

DAILY CURRENT AFFAIRS (DCA)

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PRADHAN MANTRI JANJATI ADIVASI NYAYA MAHA ABHIYAN (PM JANMAN)

Context

- The Ministry of Tribal Affairs has initiated an Information, Education, and Communication campaign on **Pradhan Mantri Janjati Adivasi Nyaya Maha Abhiyan (PM JANMAN)**

About campaign

- The campaign is meant to raise awareness and ensure hundred percent saturation of Government schemes in **Particularly Vulnerable Tribal Groups (PVTG)** majority tribal habitations.
- During the campaign, **Aadhar card, community certificate and Jan Dhan accounts will be provided**, which is required for Ayushman card, PM Kisan Samman Nidhi and Kisan credit card.

PM JANMAN Scheme

- The scheme targets** the development of 75 Particularly Vulnerable Tribal Groups (PVTGs) who have been left out by the schemes of various Ministries /Departments.
- Funding:** The outlay of the scheme is **Rs.24,104 crore** (Central Share:Rs.15,336 crore and State Share: Rs.8,768 crore) to focus on 11 critical interventions through 9 line Ministries.
- Objective:** The scheme will saturate PVTG households and habitations with basic facilities such as safe housing, clean drinking water and sanitation, improved access to education, health and nutrition, road and telecom connectivity, and sustainable livelihood opportunities.
- Ministry:** The PM-JANMAN (**comprising Central Sector and Centrally Sponsored Schemes**) to focus on 11 critical interventions through 9 Ministries including Ministry of Tribal Affairs
- Intervention of following Ministries will also be part of Mission:
 - The Ministry of Ayush** will set up Ayush Wellness Centre as per existing norms and Ayush facilities will be extended to PVTG habitations through Mobile Medical Units.
 - The Ministry of Skill Development and Entrepreneurship** will facilitate skill and vocational training in PVTG habitations, Multipurpose centers and hostels as per the suitable skills of the communities.

Particularly Vulnerable Tribal Groups (PVTGs)

- These are a more vulnerable group among tribal groups in India. These groups have primitive traits, geographical isolation, low literacy, zero to negative population growth rate and backwardness.
- There are **75 PVTGs** in India, spread over 18 States and the Union Territory of Andaman & Nicobar Islands.
 - Odisha** has the largest population of PVTGs followed by **Madhya Pradesh**.
- Examples:** Great Andamanese (Andaman and Nicobar Islands), Bondo Poraja (Odisha), Paniyas (Kerala), Kattunayakan (Tamil Nadu and Kerala), Bonda (Odisha).

Recognition to PVTGs

- In **1973**, the **Dhebar Commission** created Primitive Tribal Groups (PTGs) as a separate category.
- In **1975**, the Indian government initiated the identification of the most vulnerable tribal groups, designating them as PVTGs, with an initial declaration of 52 such groups.
- An additional **23 groups** were included in this category in **1993**.

Source: **PIB**

PLI 2.0 FOR STEEL SECTOR

Context

The government is working on **Production Linked Incentive (PLI)** scheme 2.0 and to ensure adequate raw material supply for the steel sector in 2024.

Present status of Steel Industry in India

- India** currently ranks as the **World's 2nd Largest Producer of Crude Steel**, surpassing **Japan in 2018**.
- The cumulative production** of crude steel was **94.01 Million Tonnes (MT)**, during **April-November 2023**.
- The consumption** of finished steel jumped **14%** to **86.97 MT** on an annual basis during **April-November 2023**.
- The installed steel manufacturing capacity** of India is around 161 MT.
- Finished steel imports** into India showed a growth of 18% to 5.87 MT in January-November 2023 from **4.96 MT** in the same period of 2022.

- **Exports from India** showed a decline of **20%** to **6 MT** in January-November 2023 from **7.46 MT** in the same period of 2022.

Concerns of Steel Sector in India

- **Raw Material Availability and Cost:** The steel industry heavily depends on the availability and cost of raw materials such as iron ore and coking coal.
 - ♦ India remains dependent on imports to meet 90% of its coking coal requirement. In 2023 so far, the imports have been between 70-80 MT.
- **Infrastructure Bottlenecks:** Inadequate transportation facilities, inefficient logistics, and power shortages, hinder the smooth operation of the steel industry. It also leads to increased production costs.
- **Global Competition:** The steel industry is highly competitive and Indian steel manufacturers face stiff competition from international players.
 - ♦ Dumping of steel products especially from **China and Vietnam** in the past had major impacts on the industry.

Potential of Steel Sector in India

- **Automobile Industry Growth:** The automotive sector is a major consumer of steel. As India's middle class expands and consumer purchasing power increases, there is a growing demand for automobiles, contributing to the demand for steel.
- **Urbanization:** With a growing population and increasing urbanization, there is a rising demand for housing, commercial spaces, and urban infrastructure. This trend contributes to a sustained demand for steel in construction and real estate sectors.

Steps taken by Government

- **Steel Scrap Recycling Policy:** The Policy is for promoting the scientific processing and recycling of ferrous scrap.
- **National Steel Policy 2017 (NSP 2017):** India has set the targets of achieving the total crude steel capacity of 300 MTPA and total crude steel demand/production of 255 MTPA by 2030-31.

- **Policy for providing preference to Domestically Manufactured Iron and Steel Products (DMI & SP Policy)** in government procurement which has resulted in import substitution of ₹34,800 Crore approximately.
- **Brand India labeling:** the Ministry of Steel has undertaken the initiative of Made in India branding of Steel produced in the country to differentiate Indian quality steel from the others.
- **Productivity Linked Incentive Scheme (PLI) for steel:** The Scheme was approved by the Government in 2021, with a financial outlay of ₹ **6,322 crores**.
 - ♦ **Objective:** To promote domestic manufacturing of '**Specialty Steel**' within the country by attracting capital investment, generate employment and promote technology up-gradation in the steel sector.
 - ♦ **Features:** It includes 3 slabs of incentives, participation only by companies registered in India, commitment to thresholds of investment and incremental production given in the scheme guidelines.

Specialty Steel

- is a value-added steel wherein normal finished steel is worked upon by way of coating, plating, heat treatment etc.
- It is useful in applications requiring specific properties such as defense, space, power, automobile, specialized capital goods etc.

Way Ahead

- **Technology Upgradation:** Efforts are needed to push for the use of artificial intelligence and newer technologies among industry players to boost steel output while also reducing carbon emissions.
- **Protect domestic market:** Strong measures are required from the government to check the surge in imports which is affecting the domestic market.
- **Efficient utilization of resources:** India possesses significant reserves of iron ore and coal, key raw materials for steel production. Efficient utilization of these resources can contribute to the growth and competitiveness of the steel sector.

Source: **TH**

MARITIME SECURITY

In Context

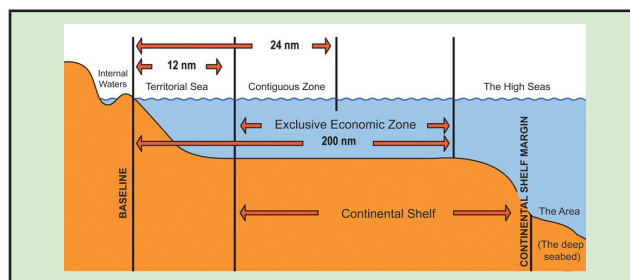
- Due to an **increased security threat to shipping vessels** in the Gulf of Aden and the Arabian Sea, Prime Minister Narendra Modi held a telephone conversation with the Prime Minister of Saudi Arabia.

What is Maritime security?

- It involves protecting the nation's sovereignty from threats arising from the oceans and seas.
- It includes protecting coastal areas, safeguarding the available ocean resources such as fish, offshore oil and gas wells, port facilities, etc.
- It also means maintaining freedom at sea for movement of our ships and facilitating and protecting trade

India's Maritime Zone

- India's maritime zone refers to the **maritime boundaries and areas under its jurisdiction** in the surrounding seas and oceans.
- India has a **coastline of 7,516.6 Km** including island territories.
- **Territorial Waters (12 Nautical Miles):** The territorial waters of India extend up to **12 nautical miles** from the baseline.
 - ♦ Within this zone, India exercises **full sovereignty**, and it includes the country's coastal areas and ports.
- **Contiguous Zone (24 Nautical Miles):** Beyond the territorial waters, there is a contiguous zone that extends an additional 12 nautical miles.
 - ♦ In this zone, India can take action to prevent or punish infringements on customs, fiscal, immigration, or sanitary laws within its territory or territorial sea.
- **Exclusive Economic Zone (EEZ):** The EEZ extends up to 200 nautical miles from the baseline.
 - ♦ Within this zone, India has the exclusive rights for exploring, exploiting, conserving, and managing natural resources, such as fisheries and hydrocarbons.



Threats to the Maritime Security of India

- **Choke Points:** Strait of Horminz, Malacca and Singapore Straits, Sunda Strait, Lombok Strait, Cape of Good Hope, Mozambique Channel, Ombai and Wetar Straits, Bab-el-Mandeb are the major choke points in Indian ocean region.
 - ♦ India is equidistant from most of these choke points allowing it to play a prominent role in the security of this huge maritime space.
- **Increased Chinese Presence:** The opacity of Chinese policy and less than comfortable assurances on contentious issues coupled with the existing disputes with India has widened an already existing trust deficit, further provoking security concerns.
- **Piracy:** Piracy remains a concern in certain maritime regions, particularly in the Gulf of Aden and the Indian Ocean.
 - ♦ Pirate activities, such as hijackings and ransom demands, can pose a threat to maritime trade and the safety of seafarers.
- **Terrorism:** Terrorist groups may use the sea routes for smuggling weapons, funds, and personnel, posing a challenge to maritime security.
- **Maritime Border Disputes:** India has maritime border disputes with neighboring countries, such as disputes over Exclusive Economic Zones (EEZs), fishing rights, and territorial waters may contribute to regional instability.
- **Narcotics and Human Trafficking:** Maritime routes are used for the illegal transportation of narcotics and human trafficking. Smuggling activities can have significant social, economic, and security implications.
- **State-Sponsored Activities:** State-sponsored activities, including naval build-ups and strategic posturing by neighboring countries, can have implications for regional stability and maritime security.

Maritime Security Mechanism of India

- **Indian Navy:** It maintains a fleet of warships, submarines, aircraft, and surveillance assets to monitor and respond to threats in the maritime domain.
 - ◆ It has jurisdiction over the entire maritime zone (up to 200 nautical miles).
- **Indian Coast Guard:** The Indian Coast Guard plays a crucial role in maritime security, particularly in enforcing maritime laws, protecting the coastline, preventing smuggling, and conducting search and rescue operations.
- **National Command, Control, Communication, and Intelligence (NC3I) Network:** The NC3I network integrates data from multiple sources to provide real-time information for decision-makers.
- **Legal Framework:** India has enacted laws and regulations to address maritime security concerns, including the Maritime Zones Act, the Territorial Waters Act, and the Indian Coast Guard Act. These legal instruments provide the basis for enforcement and response actions.

Steps Taken by Government of India to Strengthen the Maritime Security

- **Indian Navy and Coast Guard Modernization:** The government has invested in the modernization and augmentation of the Indian Navy and Coast Guard fleets.
 - ◆ This includes the acquisition of new ships, submarines, aircraft, and advanced surveillance systems to enhance operational capabilities.
- **Joint Operations Centers (JOCs):** Joint Operations Centers have been established to facilitate seamless coordination and information-sharing among different maritime security agencies, including the Navy, Coast Guard, and other law enforcement agencies.
- **Maritime Security Exercises:** India regularly conducts maritime security exercises and drills to enhance preparedness and coordination among different agencies.
- **Capacity Building and Training:** The government focuses on capacity building and training programs for personnel involved in maritime security.
 - ◆ This includes training exercises, skill development, and knowledge enhancement to ensure a skilled and prepared workforce.
- **Participation in Regional Frameworks:** India participates in regional frameworks such as Association of Southeast Asian Nations Regional Forum (ARF), East Asia Summit (EAS) and the ASEAN Defence Ministers Meeting Plus (ADMM Plus) to expand its cooperation and exchanges with the Indo-Pacific region.
- **India's Maritime Anti-Piracy Bill 2022:** It will provide for an effective legal instrument to combat maritime piracy.
 - ◆ Stringent punishment to those convicted of such crimes.
- **Security and Growth for All in the Region (SAGAR) :** Indian Naval ships and aircraft are regularly deployed on 'Mission Based Deployments' in the Indian Ocean Region to enhance maritime security.
 - ◆ It also undertakes surveillance to enhance Maritime Domain Awareness and address contingencies that may arise. These are in consonance with Government of India's vision of Security and Growth for All in the Region (SAGAR)
- **India's Maritime Vision 2030** sets out a creative model.
 - ◆ This 10-year blueprint for the maritime sector envisages the development of ports, shipping, and inland waterways as a way of generating growth and livelihoods.
- **India's first National Maritime Security Coordinator (NMSC):** The appointment of India's first National Maritime Security Coordinator (NMSC) reflects seriousness to address maritime security challenges. It fulfils a long outstanding recommendation made by the Group of Ministers (GoM) in 2000, to set up an apex body for management of maritime affairs

Source: TH

LICENSING FRAMEWORK FOR AUTHORISED PERSONS (APS)' UNDER (FEMA)

In News

The Reserve Bank of India (RBI) released a draft 'Licensing Framework for Authorised Persons (APs)' under Foreign Exchange Management Act (FEMA), 1999.

About the Draft

- The framework for licensing of Authorised Persons (APs) under FEMA, 1999 was last reviewed in **March 2006**.
- The RBI is planning to introduce a new category of money changers who can **conduct money changing** business through an agency model.
 - ♦ Under the model, the money changers can become **Forex Correspondents (FxCs) of Category-I** and **Category-II Authorised Dealers (ADs)**.
 - This move is aimed at improving the ease with which foreign exchange transactions can be undertaken by users. Such entities will not be required to seek authorisation from the Reserve Bank

Do you know ?

- Money changers provide access to foreign exchange facilities to residents and tourists.
- ADs are entities authorised by the RBI to deal in foreign exchange.

Key Highlights

- **Forex Correspondent Scheme:** it is proposed to introduce with the objective of increasing the reach of foreign exchange services
 - ♦ It will be based on a **principal-agency model** where AD Category-I or AD Category-II will act as the principal for the FxCs.
 - ♦ Accordingly, the FxCs would enter into agency agreements with a AD Category-I or AD Category-II under the FCS.
- **Perpetual authorisation:** RBI is also proposing to renew an **existing authorisation as an AD Category-II** on a perpetual basis, subject to meeting the revised eligibility criteria laid down in the new framework.
 - ♦ This is to reduce the regulatory burden as also to enhance the ease of doing business
 - ♦ Presently, the authorisation to entities desirous of operating as AD Category-II is granted initially for a period of one year, which is subsequently renewed for a period between 1 to 5 years.
- **Facilitate trade-related transactions :** RBI is also considering allowing Authorised Dealer (AD) Category-II entities to additionally facilitate trade-related transactions up to a value of ₹15 lakh (per transaction).

- ♦ This is to expand the scope of business and to encourage innovation/competition leading to better consumer experience.

Purpose and Need

- It has been decided to **rationalise and simplify** the licensing framework for APs keeping in view
 - ♦ the **progressive liberalisation** under **FEMA**,
 - ♦ increasing integration of the Indian economy with the global economy,
 - ♦ digitisation of payment systems,
 - ♦ evolving institutional structure, etc. over the last two decades,
- It aims to meet the emerging requirements of the rapidly growing Indian economy, achieve operational efficiency in the delivery of foreign exchange facilities to common persons, tourists, and businesses, while maintaining appropriate checks and balances.

Foreign Exchange Management Act, 1999

- The Parliament has enacted the Foreign Exchange Management Act, 1999 to replace the Foreign Exchange Regulation Act, 1973.
- This Act came into force on the 1st day of June, 2000.
 - ♦ The Central Govt. have established the **Directorate of Enforcement with Director and other officers**, for the purpose of taking up investigations of cases under the said Act.
- **Features :** Under FEMA, the RBI may, on an application made to it, authorise any person to be known as authorised person (AP) to deal in foreign exchange or in foreign securities, as an authorised dealer (AD), money changer or off-shore banking unit or in any other manner as it deems fit.'
- **Jurisdiction :** It extends to the whole of India and also applies to all branches, offices and agencies outside India owned or controlled by a person resident in India.
 - ♦ It is also applicable to any contravention committed outside India by any person to whom this Act is applicable.
- **Objectives :** It aims to consolidate and amend the law relating to foreign exchange with the objective of facilitating external trade and payments and for promoting the orderly development and maintenance of foreign exchange market in India.

Source: *Air*

ADVISORY ON DEEP FAKES

News:

The Ministry of Electronics and Information Technology recently sent an advisory to social media firms to comply with the **Information Technology Rules, 2021**.

About:

- The advisory is aimed at **getting social media firms to crack down more forcefully on fabricated 'deepfake' clips** of people made with artificial intelligence.
- The advisory mandates that **intermediaries communicate prohibited content**, particularly those specified under **Rule 3(1)(b) of the IT Rules**, clearly and precisely to users.
 - ♦ **Rule 3(1)(b)** within the due diligence section of the IT rules mandates intermediaries to communicate their rules, regulations, privacy policy, and user agreement in the user's preferred language.
 - ♦ **Rule 3(1)(b)(v)** prohibits misinformation and patently false information

Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules, 2021.

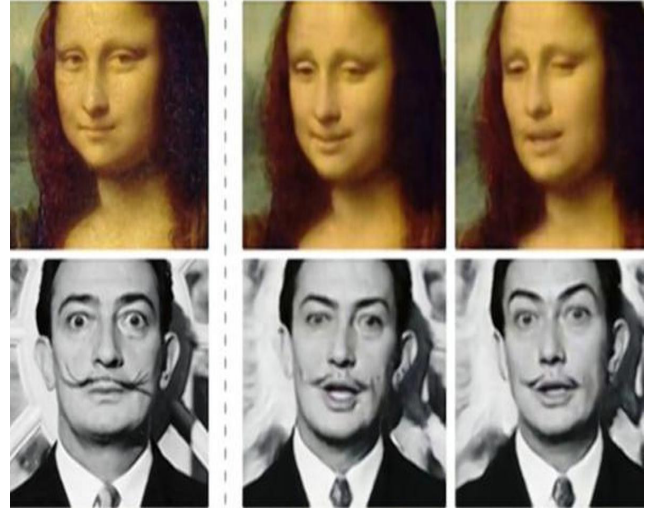
- **Aim:** To enforce greater due diligence by **online gaming and social media intermediaries** in respect of online games & fake or false misleading information.

Key Provisions:

- The 2021 Rules require the intermediary to **"publish" rules and regulations, privacy policy and user agreement** for access or usage of its services.
- The Rules specify **restrictions on the types of content that users are allowed to create, upload, or share.**
 - ♦ The Rules require intermediaries to "inform" users about these restrictions.
- It also adds that **intermediaries should take all reasonable measures to ensure accessibility of their services** to all users, with a reasonable expectation of due diligence, privacy, and transparency.
 - ♦ Further, intermediaries should respect the **constitutional rights of all users.**

Deep Fakes:

- Deepfakes are **new forms of audiovisual manipulation** that allow people to create realistic simulations of someone's face, voice or actions.
 - ♦ They **enable people to make it seem like someone said or did something** they didn't or an event happened that never occurred.



- It is a creation process that leverages deep learning algorithms, particularly **Generative Adversarial Networks (GANs)**, to analyze and learn from large datasets of images and videos.
 - These algorithms then manipulate target media content by:
 - ♦ **Facial swapping:** Replacing the face of one person in a video with another's.
 - ♦ **Voice cloning:** Synthesizing speech that mimics the voice of another person, enabling them to seemingly say anything in a recorded video or audio clip.
 - ♦ **Alter body movements:** Deepfakes can also modify body movements and expressions, further blurring the lines between reality and manipulation.

Applications:

- **Entertainment and satire:** Deepfakes can be used for humorous parodies, creating funny and unexpected mashups of celebrities or public figures.
- **Film and visual effects:** The technology can be utilized to create realistic special effects or de-age actors in movies.
- **Education and training:** Simulations and scenarios using deepfakes can be used for immersive learning experiences in various fields.

- **Communication and marketing:** Personalized video messages or avatars created with deepfakes can be used for marketing campaigns or customer engagement.

Challenges and Concerns:

- **Misinformation and disinformation:** Deepfakes can be used to spread fake news, manipulate public opinion, or damage reputations.
 - ♦ For instance, a deepfake video depicting a popular actress in India recently went viral.
- **Evidence concerns:** Pressure will be on human rights, newsgathering and verification organizations to prove that something is true, as well as to prove that something is not falsified.
 - ♦ It may undermine the possibilities of using video as evidence of human rights abuses.
- **Social engineering and fraud:** Deepfakes can be used to impersonate someone for financial gain or to gain access to restricted information.
- **Ethical considerations:** Concerns exist about the potential for deepfakes to be used for malicious purposes, such as creating revenge porn or inciting hate speech.
- **Detection and verification:** Distinguishing deepfakes from real media can be challenging, making it difficult to verify the authenticity of online content,

What should be done?

- **Regulation:** The development of stricter regulations may be necessary to mitigate the potential harms of deepfakes.
- **Detection tools:** The development of advanced detection tools can mitigate the risks from deepfakes.
 - ♦ **AI can be trained to recognize fake images** in dimensions that the human eye can't detect.
- **Responsible use and education:** Promoting responsible use of the technology and educating users about how to identify deepfakes are crucial steps.

Way Ahead:

- **Technological advancements** and improvements in AI algorithms and access to large data sets will likely lead to **even more sophisticated and convincing deepfakes.**

- ♦ Deepfakes represent a complex technology with both beneficial and potentially harmful applications.
- ♦ Understanding its workings, limitations, and potential risks is essential for navigating this ever-evolving realm of synthetic media.

Source: *TH*

MANAGEMENT OF TUBERCULOSIS (TB)

In Context

- Studies suggest that **shorter-duration treatment approaches** for **tuberculosis** are crucial to **enhance TB management in India.**

About

- Recent studies in adults who have TB in their lungs considered using a combination of new drugs and existing ones that are currently used for other diseases.
- The results of these studies showed that the length of time patients need to stay on their regimen can be **reduced from six months to four months.**
- Shortening the duration for TB medication to cure the patient faster is transformational and also makes **TB programme implementation more feasible.**

What is Tuberculosis?

- Tuberculosis (TB) is an **infectious disease** that most often affects the lungs and is caused by the **bacteria Mycobacterium tuberculosis.**
- It spreads through the air when infected people **cough, sneeze or spit.**
- **TB can manifest in two forms:** latent TB infection and active TB disease.
 - ♦ In latent TB infection, the bacteria are present in the body, but the immune system keeps them in check, and the person does not exhibit symptoms.
 - ♦ However, the bacteria can become active later, leading to active TB disease, which is characterized by symptoms such as persistent cough, chest pain, weight loss, fatigue, and fever.
- **Symptoms:** prolonged cough (sometimes with blood), chest pain, weakness, fatigue, weight loss, fever, night sweats.

- ♦ The symptoms people get depend on where in the body TB becomes active. While TB usually affects the lungs, it also affects the kidneys, brain, spine and skin.
- **Treatment:** Tuberculosis is **preventable and curable**.
 - ♦ Tuberculosis disease is treated with antibiotics.
 - ♦ **TB Vaccine: The Bacillus Calmette-Guérin (BCG) vaccine** remains the only licensed vaccine against TB; it provides moderate protection against severe forms of TB (TB meningitis) in infants and young children.

India's Burden of TB

- India accounts for around **27% of TB cases** worldwide – which is the world's highest country-wise TB burden.
- India's aim to **eliminate TB by 2025**.
- The theme for World Tuberculosis Day (March 24) in 2023 was "Yes, we can end TB", which reflects the United Nations Sustainable Development Goals (SDGs) to **eliminate TB by 2030**.

Challenges Faced by India in Eliminating TB

- **Drug-resistant TB cases:** India has a significant burden of drug-resistant TB, including multidrug-resistant TB (MDR-TB).
 - ♦ This type of TB is much harder to treat and requires more expensive, specialised drugs and a longer duration of treatment.
- **Diagnostics and Case Detection:** The accurate and timely diagnosis of TB remains a challenge.
 - ♦ Some areas lack access to modern diagnostic tools, leading to reliance on older methods with limitations.
- **Poor primary health-care and infrastructure:** In many parts of India, especially in rural and remote areas, there is limited access to healthcare facilities.
 - ♦ This can result in delayed diagnosis and treatment, allowing TB to spread within communities.
- **Stigma and Awareness:** Stigma associated with TB can lead to delays in seeking healthcare, and lack of awareness about the disease may contribute to its persistence.
- **Private Sector Engagement:** A significant portion of healthcare services in India is provided by the private sector.

- ♦ Coordinating efforts between the public and private sectors and ensuring standardized treatment protocols are crucial for effective TB control.
- **Treatment Adherence:** TB treatment requires a prolonged course of antibiotics, and ensuring patient adherence to the full course is challenging.
- **Vulnerable Populations:** Certain populations, such as migrant workers, urban slum dwellers, and those living in crowded conditions, are at higher risk of TB.

Steps Taken by Government of India to Eliminate TB

- **Revised National Tuberculosis Control Program (RNTCP):** The RNTCP, launched in **1997**, was the flagship program to control TB in India.
 - ♦ The program has been continuously revised and strengthened over the years.
- **National Tuberculosis Elimination Program (NTEP):** The Government of India has developed a National Strategic Plan (2017-25) for Ending TB in the country by 2025.
- **Pradhan Mantri TB Mukh Bharat Abhiyan (PMTBMBA):** Launched in **2022** for community support to TB patients with the objective to provide people with TB with additional nutritional, diagnostic and vocational support.
- **Universal Drug Susceptibility Testing (DST):** The government has scaled up efforts to provide universal access to drug susceptibility testing, helping to identify drug-resistant strains of TB early and tailor treatment accordingly.
 - ♦ Earlier, the patients were started on first line treatment and were tested for drug resistance only if the therapy did not work.
- **Ni-kshay portal:** An online Ni-kshay portal has been set up to track the notified TB cases.
- **New Drugs:** Newer drugs such as Bedaquiline and Delamanid for the treatment of drug-resistant TB have been included in the government's basket of drugs provided free TB patients.
- **R&D for Treatment:** Researchers have been studying shorter three- and four-month courses of anti-tubercular drugs, instead of the existing six-month therapy.
- **Vaccine Development:** Trials are underway to test the effectiveness of a vaccine called Immuvac, which was initially developed to prevent leprosy, in preventing TB.

- Researchers are also testing VPM1002, which is a recombinant form of the BCG vaccine modified to express the TB antigens better.

Suggestions

- Setting norms and standards on TB prevention and care and promoting and facilitating their implementation;
- Developing and promoting ethical and evidence-based policy options for TB prevention and care;
- Monitoring and reporting on the status of the TB epidemic and progress in financing and implementation of the response at global, regional and country levels.

Source: *TH*

RENEWABLE ENERGY IN INDIA

News:

India will witness **more than 83% increase in investments in renewable energy (RE) projects to about \$16.5 billion in 2024**, Power Ministry estimates show.

About:

- This is in line with **India's ambitious target of having 500 GW of renewable energy by 2030** and its resolve to **reduce overall power generation capacity from fossil fuels to less than 50%**.
- India has also committed a **net zero emission target by 2070**.

Renewable energy in India: Present Status

- India stands **4th globally in Renewable Energy Installed Capacity (including Large Hydro)**,
- **4th in Wind Power capacity & 4th in Solar Power capacity** (as per REN21 Renewables 2022 Global Status Report).
 - ♦ The country has set an enhanced target at the COP26 of 500 GW of non-fossil fuel-based energy by 2030.
 - ♦ This has been a key pledge under the **Panchamrit**. This is the world's largest expansion plan in renewable energy.
- **Fastest growth in renewable energy:** India saw the highest year-on-year growth in renewable energy additions of **9.83% in 2022**, exceeding other major economies.

- ♦ As of July 2023, Renewable energy sources, including large hydropower, have a combined installed capacity of 176.49 GW.
- Diversified renewable energy mix
 - ♦ The following is the installed capacity for Renewables:
 - Wind power: 43.7 GW
 - Solar Power: 70.1 GW
 - Biomass/Cogeneration: 10.2 GW
 - Small Hydro Power: 4.94 GW
 - Waste To Energy: 0.55 GW
 - Large Hydro: 46.85 GW.

Challenges:

While India's renewable energy sector has seen impressive growth, it still faces several challenges hindering its full potential.

a) Integration and Infrastructure:

- **Grid infrastructure limitations:** The existing grid infrastructure, designed for large, centralized fossil fuel plants, struggles to integrate the variable and distributed nature of renewable energy sources.
- **Transmission bottlenecks:** Upgrading and expanding transmission lines across vast distances and complex terrains require significant investments and pose logistical challenges.
- **Storage solutions:** Lack of cost-effective storage technologies limits the grid's ability to absorb excess renewable energy, causing wastage.

b) Financial and Resource Constraints:

- **Discom financial health:** The financial instability of many power distribution companies (discoms) affects their ability to purchase and integrate renewable energy into the grid.
- **Financing gap:** Despite government support, attracting sufficient private investment to meet ambitious targets remains a challenge due to perceived risks and long payback periods.
- **Land acquisition:** Securing land for large-scale solar and wind projects faces hurdles due to complex land ownership patterns, environmental concerns, and social resistance.

c) Regulatory Hurdles:

- **Policy inconsistencies:** Frequent changes in regulations or unclear policy frameworks create uncertainty for investors and impede long-term planning.

- **Delays:** Lengthy and bureaucratic permitting processes for project approvals act as major bottlenecks.

d) Technological and Market Hurdles:

- **Domestic manufacturing:** India remains heavily reliant on imported components for solar panels and wind turbines, increasing costs and exposing the sector to supply chain disruptions.
- **Skill gap:** The sector needs a skilled workforce across the entire value chain, from installation and maintenance to grid management and finance.
- **Market access:** Limited awareness and adoption of renewable energy solutions, particularly in rural areas, hinders market growth.

Measures needed:

- **Policy stability and clarity:** Strong and consistent government policies with long-term vision are crucial for attracting investment and encouraging innovation.
- **Technological advancements:** Investment in research and development of advanced grid technologies, efficient storage solutions, and domestic manufacturing is key.
- **Financial mechanisms:** Innovative financing models, like green bonds and carbon credits, can bridge the funding gap and attract private capital.
- **Skill development:** Training programs and capacity building initiatives can address the skill gap and create a skilled workforce for the sector.
- **Community engagement:** Addressing local concerns and involving communities in project planning can facilitate land acquisition and ensure social acceptance.

Major Programmes in Renewable Energy Sector

1. **National Solar Mission (NSM):** In January 2010, the NSM was launched with the objective of establishing India as a global leader in solar energy. The target of NSM was to **install 200 GW solar power by 2022.**
2. **Pradhan Mantri Kisan Urja Suraksha evam Utthaan Mahabhiyan (PM-KUSUM):** It was launched in 2019 to help farmers accessing reliable day-time solar power for irrigation, reduce power subsidies, and decarbonise agriculture.
3. **Atal Jyoti Yojana (AJAY):** A Scheme for the installation of solar street lights to replace conventional street lights with smart and energy efficient LED street lights.

4. **Solar Parks Scheme:** To facilitate large scale grid-connected solar power projects.
5. **Green Energy Corridor (GEC):** To facilitate renewable power evacuation and reshaping the grid for future requirements.
6. **International Solar Alliance (ISA):** The India-France joint initiative of the International Solar Alliance (ISA) with an aim to reduce carbon footprint.

Way Forward:

- **Energy transition:** Despite having among the lowest per capita emissions in the world, India needs to invest in energy transition. There is a **need to promote domestic manufacturing in the Renewable Energy sector.**
- **Wider role:** The ongoing efforts for mitigating investment risks and easing approval processes need to be strengthened. **The State governments have to play a major role** in the acquisition of land for RE projects.
- **Make RE an attractive option:** With progressively declining costs, improved efficiency and reliability, renewable energy is now an attractive option for meeting the energy needs across different sectors of the economy.

Source: TH

FACTS IN NEWS

TANSEN SAMAROH

In News

Around 1,300 tabla players who performed during Tansen Samaroh entered the Guinness World Records for achieving the "largest tabla ensemble".

About Tansen Samaroh

- It is celebrated every year in the month of December in Gwalior district of Madhya Pradesh.
- It is a 4 day musical extravaganza .
- Artists from all over India are invited to deliver vocal and instrumental performances to pay tribute to the Great Indian Musical Maestro Tansen.

Tansen

- Tansen is considered one of the great exponents of the North Indian system of music.

- He was one of the nine gems of the court of Mughal emperor Akbar
- He also received patronage under
 - ♦ Mohammad Shah Adil of Suri dynasty.
 - ♦ Ramchandra Vaghela of Reevan
- He is given credit for introducing some famous raagas viz., Miyan ki Malhar, Miyan ki Todi and Darbari.

CURRENT ACCOUNT DEFICIT (CAD)

In News

India's current account deficit (CAD) narrowed sharply to **1 per cent of GDP** in the second quarter (Q2) of FY24 against 3.8 per cent in the year-ago quarter due to lower merchandise trade deficit.

- Healthy receipts from services exports, decent growth in private transfer receipts (mainly remittances) and robust inflows in non-resident deposits also helped narrow the CAD.

About Current Account Deficit (CAD)

- Current Account is the record of trade in goods and services and transfer payments
- CAD occurs when the value of imports of goods and services is greater than the value of exports of goods and services.
 - ♦ The trade deficit, the largest component of the CAD.

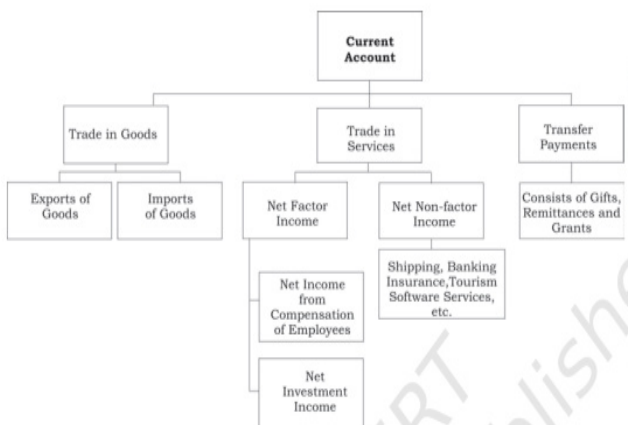
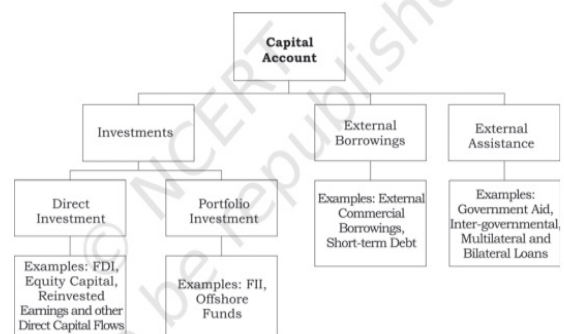


Image Courtesy : Ncert

- **Impact** : A country may need to borrow money to close the gap if it is unable to finance its current-account deficit through investments.
 - ♦ This may result in higher levels of debt, which is detrimental to the economy.

- ♦ A large deficit can lead to reduced government spending, lower investment and higher inflation, all of which can hamper economic growth.
- **Measures** : There are several measures a country can take to narrow its current-account deficit.
 - ♦ These include boosting exports by providing incentives for exporters, easing export regulations, and negotiating better trade deals with other countries.
 - ♦ The government can also help reduce import by providing incentives to domestic manufacturers and implementing tariffs and duties on certain imports.
 - ♦ Other measures include **improving productivity and competitiveness** of domestic manufacturers through policy interventions that could help increase exports in the long term.

Additional Information



Current Account Surplus	Balanced Current Account	Current Account Deficit
Receipts > Payments	Receipts = Payments	Receipts < Payments

SUNEHRI BAGH MASJID

Context

- The New Delhi Municipal Council (NDMC) has sought public response regarding the proposed demolition of Sunehri Bagh masjid.

History

- The Sunehri Masjid is an **18th-century** mosque in **Old Delhi**.
- It was built by **Mughal noble Roshan-ud-Daula**, during the reign of Mughal Emperor **Muhammad Shah**.
 - ♦ The mosque was dedicated to Roshan-ud-Daula's spiritual mentor, **Shah Bhik**.
- The mosque's prayer hall is elevated above street-level shops and consists of an open courtyard.

- It is said that the **Persian invader Nadir Shah** sat on the terrace of the Sunehri Masjid for hours on March 11, 1739 and watched his soldiers pillage the golden bazaars of Chandni Chowk.
 - ♦ The Katl-e-Aam (killing of everyone in sight) that he had ordered resulted in 30,000 deaths

Legacy of the Mosque

- Sunehri Bagh masjid housed freedom fighters like **Maulana Hasrat**. He used to reside at the mosque when attending Parliament sessions, and refused government accommodation.
 - ♦ He was the first to move the resolution for complete independence in the **1931 Congress Session**.
 - ♦ He coined the slogan **Inquilab Zindabad** which was later adopted by revolutionaries like Bhagat Singh.
- The masjid has been designated as a **Grade-III Heritage structure**.

Source: **IE**

NON-INVASIVE FORMALDEHYDE SENSOR

Context

- Nanomaterials and Nanoelectronics Laboratory, Assam has developed a cost-effective sensor to detect the formalin in **adulterated fishes**.

About sensor

- New non-invasive **formaldehyde sensors** can detect adulterated fish at room temperature and it is low-cost.
- **Material used:** It is made of **Tin oxide-reduced graphene oxide composite (rGO- SnO₂)**.
 - ♦ **Reduced graphene oxide (rGO)** is used to detect various toxic gasses and VOCs.
 - ♦ **Tin oxide (SnO₂)** has high stability and high sensitivity toward low concentrations of formaldehyde.
- **Process:** Graphene oxide (GO) is synthesized through a **Wet chemical process** and **Tin oxide-reduced graphene oxide composite (rGO- SnO₂)** is synthesized by **hydrothermal route** followed by calcination of the obtained product.

Do you know ?

- **Food adulteration** is the practice of adding illegal or harmful substances to food to make it appear more appealing or to increase its shelf life.
- **Formaldehyde** is a **colorless, pungent gas** that is used in a variety of industrial processes, including as a preservative in some foods, commonly in fish.
 - ♦ However, the use of **formaldehyde in food is illegal** in many countries, as it is a known **carcinogen**.

Existing Invasive sensors

- Currently two types of formalin sensors are used on a commercial level. They are **Electrochemical-based and Colorimetric-based**.
 - ♦ **Electrochemical sensors** are extensively used but are **expensive**. Colorimetric sensors are less expensive.
- **Concerns:** Both methods are invasive in nature. Also **low-level detection** and **selective detection** are two major issues with these sensors.

Significance of Non-Invasive sensors

- The development of **2D materials-based gas sensors** has created a new avenue of effective detection of toxic vapors at room temperature.
- These sensors have the potential to detect the formalin evaporated from adulterated food products.

Source: **PIB**

IONOSPHERIC OBSERVATIONS IN ANTARCTICA

News:

The **cold winters and the bright sunny summer of Antarctica** holds crucial information in the **ionosphere** that scientists have traced recently.

About:

- A team of scientists from the **Indian Institute of Geomagnetism (IIG)**, an autonomous body of the Department of Science and Technology (DST) have examined the long-term seasonal ionospheric observations.
- At **Indian Antarctica station Bharati**, between 2010 and 2022, they examined seasonal ionospheric observations with solar activity following the **Sun's 11-year cycle**.

The Observations:

- They found a substantial seasonal variation with maximum total electron count (TEC) in equinoctial months followed by the summer and winter.
- The **day-night ionospheric density varied** regardless of 24 hours of sunlight in summer and complete darkness in winter.
 - ♦ Also, the **maximum ionospheric density** in the summer months where **24 hours sunlight is present** (polar days), was about **twice more than that of polar nights at the Bharati region.**
- It was observed that though there was **no sunlight incidence throughout the day in winter months** (polar nights) at Bharati station; **a diurnal pattern was observed** with peak ionospheric density near local noon.
- The scientists attributed the peak ionization to **particle precipitation and transportation of convectional plasma** from high latitudes.

Do you know?

- The ionosphere is a **part of Earth's upper atmosphere**, which is **partially ionized** extending from **100-1000 km**.
- The ionosphere at polar regions is **highly dynamic and acts as a major energy sink** for space weather events, and related processes in **magnetosphere-ionosphere systems** as the magnetic field lines are vertical in this region.
- **The ionospheric observations in Antarctica are few compared to the Arctic** region due to geographic limitations and limited number of stations.

Significance:

- Such long-term studies can **help understand effects of the ionosphere on satellite-based navigation and communication** systems and to mitigate them.

Source: **PIB**

ANEMIA**News:**

The ICMR has invited Expression of Interest (EoI) from the eligible organisations manufacturing **non-invasive haemoglobinometer** useful in **effective screening of anaemia**.

About:

- ICMR noted that **testing and treatment of anaemia using digital methods** and point-of-care treatment is one of the key **Anaemia-mukt Bharat(AMB)** strategic interventions.

- The **test and treat strategy**, for its effective implementation, requires a simple, **easy-to-use non-invasive haemoglobinometer**.

What is anaemia?

Anaemia happens when the **number of red blood cells or the haemoglobin concentration** within them is lower than normal.



ANEMIA MUKHT BHARAT 6x6x6 STRATEGY



Children, 6–59 months of age



Adolescent girls and boys (10–19 years of age)



Pregnant women



Children, 5–9 years of age



Women of reproductive age (20–24 years of age)



Lactating mothers (of 0–6 months child)

6 Beneficiaries



6 Interventions

Prophylactic Iron Folic Acid Supplementation



Deworming



Intensified year-round Behaviour Change Communication Campaign (Solid Body, Smart Mind) including ensuring delayed cord clamping



Texting of Anemia using digital methods and point of care treatment



Mandatory Provision of Iron Folic Acid fortified foods in public health programmes



Addressing non-nutritional causes of anemia in endemic pockets, with special focus on malaria, haemoglobinopathies and fluorosis



6 Institutional Mechanisms



National Anemia Mukht Bharat Unit



Intra Ministerial Coordination



Strengthening Supply Chain and Logistics



Convergence with Other Ministries



National Centre of Excellence and Advanced Research on Anemia Control



Anemia Mukht Bharat Dashboard and Digital Portal – One Stop Shop for Anemia



What causes anaemia?



Inherited red blood cells disorders



Deficiency of nutrients: Iron, vitA, folate, vitB12



Chronic diseases



Heavy menstruation and pregnancy-related issues



HIV



Parasitic infection

Common symptoms of anaemia include



Tiredness



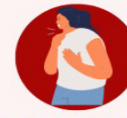
Dizziness or feeling light-headed



Cold hands and feet



Headache



Shortness of breath, especially when exertion

Dietary changes can help reduce anaemia in some cases by



Eating a healthy and varied diet



Eating food rich in: iron, folate, vitamin B12, vitamin A and other nutrients



Taking supplements

Other health conditions can cause anaemia so make sure to



Get vaccinated



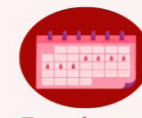
Treat infections



Manage chronic diseases



Treat inherited red blood cell disorders



Treat heavy menstruation & haemorrhage



Wait at least 24 months between pregnancies



World Health Organization
Regional Office for the Eastern Mediterranean

Prevalence in India:

- In India, the prevalence of anaemia among six groups as per the National Family Health Survey 5 (2019-21) is
 - 25% in men (15-49 age group),
 - 57% in women (15-49),
 - 31.1% in adolescent boys (15-19),
 - 59.1 % in adolescent girls,
 - 52.2 % in pregnant women (15-49) and
 - 67.1% in children (6-59).

Source: TH

SECTION 498A OF THE INDIAN PENAL CODE

In Context

- The Supreme Court has held that one discordant instance of bad behaviour could not be classified as harassment or cruelty for dowry under **Section 498A** of the Indian Penal Code.

About Section 498A

- It deals with the **offense of cruelty by a husband or his relatives** towards a married woman.
- This section was introduced to address the **rising instances of cruelty and harassment** faced by married women in the context of dowry.
- It defines cruelty as:**
 - any wilful conduct which is of such a nature as is likely to drive the woman to commit suicide or to cause grave injury or danger to life, limb or health (whether mental or physical) of the woman; or
 - harassment of the woman where such harassment is with a view to coercing her or any person related to her to meet any unlawful demand for any property or valuable security or is on account of failure by her or any person related to her to meet such demand.

- **Punishment:** Whoever the husband or the relative of the husband of a woman, subjects her to cruelty shall be punished with imprisonment for a term which may extend to **three years and shall also be liable to fine.**

Source: *TH*

NORTH ATLANTIC TREATY ORGANIZATION

In Context

- A key committee in the Turkish parliament gave the **clearance for Sweden's NATO membership.**

About NATO

- NATO, or the North Atlantic Treaty Organization, is a **military alliance of countries** .
- The foundations of NATO were officially laid down in 1949 with the signing of the North Atlantic Treaty, more popularly known as the **Washington Treaty.**
- Its primary purpose is to ensure the **security and defense of its member countries** through collective defense.
- The organization's roots can be traced back to the **aftermath of World War II** when the **North Atlantic Treaty was signed.**

- **Founding Members:** The original members of NATO, were Belgium, Canada, Denmark, France, Iceland, Italy, Luxembourg, the Netherlands, Norway, Portugal, the United Kingdom, and the United States.

- **Collective Defense:** The cornerstone of NATO is Article 5 of the North Atlantic Treaty, which states that an armed attack against one or more of its members is considered an attack against all members.

- **Decision-Making:** Decisions within NATO are made on the basis of **consensus among member countries.**

- ♦ **The North Atlantic Council,** which includes the ambassadors of all member countries, is the **principal political decision-making body.**

- **Members:** It has **31 member countries, Finland** became 31st member in 2023.

- On signing the Treaty, countries voluntarily commit themselves to participating in the political consultations and military activities of the Organization.

Source: *TH*