diverse perspectives and expertise from outside the traditional bureaucratic setup.*

Process of Lateral Entry

- **Recruitment:** *The recruitment process for lateral entry positions is usually conducted by the* **Department of Personnel and Training (DoPT)** *in collaboration with the UPSC.*
  The UPSC issues advertisements for these positions, inviting applications from eligible candidates with a specified number of years of experience and expertise in relevant fields.
- **Selection Criteria:** *Candidates are selected based on their educational qualifications, work experience, and domain expertise.*
  The selection process typically includes a thorough scrutiny of applications, interviews, and assessments of the candidate's suitability for the role.
- **Tenure:** *Lateral entrants are usually appointed on a contractual basis for a fixed tenure, often ranging from three to five years, which may be extended based on performance and the needs of the government.*

Key Features of Lateral Entry

- **Targeted Recruitment:** *Lateral entry is aimed at filling positions in areas that require high levels of specialization, such as finance, infrastructure, energy, health, and technology.*
- **Positions Offered:** *Typically, lateral entry positions are at the level of Joint Secretary or Director in the central government, which are senior roles with significant decision-making authority.*
- **Contractual Appointments:** *Unlike regular civil servants who are career officials, lateral entrants are appointed on a contractual basis and do not have the same job security or tenure as regular IAS officers.*

- **Remuneration:** *The salary and benefits for lateral entrants are usually aligned with the corresponding government scales, but they may also include some additional incentives to attract talent from the private sector.*

Advantages of Lateral Entry

- **Infusion of New Ideas:** *Lateral entry allows for the infusion of fresh ideas and perspectives into the government, which can lead to innovative approaches to policy-making and implementation.*
- **Bridging the Skills Gap:** *By bringing in specialists, lateral entry helps bridge the skills gap in the bureaucracy, particularly in technical and highly specialized fields.*
- **Flexibility:** *Lateral entrants can bring flexibility and adaptability to the functioning of the government, often being more responsive to changes in the external environment.*

Challenges and Criticisms

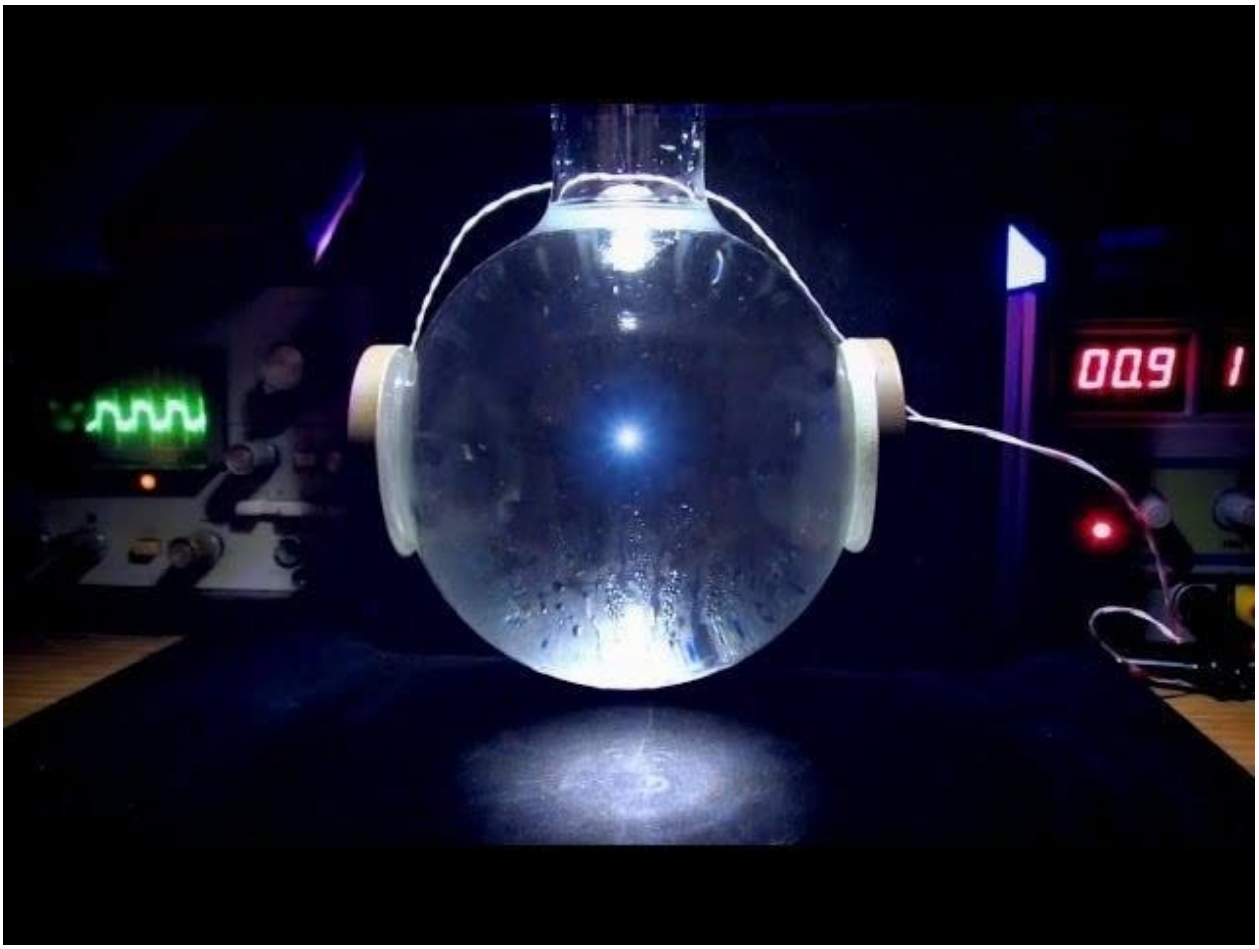
- **Cohesion with Regular Cadre:** *Integrating lateral entrants into the existing bureaucratic framework can be challenging, as they may face resistance from career civil servants who view them as outsiders.*
- **Accountability:** *Lateral entrants, being contractual employees, may have different accountability structures compared to regular IAS officers, which could create challenges in governance.*
- **Perception of Meritocracy:** *Some critics argue that lateral entry might undermine the meritocratic principles of the UPSC selection process, as it allows entry into senior positions without going through the rigorous civil services examination.*
- **Job Security:** *The lack of job security and the contractual nature of appointments might deter some highly qualified professionals from opting for these roles.*

What is sonoluminescence?

Syllabus: GS-3; Science and Technology

Context

- *The article provides information about sonoluminescence.*



About

- *Sonoluminescence is a phenomenon in* **which small gas bubbles in a liquid emit short bursts of light when exposed to intense sound waves.**
- *It is a fascinating subject of study in the fields of physics and chemistry due to its mysterious nature and the extreme conditions under which it occurs.*

Key Concepts

Formation of Bubbles

- *Sonoluminescence occurs when a sound wave passes through a liquid, creating regions of high and low pressure.*
- *During the low-pressure phase, small gas bubbles form and grow.*
- *In the subsequent high-pressure phase, these bubbles collapse violently.*

Emission of Light

- *The collapse of the bubbles is so rapid and forceful that it causes a significant increase in temperature and pressure inside the bubble.*

- *This extreme compression leads to the emission of a short burst of light, lasting only a few picoseconds.*

Conditions for Sonoluminescence

- *The phenomenon typically requires a* **liquid medium** *(often water), a source of* **sound waves** *(ultrasound frequencies are common), and the presence of gas bubbles within the liquid.*
- *The sound waves need to be of sufficient intensity to cause the bubbles to collapse and emit light.*

Theoretical Explanations

- *Several theories attempt to explain the precise mechanism behind sonoluminescence. One hypothesis suggests that the extreme conditions inside the collapsing bubble may generate temperatures as high as several thousand* **Kelvin,** *potentially creating* **plasma**.
- *Other explanations focus on* **quantum mechanical effects** *or the presence of chemical reactions within the bubble.*

Applications and Research

- *Sonoluminescence is primarily of scientific interest, but its study has potential applications in fields such as nuclear fusion, where similar conditions of high temperature and pressure are sought.*
- *It also provides insights into* **fluid dynamics, bubble dynamics,** *and the interaction between sound and light.*

Challenges and Mysteries

- *Despite decades of research, sonoluminescence is not fully understood. The exact mechanisms and conditions that result in light emission are still subjects of ongoing study.*
- *The intensity and color of the light emitted, as well as the* **reproducibility** *of the phenomenon, are areas where more research is needed.*

Conclusion

- *Sonoluminescence remains one of the more* **enigmatic phenomena** *in modern physics. Its study challenges our understanding of the interplay between sound, light, and matter under extreme conditions.*

SIG 717 Rifles

Syllabus: GS-3; Defence and Security

Context

- *India signs repeat order for 73,000 SIG716 assault rifles, to be delivered by end-2025*
  - *The Army has for long been looking to replace the indigenous INSAS (Indian National Small Arms System) rifles in use with a modern rifle.*

About

- *The SIG 716 rifles are a series of modern,* **semi-automatic and automatic battle rifles** *designed and manufactured by SIG Sauer, a renowned firearms company.*
- *These rifles are primarily used by military and law enforcement agencies worldwide.*

Overview

- **Manufacturer***: SIG Sauer, a global leader in firearms manufacturing.*
- **Origin***: The SIG 716 series was developed in the United States and is widely used by various military and police forces globally.*
- **Type:** *Battle rifle, designed for combat situations requiring greater range and stopping power than standard assault rifles.*

Design and Specifications

- **Caliber**: *The SIG 716 is chambered in 7.62×51mm NATO, which is a powerful cartridge known for its accuracy and effective range.*
- **Action:** *Gas-operated, short-stroke piston system. This design improves reliability and reduces fouling compared to direct impingement systems.*
- **Barrel Length**: *Varies depending on the model, typically around 16 inches for standard versions, but can range from 12.5 to 20 inches.*
- **Weight:** *Approximately 4.1 kg (9 lbs), depending on the specific model and configuration.*
- **Rate of Fire:** *The rifle can operate in semi-automatic and fully automatic modes, depending on the variant.*

Features

- **Modularity:** *The SIG 716 is highly modular, with the ability to swap barrels, handguards, and other components. It features a free-floating barrel, which enhances accuracy.*
- **Optics:** *It comes equipped with a Picatinny rail system, allowing users to attach various optics, lights, lasers, and other accessories.*
- **Durability:** *The rifle is built to be rugged and reliable, capable of operating in extreme conditions, from deserts to arctic environments.*
- **Accuracy:** *The combination of the 7.62×51mm NATO round and the precision manufacturing process gives the SIG 716 excellent accuracy at extended ranges, making it suitable for designated marksmen.*

Variants

- **SIG 716 Patrol:** *The standard variant, designed for general infantry use, with a focus on durability and reliability.*
- **SIG 716 DMR (Designated Marksman Rifle):** *Features a longer barrel and enhanced optics for increased accuracy at longer ranges.*
- **SIG 716 G2**: *The second generation of the rifle, with weight reductions and other improvements in ergonomics and reliability.*

Usage

- **Military and Law Enforcement**: *The SIG 716 is widely used by military forces around the world, including special operations units, due to its versatility and effectiveness in various combat scenarios. In India, it is used by the Indian Army, particularly by its elite forces.*
- **Civilian Use:** *There are semi-automatic versions available for civilian markets in countries where ownership is legal, often used for hunting and competitive shooting.*

Comparison with Other Rifles

- **Vs. SIG 516:** *While the SIG 716 is chambered in 7.62mm, the SIG 516 is chambered in 5.56mm, making the SIG 716 more powerful but also heavier and with more recoil.*
- **Vs. AR-15***: The SIG 716 offers more stopping power and range due to the larger caliber but is bulkier and less suited for close-quarters combat compared to the AR-15.*

Significance for India

- **Induction into Indian Armed Forces:** *The Indian Army has inducted the SIG 716 as part of its modernization program, enhancing the firepower and operational capability of infantry units, particularly in high-altitude and counter-insurgency operations.*
- **Strategic Importance:** *The induction of the SIG 716 is a step towards replacing older, less effective rifles in the Indian Army's arsenal, aligning with global military standards.*

Strategic Implications

- **Enhanced Capabilities***: The SIG 716 allows Indian forces to engage targets at longer ranges with greater accuracy and stopping power, crucial for modern warfare, particularly in the rugged terrains of India's border regions.*
- **Impact on Infantry Tactics***: The introduction of such advanced weaponry can influence tactics, with more emphasis on precision shooting and adaptability to various combat environments.*