

Factly Monthly

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UPSC Syllabus: Indian Economy

Rule 170 of the Drugs and Cosmetics Act

Why in News?

The Supreme Court has recently put a hold on a Central government notification that aimed to remove Rule 170 from the Drugs and Cosmetics Rules of 1945.

About Rule 170 of the Drugs and Cosmetics Act

1. It was introduced in 2018 as part of the Drugs and Cosmetics Act.
2. **Purpose:** Its primary purpose is to regulate and prevent misleading advertisements of AYUSH (Ayurveda, Yoga & Naturopathy, Unani, Siddha, and Homeopathy) products.
3. **Key Provisions of Rule 170:** The rule prohibits advertisements without proper approval. Advertisements can be rejected if:
 - i) The manufacturer does not provide contact details.
 - ii) The content is deemed obscene or vulgar.
 - iii) It includes claims about enhancing sexual organs.
 - iv) It features celebrities or government officials, references any government organization, or makes false, misleading, or exaggerated claims.
4. **Requirements Under Rule 170:** AYUSH product manufacturers must obtain approval and a unique identification number from the state licensing authority before advertising their products.
5. Manufacturers are required to provide detailed information, including textual references, rationale for the medicine based on authoritative books, intended use, and evidence of safety, effectiveness, and quality.

Challenges in Regulating AYUSH Drugs

1. **Licensing Requirements:** Like allopathic (modern) medicines, AYUSH drugs also require a license from the drug controller.
2. **Clinical Trials:** Unlike allopathic drugs, AYUSH products generally do not require phase I, II, or III trials for approval. Most AYUSH drugs are approved based on the rationale provided in authoritative texts from their respective disciplines.
3. **Safety Trials:** Safety trials are mandatory only for formulations that use about 60 specific ingredients listed in the act, such as snake venom, heavy metals (e.g., arsenic, mercury), and compounds like copper sulfate.
4. **Proof of Effectiveness:** For licensing drugs containing these ingredients or traditional drugs used for new indications, proof of effectiveness must be provided as per the Act.

Why did the AYUSH Ministry Recommend Ignoring Rule 170?

1. The Ayurvedic, Siddha, and Unani Drugs Technical Advisory Board (ASUDTAB) which is an expert body for regulating AYUSH drugs, suggested in a May 2023 meeting that Rule 170 could be omitted.
2. This suggestion was made because amendments to the Drugs and Magic Remedies Act, another law aimed at preventing misleading advertisements, were also being considered by the health and AYUSH ministries.

3. In light of ASUDTAB's recommendation and ongoing legislative changes, the AYUSH Ministry advised state licensing authorities to disregard Rule 170.

Pharmacopoeia Commission for Indian Medicine & Homoeopathy (PCIM&H)

Why in News?

The Pharmacopoeia Commission for Indian Medicine & Homoeopathy (PCIM&H) has achieved key Bureau of Indian Standards (BIS) Integrated Management System (IMS) Certifications.

Key Certifications Achieved

Certification	Description
IS/ISO 9001:2015-Quality Management System (QMS)	Ensures consistent delivery of high-quality services and products, meeting and exceeding customer expectations.
IS/ISO 14001:2015 - Environmental Management System (EMS)	Demonstrates a commitment to minimizing environmental impact and promoting sustainable practices.
IS/ISO 45001:2018-Occupational Health & Safety Management System (OHSMS)	Focuses on maintaining a safe and healthy work environment for all employees.

Significance of the Certifications: These certifications represent a commitment to upholding global standards in quality, environmental stewardship, and workplace safety, thereby enhancing operational efficiency within PCIM&H.

This also supports the Ministry of Ayush's mission to elevate the standards in Ayurveda, Siddha, Unani, and Homoeopathy (ASU&H).

About PCIM&H

- About:** It is a subordinate office under the Ministry of AYUSH, Government of India.
- It was created by merging Pharmacopoeia Commission of Indian Medicine & Homoeopathy (PCIM&H) and the two central laboratories namely Pharmacopoeia Laboratory for Indian Medicine (PLIM), Ghaziabad and Homoeopathic Pharmacopoeia Laboratory (HPL).
- Vision:** To serve as the primary authority in setting quality standards for drugs used in Indian Systems of Medicine and Homeopathy.
- Mission:** To develop quality standards for drugs utilized in Indian Systems of Medicine and Homoeopathy and function as the Central Drug Testing and Appellate Laboratory for these systems.
- Function:** The Commission is involved in developing pharmacopoeial standards for Ayurvedic, Unani, Siddha, and Homoeopathic drugs. PCIM&H also serves as the Central Drug Testing and Appellate Laboratory for Indian systems of Medicine and Homoeopathy.

Launch of AgriSURE Fund and Krishi Nivesh Portal

Why in News?

The Union Minister of Agriculture and Farmers' Welfare and Rural Development recently launched the AgriSURE Fund and the Krishi Nivesh Portal at PUSA, New Delhi. The launch aims to enhance agricultural

investment and infrastructure through the AgriSURE Fund and provide a comprehensive platform for agricultural investments via the Krishi Nivesh Portal.

About AgriSURE Fund

1. The AgriSURE Fund is a new initiative by the Indian government aimed at supporting agricultural start-ups and rural enterprises.

2. **Objective-** To provide comprehensive support to agripreneurs by establishing a financing ecosystem that offers both equity and debt options, enhancement of the farm produce value chain, creating rural infrastructure, generating employment, and supporting farmers' producer organizations.

3. **Funding Pattern-** The initial corpus of ₹750 crore, funded by the Ministry of Agriculture, NABARD, and other financial institutions, is managed by NABVENTURES, a wholly owned subsidiary of NABARD.

4. Significance:

i) Using information technology in agriculture will boost labor productivity and increase income and profits for small and marginal farmers, who constitute 85% of the farming population.

ii) As food prices have been a major factor in inflation, boosting agricultural productivity will enhance food availability at affordable prices and ease pressure in macroeconomic management.

About Krishi Nivesh Portal

Aspects	Description
About	The Krishi Nivesh Portal serves as a centralized, one-stop platform for agricultural investors to access various government schemes and benefits.
Launched	It was launched on December 5, 2022.
Aim	To streamline the investment process and enhance transparency, making it easier for both domestic and international investors to contribute to India's agricultural growth
Key features	i) Investors can find information and apply for multiple government schemes related to agriculture and allied sectors. ii) The portal provides guidelines for market entry strategies, regulatory frameworks, and steps to set up operations in India. iii) Special provisions and training programs are available to empower women in agriculture.

About Agriculture Infrastructure Fund (AIF)

1. The AIF scheme is to provide medium to long-term debt financing for developing post-harvest management infrastructure and community farming assets.

2. **Aim:** This initiative seeks to enhance agricultural productivity, reduce post-harvest losses, and improve farmers' income by supporting the creation of modern infrastructure facilities across the agricultural value chain.

3. **Objectives:** To mobilize investment in agricultural infrastructure projects that are crucial for post-harvest management, including cold storage, packaging, logistics, warehousing, and more.

By providing financial incentives and support, the scheme seeks to encourage private sector investment in these critical areas, ultimately leading to improved efficiency and profitability for the agriculture sector.

Key features

1. The scheme provides subsidized loans to agri-entrepreneurs, FPOs, SHGs, cooperatives, and state agencies for infrastructure development.
2. Eligibility has been expanded to include APMCs, federations of FPOs, SHGs, and state agencies.

Digital Agriculture Mission

Why in News?

The Union Cabinet Committee recently approved the Digital Agriculture Mission.

About Digital Agriculture Mission

Aspects	Description
About	<ol style="list-style-type: none"> 1. The Digital Agriculture Mission is an umbrella scheme supporting digital agriculture initiatives in India. 2. It focuses on developing Digital Public Infrastructure, implementing the Digital General Crop Estimation Survey (DGCES), and advancing IT projects by government bodies and research institutions. 3. It is aligned with the “Viksit Bharat@2047” vision. 4. It aims to create a sustainable and digitally empowered agriculture sector.
Aim	It aims to create Digital Public Infrastructure (DPI) for agriculture, facilitating data-driven decision-making and digital services for farmers.
Components of Digital Public Infrastructure (DPI)	<ol style="list-style-type: none"> 1. AgriStack: A comprehensive digital platform to provide efficient, faster, and easier services to farmers. It includes three foundational registries: the Farmers’ Registry, Geo-referenced village maps, and the Crop Sown Registry. 2. Krishi Decision Support System (Krishi-DSS): A geospatial system that integrates data on crops, soil, weather, and water resources to support decision-making in agriculture. 3. Soil Profile Mapping: Detailed soil profile mapping at a 1:10,000 scale covering approximately 142 million hectares of agricultural land in India.
Digital Identity for Farmers	<ol style="list-style-type: none"> 1. Under AgriStack, a digital identity (Farmer ID) will be provided to farmers, similar to Aadhaar, called ‘Kisan ki Pehchaan’. 2. This ID will link dynamically to various data points such as land records, livestock ownership, crops sown, and demographic details.
Benefits for Farmers and Stakeholders	<ol style="list-style-type: none"> 1. Farmers can access services and schemes digitally, reducing the need for physical visits to government offices and minimizing paperwork. 2. The digital infrastructure will facilitate efficient service delivery mechanisms, such as paperless MSP-based procurement, crop insurance, credit-linked crop loans, and balanced fertilizer use. 3. The Digital Agriculture Mission will enable the development of efficient value chains for agricultural inputs and post-harvest processes. 4. The mission is expected to generate both direct and indirect employment in the agriculture sector.

About Digital General Crop Estimation Survey (DGCES)

1. The Digital General Crop Estimation Survey (DGCES) is a nationwide effort to accurately measure crop yields for various crops in India.

2. It is a component of the Digital Agriculture Mission which seeks to establish a strong Digital Public Infrastructure (DPI) for the agriculture sector.
3. It aims to make reliable agricultural production estimates, supporting policy formulation and resource allocation.
4. The DGCES will provide accurate yield estimates using scientifically designed crop-cutting experiments.

Global Navigation Satellite System (GNSS)-based Software

Why in News?

The Ministry of Road Transport & Highways (MoRTH) has announced the implementation of a Global Navigation Satellite System (GNSS)-based Electronic Toll Collection (ETC) system in India.

About GNSS-Based Software for Electronic Toll Collection (ETC) system

Aspects	Description
About	This GIS-based software for real-time monitoring of waiting times at toll plazas is developed by the Indian Highways Management Company Limited (IHMCL) under the guidance of the Ministry of Road Transport & Highways (MoRTH).
Aim	To address the congestion issues at toll plazas by providing NHAI officials with live data on traffic conditions at specific lanes, enabling a more streamlined flow of vehicles.
Features	<ol style="list-style-type: none">1. The software provides real-time traffic updates at toll plazas, alerting officials when congestion exceeds limits and recommending lane adjustments to ease jams, especially during peak times or unexpected surges.2. It analyzes traffic trends over various periods (hourly, daily, weekly, monthly) to improve planning and congestion management.3. The software also incorporates external factors like weather and local events to anticipate disruptions.4. Each toll plaza is mapped using GIS technology, offering a clear view of traffic dynamics for effective management.
Benefits of the GIS-Based Software	<ol style="list-style-type: none">1. Real-time updates and congestion alerts help reduce delays at toll plazas, speeding up vehicle passage.2. Detailed data enables NHAI officials to manage traffic proactively and prevent congestion.3. Faster toll processing improves the experience for highway users, reducing frustration.4. The software's provide detailed traffic reports and analytics helping officials to make data-driven decisions.

About Current Toll Collection System

1. The current Electronic Toll Collection (ETC) in India uses Radio Frequency Identification (RFID) technology known as FASTag, mandatory since February 2021.
2. FASTag has been widely adopted, with over 98% of user fees paid through this method by March 2024.

Centralized Pension Payment System (CPPS)

Why in News?

The Union Minister of Labour and Employment and the Chairperson of the EPF's Central Board of Trustees have approved the proposal for a new Centralized Pension Payment System (CPPS) for the Employees' Pension Scheme, 1995. This initiative will bring several benefits to EPS pensioners across India.

About centralized pension payment system (CPPS)

Aspects	Description
About	It is an initiative to modernize pension disbursements under the Employees' Pension Scheme.
Operational From	The CPPS will be operational from January 1, 2025, as part of the Employees' Provident Fund Organization's (EPFO) Centralized IT Enabled System (CITES 2.01), which is part of an ongoing IT modernization initiative.
Key Features	<ol style="list-style-type: none"> 1. The CPPS provides a unified system that allows pension payments to be made through any bank or branch in India. 2. Pensioners will no longer need to visit their bank branch for verification. Once the benefits are released, the pension will be credited immediately to the pensioner's account, enhancing convenience and efficiency. 3. The new system eliminates the need for pensioners to transfer their Pension Payment Orders (PPO) if they relocate or switch banks or branches, ensuring uninterrupted pension delivery across India. 4. The CPPS will eventually facilitate a smooth transition to an Aadhaar-based payment system, further streamlining the pension disbursement process.
Eligibility Criteria for EPS Pension	<ol style="list-style-type: none"> i) Must be a member of the Employees' Provident Fund Organization (EPFO). ii) Must have completed at least 10 years of service. iii) Should have reached the age of 58 to start receiving a full pension. iv) Can opt for a reduced pension starting from age 50. v) Can defer the pension up to age 60, with an additional 4% pension for each year deferred.
Benefits to EPS Pensioners	<ol style="list-style-type: none"> 1. Pensioners can access their pensions from any bank or branch nationwide, providing flexibility and reducing administrative burdens. 2. Leveraging advanced IT and financial technology, the CPPS will offer a more efficient, seamless, and user-friendly experience for over 78 lakh EPFO EPS pensioners. 3. The EPFO anticipates significant cost savings in pension payouts due to the centralized approach. 4. This system is particularly beneficial for pensioners who move to a different location after retirement, ensuring they continue receiving their pensions without any disruptions.

Read more: [Unified Pension Scheme \(UPS\)](#)

Vertical Fiscal Imbalance (VFI)

Why in News?

The issue of Vertical Fiscal Imbalance (VFI) in India has recently gained attention due to increasing concerns over the financial relationship between the Union government and the States.

Vertical Fiscal Imbalance (VFI)

1. VFI happens when different levels of government (national and state) do not have balanced financial powers.
2. In India, the central government collects most of the taxes, but the state governments handle most of the spending, like providing public services. **For example-** State governments are responsible for 61% of public spending but only collect 38% of the revenue. This makes states rely heavily on money transfers from the central government, highlighting a challenge in how finances are shared.

Why Reducing VFI is Important

Since the central government controls tax collection but states are responsible for delivering many public services, states need more money to meet their responsibilities efficiently.

Reducing VFI helps ensure states have enough funds to provide better services to the public.

How VFI is Calculated

1. **Own-Source Revenue (OSR):** The revenue states generate themselves, excluding central government transfers.
2. **Total Expenditure:** The total spending responsibilities of states.
3. **Intergovernmental Transfers:** The money states receive from the central government.

Formula: $VFI = 1 - (\text{Own-Source Revenue} / \text{Total Expenditure})$

A result below 1 means states' revenues are not enough to cover their spending, even with central transfers.

Role of the Finance Commission: The Finance Commission helps address VFI by deciding how central taxes are shared with states. This is done through tax devolution and grants.

Eliminating VFI: To fix VFI, the share of taxes given to states needs to be increased. The 14th and 15th Finance Commissions recommended shares of 42% and 41%, but experts suggest 49% is needed.

Recommendations for the 16th Finance Commission

1. **Increase Tax Devolution:** Raising the share of taxes for states to 49% would help reduce VFI.
2. **Excluding Cesses and Surcharges:** These should not be part of the tax revenue calculation as they reduce the funds available for states.
3. **Promote Fiscal Federalism:** Giving states more resources would help them manage their responsibilities better, leading to improved governance and services.

Current GST rates and proposal to reduce them

What is the news?

The GST Council recently initiated a potential review to address the increasing demand for a reduction in the 18% tax on health and life insurance premiums. They set a firm 50-day deadline for a new Group of Ministers (GoM) to assess and reconsider the tax rate.

About the Current GST Rate on Health and Insurance Policies

The current Goods and Services Tax (GST) rate on health and life insurance premiums is set at 18%. There has been a growing demand for reducing the 18% tax rate on insurance premiums due to the financial burden it places on policyholders.

GST Rate Changes and Exemptions

- i) The GST Council approved a reduction in the GST rate for three cancer drugs- Trastuzumab Deruxtecan, Osimertinib, and Durvalumab- from 12% to 5%.
- ii) The tax on car seat covers was increased from 18% to 28% to align with motorcycle seat taxes.
- iii) The tax rate on some extruded savoury snacks was lowered from 18% to 12%, removing the distinction between these snacks and items like Namkeens and Bhujia.

Proposals for reducing the GST on health and life insurance premiums

- 1. Reducing the GST Rate:** A key proposal is to lower the current 18% GST rate on health and life insurance premiums, which could make policies more affordable for consumers. This would alleviate the financial burden on policyholders.
- 2. Complete Removal of GST on Insurance Premiums:** There is also a suggestion to completely scrap the GST on insurance premiums. This move would significantly reduce the cost of purchasing insurance, especially important for life-saving policies like health insurance.
- 3. Exemptions for Certain Categories:** The Council is considering providing exemptions for certain categories of insurance policies, such as group insurance policies or policies targeted at specific demographic groups like senior citizens or low-income individuals.
- 4. Differentiated Treatment for Group Insurance Policies:** Special provisions may be introduced to treat group insurance policies differently, which could include lower tax rates or full exemption for certain types of group insurance plans.
- 5. Revenue Impact Review:** Any reduction or removal of the GST on insurance premiums will undergo a detailed review of its impact on government revenues, ensuring that state finances are not adversely affected.

Potential Impact of Reduction of GST: Reducing or removing GST on health and life insurance premiums could offer financial relief to policyholders and boost insurance coverage in the country.

Agro-Meteorological Advisories

What is the news?

Recently, the India Meteorological Department (IMD) announced plans to revive District Agro-Meteorology Units (DAMUs) under the Gramin Krishi Mausam Sewa (GKMS) scheme.

About Agro-Meteorological Advisories

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Source: SlideServe

1. Agro-meteorological advisories **provide farmers with weather-based guidance** to help them make better decisions for farming.
2. This is done through **District Agro-Meteorology Units (DAMUs)** which are specialized units established to provide **localized weather-based agricultural advisories** to farmers.
2. DAMUs uses **weather data from the India Meteorological Department (IMD)**, such as rainfall, temperature, and wind speeds.
3. Based on IMD data, they help farmers decide **when to sow, harvest, apply fertilizers and pesticides, and plan irrigation**. They also warn early about extreme weather like droughts or heavy rainfall.
4. Advisories are sent to millions of farmers across the country in **local languages**. These were **distributed free-of-cost twice a week**.
5. The advisories were **shared via text messages, WhatsApp groups, newspapers, and in-person communication** by DAMU staff and KVK officers.

About District Agro-Meteorology Units (DAMUs)

1. DAMUs were set up **under the Gramin Krishi Mausam Sewa (GKMS) scheme** by the **India Meteorological Department (IMD)** in **2018**. DAMUs were **located at Krishi Vigyan Kendras (KVKs)** and staffed by experts in meteorology and agriculture.
2. They **provided local weather data and advice to farmers** at the district and block levels.
3. They **sent free advisories** to farmers through **SMS, WhatsApp, newspapers, and face-to-face communication**. These advisories helped farmers plan farming activities and avoid losses due to bad weather.

Impact of Agro-Met Schemes

1. DAMUs helped **improve the adaptability of farmers to climatic variations**, resulting in higher yields and better incomes.
2. By providing localized and easily accessible advisories, the agro-met offices played a critical role in **ensuring farmers were better prepared for climate change impacts**.

Challenges associated with DAMU

1. **Shutdown of DAMUs:** In March 2024, **DAMUs were shut down by the IMD**. NITI Aayog suggested using automated systems and privatizing the service, raising concerns as private services are often too expensive for small farmers.
2. **Concerns with Private Services:** **Private companies** provide similar services **but at high costs (up to ₹80,000 per year)**. This makes them **unaffordable for many farmers**. There's also concern about possible bias in promoting certain brands of fertilizers and pesticides.

Read more: [Gramin Krishi Mausam Sewa \(GKMS\) scheme.](#)

PM E-DRIVE Scheme

Why in news?

The Union Cabinet has approved PM E-DRIVE Scheme to accelerate the adoption of electric vehicles (EVs) in India.

About PM E-DRIVE Scheme

Aspects	Description
About	<ol style="list-style-type: none"> PM Electric Drive Revolution in Innovative Vehicle Enhancement (PM E-DRIVE) launched to promote EV adoption. It replaces the Faster Adoption and Manufacturing of Electric Vehicles in India Phase II (FAME India Phase II). It prioritizes public transportation through incentives for electric buses and trucks.
Implemented by	Ministry of Heavy Industries (MHI)
Aim	The primary goal of PM E-DRIVE is to accelerate the transition to electric vehicles by offering upfront incentives and building a robust charging ecosystem.
Subsidies and Incentives	<ol style="list-style-type: none"> Subsidies will be provided to promote electric two-wheelers (e-2Ws), three-wheelers (e-3Ws), e-ambulances, e-trucks, and other emerging EVs. Support will be provided for 24.79 lakh e-2Ws, 3.16 lakh e-3Ws and 14,028 e-buses.
Features	<ol style="list-style-type: none"> E-Vouchers: Aadhaar-authenticated e-vouchers will be introduced for EV buyers, signed by the buyer and dealer, and uploaded on the PM E-DRIVE portal to facilitate demand incentives. E-Ambulances: Rs. 500 crore allocated for e-ambulances, with safety standards set in consultation with MoHFW and stakeholders. E-Buses: Rs. 4,391 crore allocated for the procurement of 14,028 e-buses by state transport units. Demand Aggregation will be managed by CESL in cities with populations over 40 lakh, including Delhi, Mumbai, and Kolkata.
Impact	<ol style="list-style-type: none"> It reduces air pollution and fuel dependency. It will create employment in EV manufacturing, supply chains, and charging infrastructure installation.

Launch of Phase III Capacity-Building Initiatives

What in news?

Recently, the Ministry of Electronics and Information Technology (MeitY) has launched the third phase of its capacity-building initiatives.

Launch of Phase III Capacity-Building Initiatives

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1. Launched by : The Ministry of Electronics and Information Technology (MeitY)

Launched under: The Digital India vision

2. Key focus areas include Digital Public Infrastructure, Contract and Procurement Management, AI & ML applications, Managing Digital Transformation Projects, Digital Governance, and Data Management.

3. Aim: To improve the skills of officials from both Central and State governments, with specialized sessions happening across India.

4. The program is managed by the **National e-Governance Division (NeGD)** under MeitY, in partnership with the **National Institute for Smart Governance (NISG)** as the training partner.

The training combines theoretical knowledge with real-life case studies to offer a valuable learning experience for officials.

Participants will work with industry experts to develop the skills needed to strengthen Digital Public Infrastructure in their departments.

National e-Governance Division (NeGD)

1. The Ministry of Electronics & Information Technology (MeitY) created the National e-Governance Division (NeGD) under the Digital India Corporation in 2009.

2. NeGD actively supports MeitY in managing and implementing e-Governance projects.

3. NeGD provides technical and advisory support to central and state government departments.

4. NeGD focuses on managing programmes, developing projects, handling technology, building capacity, and promoting awareness under the Digital India Programme.

5. NeGD develops and manages several national digital platforms, including digiLocker, UMANG and rapid Assessment System, API Setu, Poshan Tracker, Academic Bank of Credits, National AI Portal, Meri Pehchaan, and more.

Salt Pan Lands

Why in news?

The Centre approved transferring 256 acres of Mumbai's salt pan land to Dharavi Redevelopment Project Pvt Ltd (DRPPL) for slum dwellers' rental housing. The move drew criticism accusing the state of prioritizing private interests.

What Are Salt Pan Lands?

Source: IE

1. Salt pans are naturally forming expanses of ground which are covered with salt and other minerals. Such land is formed where the large water bodies have dried up over thousands of years, leaving behind salt and other minerals as remnants.

2. In Mumbai, the salt pans are spread across Ghatkopar, Wadala, Chembur, Bhandup, Trombay, Virar and Bhayandar.

3. According to the Coastal Regulation Zone (CRZ) 2011 notification, salt pans are categorized under CRZ-1B, where economic activities are prohibited except for salt extraction and natural gas exploration.

Ecological Importance of Salt Pans

1. Flood Protection: Salt pans, together with mangroves, serve as natural flood barriers, absorbing excess water during heavy rainfall and high tides, reducing the risk of severe waterlogging in Mumbai.

2. Biodiversity: These areas support a diverse range of bird species and marine life, playing a vital role in maintaining the local ecosystem.

Challenges

1. Developmental challenges: Mumbai is grappling with a severe housing crisis. Salt pans are some of the last undeveloped lands, and the government has proposed using them for low-cost housing and slum redevelopment projects.

2. Regulatory Challenges: Salt pans fall under the CRZ-1B category, which restricts economic activities to protect ecologically sensitive areas. Despite these protections, there have been continuous efforts to relax these norms to facilitate development.

Read more: [Going back to the salt pans of Mumbai](#)

UPSC Syllabus: Environment

Typhoon Yagi

Why in News?

Typhoon Yagi, has emerged as the **strongest tropical cyclone in Asia this year** and the **second most powerful globally after Hurricane Beryl**. The typhoon has affected multiple countries, including the **Philippines, China, Laos, Myanmar, and Thailand**. Vietnam in particular has been hit hardest, with a death toll of around 233.

Typhoon Yagi's Development and Impact

Typhoon Yagi initially developed as a **tropical storm in the western Philippine Sea** on September 1. It intensified to **Category 5 cyclone with peak winds of 260 kmph**. It is **one of only four Category 5 storms ever recorded** in the South China Sea.

On September 6, Yagi **made landfall in China's Hainan province with 223 km/h winds** and then hit northern Vietnam, and became one of the **strongest storms in over a decade for the region**. Though it later weakened into a tropical depression, it continued to cause heavy rainfall and flooding, particularly in Myanmar.

Formation of Tropical Cyclones

Tropical cyclones develop over warm ocean waters near the equator. Warm, moist air rises from the ocean surface, creating a low-pressure area. Surrounding **higher-pressure air rushes into this low-pressure zone, warming and rising in turn**. As the warm air cools, it forms clouds and thunderstorms. The cyclone system strengthens by drawing heat and moisture from the ocean's surface.

Classification of Tropical Cyclones

The Saffir-Simpson Hurricane Wind Scale categorizes cyclones from **Category 1 (119-153 km/h)** to **Category 5 (252 km/h or higher)**.

Storms reaching **Category 3 or higher are considered major tropical cyclones** due to their potential for widespread destruction.

What is the relation between Climate Change and Tropical Cyclones?

There is **no complete agreement** on how **climate change impacts tropical cyclones**, as multiple factors influence storm formation and development. However, scientists do agree that rising global temperatures are making tropical cyclones more intense.

A recent study from July 2023 found that **cyclones in Southeast Asia are forming closer to coastlines**, intensifying rapidly, and staying longer over land. This is linked to higher sea surface temperatures, which have increased by 0.9°C since 1850 and 0.6°C in the last 40 years.

Effect of Warmer Oceans on Cyclones- Warmer ocean temperatures increase evaporation and heat transfer to the air, fuelling storms as they cross hot waters. As a result, **tropical cyclones like Typhoon Yagi gather more water vapour and heat**, leading to stronger winds, heavier rainfall, and increased flooding when they reach land.

UPSC Syllabus- Environment and Disaster Management

Cascade Frog (*Amolops formosus*)

Why in News?

Scientists from the Wildlife Institute of India (WII) have gained insights into how water flow influences the presence and abundance of Cascade frog species.

About Cascade Frog (*Amolops formosus*)

1. Location: Cascade Frog are found in **India** (Himachal Pradesh, Uttarakhand, Nagaland, Meghalaya, Arunachal Pradesh, and Assam), Northern Bangladesh, and much of Nepal.

2. Characteristics:

- a. The Assam Cascade Frog has a **slender body and long legs**, which make it highly adept at jumping across rocks and swimming in strong currents.
- b. It has **smooth skin**, and its **skin colouration is a blend of earthy browns and greens**, providing excellent camouflage against the rocky and leafy surroundings of its habitat.
- c. Some individuals have **light stripes or patterns** on their backs or limbs.

3. Habitat: This species thrives in **hilly, forested areas** where there are streams and waterfalls. These frogs are often found near the water's edge, where they lay their eggs.

4. Species Behaviour: Assam Cascade Frogs are **mainly nocturnal and are active during the rainy season** when the water flow in their habitats is high. They are **insectivores**, feeding on small insects and other invertebrates they find near the water or on the forest floor.

5. Conservation status:

- a. It is currently classified as **Least Concern** by the **International Union for Conservation of Nature (IUCN)**.
- b. It is **not listed under the Indian Wildlife Protection Act (IWPA)**. It is also **not included in the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)**.

6. Major Threats: Habitat loss due to **deforestation** and alterations in water management, such as **dam construction**.

Aralam Wildlife Sanctuary

Why in News?

Recently, four monkeys were discovered dead in the Aralam Wildlife Sanctuary in Kerala.

About Aralam wildlife sanctuary

Aspects	Description
About	<ol style="list-style-type: none">1. Aralam is the northern most wildlife sanctuary of Kerala. It was declared a Sanctuary during 1984.2. It is located on the western slopes of Western Ghats.3. The sanctuary is linked with several other protected areas, including the Wayanad-Brahmagiri region, the northern slopes of Wayanad, and the Brahmagiri Wildlife Sanctuary in Karnataka. It also borders the forests of Coorg.4. The highest peak within the sanctuary is Katti Betta.
Drainage	The Cheenkannipuzha forms the main drainage system on the southern side. Narikkadavu thodu, Kurukkathodu and Meenumuttithodu from the northern upper reaches flow southwards to join Cheenkannipuzha.
Forest Type	The forest types include West Coast tropical evergreen forest, West coast semi-evergreen forests, South Indian moist deciduous forest, Southern hilltop evergreen forest and plantations.
Flora	The sanctuary features a rich variety of tree species, including Artocarpus heterophyllus, Bishofia javanica, Calophyllum elatum, Canarium strictum, Cullenia exarillita, Dipterocarpus species and various Terminalia species.
Flora	<ol style="list-style-type: none">1. The sanctuary supports a diverse array of wildlife. It is home to 23 mammal species, including the Elephant, Gaur, Tiger, Panther, Sambar, Spotted Deer, Barking Deer, Wild Boar, Sloth Bear, Nilgiri Langur, Bonnet Macaque, Common Langur, Wild Dog, Common Otter, and Malabar Giant Squirrel.2. Birdlife is also abundant, with 188 species recorded.3. The sanctuary hosts 22 reptile species, 16 species of amphibians, and 39 species of fish.

Read more: [Mpox \(Monkeypox\) outbreak](#)

Last-chance tourism

Why in News?

Recently, a frozen arch collapsed in an ice cave within one of Europe's largest national parks, killing an American tourist and injuring his girlfriend. It shows the risk associated with **last-chance tourism**.

About Last-chance tourism

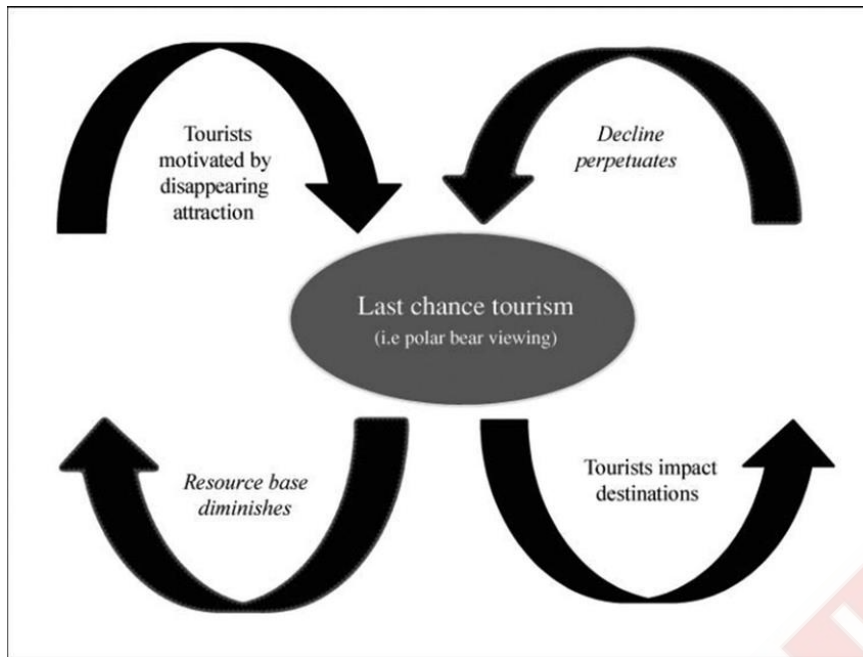


Figure 1. Source: ResearchGate

1. Due to disappearing glaciers and many other natural places, a new form of adventure has emerged, known as Last-chance tourism. It is a type of travel where people visit places that are believed to be at risk of disappearing or changing forever.

2. This trend is growing because many destinations around the world are facing threats from climate change, environmental damage, or human activities. Travelers want to see these places before they are gone or altered beyond recognition.

Concerns: More tourists to such places can cause further damage to already fragile environments. Also, traveling to such destinations increases carbon emissions, which contribute to climate change.

Reason behind Last-Chance Tourism

1. Environmental and Climate Changes: Many natural wonders, like glaciers and coral reefs, are rapidly changing due to global warming. For example, the Great Barrier Reef in Australia is experiencing coral bleaching, which is damaging its colorful corals. Similarly, glaciers like France's Mer de Glace are melting faster than expected. People want to visit these sites now because they fear these beautiful places might not look the same in the future.

2. Fear of Losing Destinations: There is a fear that some famous places might disappear altogether. Venice, Italy, for instance, is known for its canals and historic buildings, but it faces frequent flooding and is sinking slowly. This makes tourists rush to see Venice before it changes drastically or becomes less accessible.

3. Economic Benefits for Local Communities: Last-chance tourism can bring economic benefits to local communities, especially in places that rely heavily on tourism. However, this increase in tourism can also put extra pressure on the environment and local resources.

4. Desire for Unique Experiences: Many travelers want to have special experiences that are rare or may not be possible in the future. Visiting a place that might soon change or vanish provides a sense of uniqueness and adventure. This idea of being among the "last" to see a place is a powerful motivator for many people.

Read more: [ongoing sixth mass extinction](#)

Van Allen radiation belts

Why in news?

Recently, the Polaris Dawn mission made history by surpassing the Apollo program's reach. For the first time since Apollo ventured beyond Earth's usual orbit and passed through the Van Allen radiation belts.

About Van Allen radiation belts

Aspects	Description
About	<ol style="list-style-type: none">1. The Van Allen radiation belts are two layers of charged particles (mainly electrons and protons) trapped by Earth's magnetic field. It was discovered in 1958 by James Van Allen.2. These belts are a critical part of Earth's magnetosphere, the region around our planet controlled by its magnetic field.
Structure	<p>Inner Radiation Belt: It was located about 600 to 6,000 kilometers (370 to 3,730 miles) above Earth's surface. This belt is composed primarily of high-energy protons. It is relatively stable and is formed by cosmic rays interacting with the Earth's atmosphere.</p> <p>Outer Radiation Belt: It is situated between 13,500 and 58,000 kilometers (8,400 to 36,000 miles) above Earth. This belt primarily contains energetic electrons. It is more dynamic than the inner belt and can be influenced by solar activity such as geomagnetic storms.</p>
Formation	<ol style="list-style-type: none">1. The Van Allen belts are shaped and sustained by the interaction between Earth's magnetic field and solar wind (a stream of charged particles emitted by the sun).2. These particles get trapped in the Earth's magnetic field, forming the radiation belts.3. The intensity and size of the belts can fluctuate, particularly in response to solar storms and cosmic events. This can cause the belts to expand and even pose a threat to satellites and astronauts.
Importance	<ol style="list-style-type: none">1. The Van Allen belts play a crucial role in protecting Earth from harmful solar and cosmic radiation by trapping these high-energy particles.2. However, they also pose risks to spacecraft and satellites that travel through or near them, as the intense radiation can damage electronic systems and increase the risk of radiation exposure to astronauts.

Read more: [Polaris Dawn Mission](#)

UPSC Syllabus: Science and technology

Bharatiya Antariksh Station (BAS)

Why in News?

The Union Cabinet has approved an expansion of India's Gaganyaan Programme to include the development of the Bharatiya Antariksh Station (BAS), marking a significant milestone in India's human spaceflight initiatives.

About revised Gaganyaan Programme

1. The Gaganyaan Programme was approved in 2018. It aimed to send Indian astronauts to Low Earth Orbit (LEO) and establish the foundation for long-term human space exploration.
2. The Gaganyaan Programme has been updated to incorporate the development of precursor missions for the Bharatiya Antariksh Station (BAS) and to include an additional uncrewed mission, along with enhanced hardware requirements.
3. The revised Gaganyaan Programme will involve eight missions, including four under the ongoing programme and four new missions to develop and validate technologies for BAS.

4. The first uncrewed mission is planned to take place before the end of 2028.
5. These missions will equip India with essential technological capabilities for long-duration human space missions in LEO, ultimately contributing to the nation's broader space ambitions.

About Bharatiya Antariksh Station (BAS)

- 1. About:** BAS will be India's first own space station and it will be established in 2028. BAS is envisaged as a national space-based facility that will support advanced microgravity research and technology development.
- 2. Vision:** The station's creation is part of India's broader vision for space during the Amrit Kaal, which includes launching an operational space station by 2035 and pursuing a crewed lunar mission by 2040.
- 3. Significance:** This effort led by ISRO with collaboration from industry, academia, and other national agencies will advance India's space capabilities and foster innovation, industrial participation, and economic growth, particularly in high-tech sectors.

IISc Develops Human Brain-Inspired Computing Platform

Why in news?

Researchers from the Indian Institute of Science (IISc), Bengaluru have created a revolutionary computing platform inspired by human brain function. The platform mimics brain-like processes and could significantly enhance AI tools' speed and energy efficiency.

About the 'Brain on Chip' Design

- 1. Developed by:** the Centre for Nano Science and Engineering (CeNSE) at IISc.
2. The system processes and stores data, resembling the functioning of a human brain. It offers 16,500 conductance states within a molecular film, far surpassing traditional digital systems which rely on binary (0 and 1) states.
- 3. Advantages Over Traditional Digital Platforms:** Existing digital platforms consume large amounts of energy and time, limiting speed. In contrast, this brain-like computing platform is much faster and more energy-efficient.
4. It allows AI-based tasks to be easily deployed on personal devices like smartphones, laptops, and desktops.

Features of brain-inspired neuromorphic computing platform

1. The brain-inspired neuromorphic computing platform's molecular film enables free ionic movement, creating countless memory pathways and intermediary states, which are inaccessible in conventional digital platforms.
2. Digital platforms can typically only access two conductance states, but this new system offers precise control over molecular kinetics, mapping each movement to a distinct electrical signal.
3. The new system features a neuromorphic accelerator, which can store and process data in the same location, closely mimicking how the human brain operates. This is the first system of its kind, and its tiny molecular changes enable precise and efficient functioning.

Applications and Future Potential

The system could lead to breakthroughs in AI and neuromorphic computing, improving applications like Machine learning models, Edge training, Generative adversarial networks, Memory networks (long-term, short-term) and Transformers.

About Neuromorphic computing

1. It is an innovative field of computing that aims to mimic the architecture and functioning of the human brain.
2. Traditional computers operate using binary logic (0s and 1s) in sequential processing, while neuromorphic systems are designed to replicate the way neurons and synapses communicate in the brain.
3. These systems rely on analog signals and multiple conductance states, enabling them to process information in a manner that closely resembles biological neural networks.
4. Neuromorphic computing is particularly beneficial for AI tasks. By replicating neural networks and integrating processing and memory, these systems are able to perform computations with higher accuracy and efficiency.

Valley fever

Why in News?

Recently, there has been a rise in cases of Valley fever across California.

About Valley fever (coccidioidomycosis)

Flu-like symptoms? It could be valley fever.

Valley fever (coccidioidomycosis) is caused by airborne spores from fungi that thrives in dry soil and is native to Arizona and the Southwestern U.S.

Valley fever is not contagious.

Some people infected by valley fever get a tender, bumpy red rash on the lower legs.

What should I know about valley fever?

40-60% of people who develop symptoms from valley fever will do so within 1-3 weeks.

In the U.S., over 65% of cases occur in Arizona. Valley fever has also been found in California, Nevada, Utah, and New Mexico.

Symptoms of valley fever are similar to the flu and can lead to complications such as chronic pneumonia and, in rare cases, meningitis.

If you think you may have valley fever, get checked out at your local FastMed so you can get back to enjoying the outdoors.

Source: Fastmed

Aspects	Description
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About	<ol style="list-style-type: none"> 1. Valley fever (coccidioidomycosis) is a lung infection caused by breathing in spores from the <i>Coccidioides</i> fungus. It is endemic to the western United States. 2. The fungus lives in the soil, especially in the Pacific Northwest and southwestern United States, and parts of Mexico, Central America, and South America.
Causes	<ol style="list-style-type: none"> 1. It is caused by inhaling spores of <i>Coccidioides immitis</i> (in California) and <i>Coccidioides posadasii</i> (in other regions). 2. Spores are released when the soil is disturbed, such as during dust storms or construction.
Symptoms	<ol style="list-style-type: none"> 1. Most cases of Valley fever either show no symptoms or resolve on their own. 2. Only about 1% of symptomatic individuals develop serious disease, which may result in complications such as <ol style="list-style-type: none"> i) Pneumonia ii) Fluid or pus buildup in the lungs (pleural effusion or empyema) iii) Acute respiratory distress syndrome (ARDS) iv) Ruptured pockets of fluid or air in the lungs (hydropneumothorax) v) Disseminated coccidioidomycosis, where the infection spreads beyond the lungs. If it reaches the brain, it can cause coccidioidal meningitis, a life-threatening condition.
Transmission	<ol style="list-style-type: none"> 1. It is non-contagious, but spores can spread through the air. 2. In extremely rare cases, the spores can enter the skin through a wound and cause a skin infection.
Who are at greater risk	<ol style="list-style-type: none"> 1. Valley fever can affect anyone living in or traveling to areas with <i>Coccidioides</i> in the environment. 2. Adults aged 60 and older are at greater risk. 3. People who have weakened immune systems, for example, people who have HIV/AIDS, have had an organ transplant, are taking medications such as corticosteroids or TNF-inhibitors, pregnant women, people who have diabetes and people who are Black or Filipino
Treatment	<p>Many people recover on their own within weeks or months without treatment. Severe or spreading infections need antifungal medication and may require hospitalization.</p>

Montelukast Medicine

Why in news?

The U.S. Food and Drug Administration (FDA) issued a 'black box warning' for montelukast. Similarly, the Medicines and Healthcare Products Regulatory Agency (MHRA) in the U.K. released a health alert indicating that the drug could lead to severe neuropsychiatric side effects. Greater regulation and awareness are needed to prevent misuse and mitigate adverse effects.

About Montelukast

Source: Granulado

1. Montelukast belongs to a class of medications known as leukotriene receptor antagonists (LTRAs).
2. It functions by inhibiting the effects of substances in the body that trigger asthma symptoms and allergic rhinitis.

3. Montelukast is used to reduce inflammation and can help prevent asthma attacks in adults and children aged 2 years and older.

4. It also serves to prevent exercise-induced bronchoconstriction (a narrowing of the airways caused by exercise, also known as exercise-induced asthma) in individuals aged 6 years and older.

5. Mechanism of Action: Montelukast works by blocking leukotrienes, substances in the body that cause inflammation and swelling, thereby improving asthma symptoms.

6. Montelukast comes as a tablet, a chewable tablet, and granules to take by mouth.

7. Concerns with Montelukast:

i) Neuropsychiatric Effects: Can cause aggression, nightmares, depression, and cognitive impairment. Associated with suicide risk.

ii) FDA Warning: In 2020, the FDA added a 'black box warning' for serious neuropsychiatric adverse effects. Similar warnings issued by the UK's Medicines and Healthcare Products Regulatory Agency.

OpenAI o1

Why in news?

OpenAI has introduced a new AI model called OpenAI o1 as part of its "Project Strawberry."

About OpenAI o1

1. About: The o1 series is designed to excel in reasoning, tackling complex tasks in science, coding, and maths.

2. Availability and Usage: It is available to ChatGPT Plus and Team users, with weekly message limits of 30 for o1-preview and 50 for o1-mini.

3. How OpenAI o1 Works: The model "thinks" before responding, similar to human problem-solving processes. It approaches problems from multiple perspectives, checks its outputs, and learns from errors.

4. Performance and Strengths: OpenAI o1 performs well in subjects like physics, chemistry, and biology, on par with PhD students. It shows particular strength in maths and coding. It solved 83% of maths problems in a tough contest, compared to 13% from previous models. It ranked higher than 89% of coding participants.

5. Limitations: While it excels in solving complex tasks, the o1 model is not yet equipped to browse the web or handle files and images. A cheaper version (80% less costly) targeted at developers, effective in coding tasks.

6. Safety Improvements: OpenAI has improved its model's safety by using a new training method, boosting its safety score from 22 to 84 out of 100. This progress is the result of collaboration with the UK and US governments and AI safety experts to enhance the model's reliability.

7. Impact on Jobs:

i) Automating tasks like software development, coding, and data analysis could reduce the need for human involvement in these areas.

ii) Workers may need to develop higher-order skills like creativity and critical thinking.

iii) New job roles may emerge in AI safety, ethical AI usage, and AI maintenance.

8. Impact on Research: OpenAI o1 could assist researchers in physics, chemistry, biology, and healthcare by speeding up problem-solving and dataset analysis.

Cellulitis Disease

Why in News?

Recently, Cellulitis has now become widespread in the erstwhile Karimnagar district.

About Cellulitis Disease

- 1. About:** Cellulitis is a **common bacterial skin infection**. It affects the deeper layers of the skin and enters through a break or crack in the upper layer.
- 2. Causes:** It is primarily caused by the **Streptococcus** and **Staphylococcus bacteria**. The bacteria enter through cuts, bruises, scrapes, insect bites (e.g., bedbugs, mosquitoes), and other injuries.
- 3. Risk:** It is common among **people working in agricultural fields**, construction sites, and individuals with compromised skin integrity. Those with diseases like leukaemia, HIV-AIDS, and diabetes, which lower immunity, are at higher risk.
- 4. Symptoms:** Visible Signs include **swollen skin**, **red rashes** that appear suddenly, and pain or tenderness in the affected area. Other Symptoms includes fever, chills, and sweating.
- 5. Treatment:** Cellulitis is treated effectively with **antibiotics**, and most individuals recover fully within 24 hours after treatment. Quick treatment is crucial to prevent complications.
- 6. Complications:** If left untreated, cellulitis **can enter the bloodstream** and spread to other parts of the body, which can be life-threatening.
- 7. Prevention:** Maintaining proper hygiene can help **prevent cellulitis**, especially for people with lower immunity. Avoid scratching insect bites or injuries as that can facilitate the spread of infection.

Great Stupa of Sanchi

Why in news?

Recently, External Affairs Minister S. Jaishankar visited the replica of the East Gate of Sanchi's Great Stupa, located in front of the Humboldt Forum Museum in Berlin.

About Great Stupa of Sanchi

Source: The Complete Guide

Aspects	Description
About	<ol style="list-style-type: none">1. The Great Stupa of Sanchi was constructed in the 3rd century BCE under the reign of Emperor Ashoka.2. Location: It is located at Sanchi, near Vidisha, Madhya Pradesh.3. It is one of the oldest stone structures in India and was built to house relics of the Buddha.4. The stupa was later expanded and embellished during the Shunga dynasty in the 2nd century BCE, showcasing its long-standing religious and historical significance.

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Discovery and Early Excavations	<ol style="list-style-type: none"> 1. The site was “discovered” by British officer Henry Taylor in 1818. 2. The first formal survey and excavation were carried out by Alexander Cunningham, the founder of the Archaeological Survey of India (ASI), in 1851. 3. The major restoration work was undertaken in the early 20th century under John Marshall, with financial support from the Begums of Bhopal.
Features	<ol style="list-style-type: none"> 1. The central feature of the stupa is the dome or anda, which symbolizes the cosmic body of the Buddha. 2. At the top of the dome is the harmika, a square railing representing heaven, and a chhatra, or umbrella-like structure, which symbolizes high rank and spiritual protection. 3. The stupa is surrounded by a pradakshina path, which is a circular walkway used by devotees for circumambulation. 5. The structure is further enclosed by stone railings, which mark the boundaries of the sacred space. 6. The stupa is accessed through four elaborately carved gateways, known as toranas, located at the cardinal points—North, South, East, and West. 7. These toranas are adorned with intricate carvings that depict scenes from the life of the Buddha and Buddhist symbols such as the lotus, wheel of dharma, and Bodhi tree.
Cultural significance	<ol style="list-style-type: none"> 1. The sculptures and carvings on the Great Stupa reflect the rich narrative tradition of early Indian art. 2. The scenes use symbols and metaphors to depict his teachings and various Jataka tales. 3. The stupa represents a transitional phase in Indian sculpture, bridging the gap between the Mauryan and Gupta periods, and showcases early examples of Buddhist art and architecture.
Religious Importance	<ol style="list-style-type: none"> 1. It is a key site for pilgrimage, symbolizing the enlightenment and teachings of the Buddha. 2. It was built to spread Buddhist teachings and house sacred relics. 3. The stupa continues to be an important spiritual site for devotees seeking peace and enlightenment.
Influence on Architecture	Its circular stupa design became a model for similar structures in Sri Lanka, Southeast Asia, and beyond.
UNESCO Status	The Great Stupa of Sanchi was declared a UNESCO World Heritage Site in 1989, acknowledging its global cultural significance.

UPSC Syllabus: Art and culture

Commission for Scientific and Technical Terminology (CSTT)

Why in news?

The government, in line with the National Education Policy 2020, is enhancing technical education in Indian languages, including engineering and medicine. The CSTT has launched a new website providing technical terms in all 22 official Indian languages to support this initiative.

About the Commission for Scientific and Technical Terminology (CSTT)

1. About: The Commission for Scientific and Technical Terminology (CSTT) is an autonomous organization under the Ministry of Education, Government of India. It was established in 1961.

2. Objectives of CSTT: The primary objective of CSTT is to standardize and evolve scientific and technical terminology in Indian languages to ensure clarity and uniformity in usage across academic and professional spheres.

3. Aim: CSTT aims to encourage the use of Hindi and other Indian languages as mediums of instruction in higher education, particularly in technical and scientific disciplines, where English has traditionally been dominant.

Activities of CSTT:

1. CSTT develops and publishes numerous glossaries and bilingual dictionaries, regularly updating them to reflect new advancements in science and technology.
2. The organization conducts workshops, training programs, and seminars to promote standardized terminology among educators, students, researchers, and professionals.
3. It also works with state governments and institutions to develop scientific and technical terminology in regional languages, enhancing linguistic diversity.
4. It has introduced digital platforms and tools for easy access to scientific and technical terminology in multiple languages, benefiting students and professionals.
5. It also releases quarterly journals such as 'Vigyan Garima Sindhu' and 'Gyan Garima Sindhu'.
6. CSTT is responsible for publishing glossaries, dictionaries, and other reference materials in Indian languages, covering a wide range of subjects such as science, technology, law, medicine, and engineering.
7. CSTT works closely with universities, research institutes, and professional bodies to introduce scientific and technical terms in Indian languages into curricula, textbooks, and research papers.
8. CSTT contributes to the implementation of the Official Language Policy of India, which emphasizes the use of Hindi in official and educational settings. It also provides technical assistance to other national bodies engaged in similar linguistic development work.

About the 'Shabd' Glossary Platform

1. The "Shabd" platform is a digital repository for CSTT's glossaries. The "Shabd" portal was launched in March 2024.
2. It provides searchable access to technical terms across Indian languages.

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3. Features: Users can search for terms by language, subject, dictionary type, and language pairs. The platform also allows for feedback on existing terms and supports the inclusion of digital glossaries from other institutions.

4. Scope: The platform hosts around 322 glossaries, encompassing approximately 2,184,050 headwords. It covers a broad range of subjects, including Humanities, Social Sciences, Medical Sciences, Engineering, Agricultural Sciences, and more than 60 specific disciplines.

5. Process of Collating Terms: CSTT's terminology is developed by Expert Advisory Committees comprising subject and language experts and linguists. These committees work to find equivalent terms in various languages and subject areas.

The terminology is utilized by Granth Academies, textbook boards, and institutions like NTA, NCERT, and AICTE for educational purposes.

UPSC Syllabus: Governance

BRICS Literature Forum 2024

Why in news?

Recently, the BRICS Literature Forum 2024 took place in Kazan, Russia.

About BRICS Literature Forum 2024

Source: PIB

- 1. Event duration:** It is currently underway in Kazan, Russia, having begun on September 11, 2024.
- 2. Theme:** The theme for this year's forum is "World Literature in the New Reality: Dialogue of Traditions, National Values, and Cultures."
- The event brings together renowned writers, poets, philosophers, artists, and scholars from BRICS nations (Brazil, Russia, India, China, and South Africa) to share ideas and experiences.
- During the plenary session, the significance of literature in promoting unity and cooperation among societies was highlighted.
- Another session, titled "Meet the Authors from India," centered on the theme "Volga to Ganga: Celebration of Tradition and Multiculturalism," exploring how river-based cultures have contributed to multiculturalism and social progress worldwide.
- The forum serves as a valuable platform for intellectual exchange, emphasizing the role of literature in connecting cultures and fostering social harmony across nations.

UPSC Syllabus: International relations

Third Edition of INDUS-X Summit

Why in news?

Recently, the Third Edition of the INDUS-X Summit was held on 9-10 September 2024 in California.

Key Highlights of the Third Edition of INDUS-X Summit

Aspects	Description
About	<ol style="list-style-type: none"> 1. It was held on 9-10 September 2024 in California. 2. Organised by: U.S.-India Strategic Partnership Forum (USISPF) and Stanford University.
Aim	To advance the joint defence innovation ecosystem between India and the USA.
Participation	Participants included representatives from defence industries, investment firms, startups, academia, think tanks, accelerators, and policymakers from both nations.
Points of discussion	<ol style="list-style-type: none"> 1. Future technology trends in defence. 2. Capacity building for startups and MSMEs. 3. Funding opportunities for defence innovations. 4. Strengthening defence supply chains between India and the USA.
What happened at the summit	<ol style="list-style-type: none"> 1. A Memorandum of Understanding (MoU) was signed between India's Innovations for Defence Excellence (iDEX) and the U.S. Department of Defense's Defence Innovation Unit (DIU). The MoU aims to enhance cooperation in defence innovation. It focuses on deepening collaboration among industry, research, and investment stakeholders. 2. Announcement of A new challenge under the INDUS-X framework to foster new defence technologies was announced. 3. INDUS-X Impact Report was released documenting the initiative's progress since June 2023. 4. The official INDUS-X webpage was launched on the iDEX and DIU websites.
Benefits	<ol style="list-style-type: none"> 1. It allowed startups and MSMEs to showcase cutting-edge defence technologies. 2. It created opportunities for joint innovation in areas critical to defence.

About INDUS-X

Specifications	Details
Full Form	India – U.S. Defense Acceleration Ecosystem (INDUS-X)
Launched in	June 2023
Aim	To expand strategic technology partnership and defense industrial cooperation between governments, businesses and academic institutions of India and US.
Led by	India's Innovations for Defense Excellence (iDEX) and the Office of the Secretary of Defense (OSD)

Activities	INDUS-X will organize several initiatives such as joint prize challenges for start-ups, roundtable events, mentor-protege initiatives between major primes and startups, formation of a Senior Advisory Group among others.
Significance	This initiative builds on a commitment by the U.S. and Indian National Security Advisors in January 2023. They committed to launch an “Innovation Bridge” to connect U.S. and Indian defence start-ups as part of the U.S.-India initiative on Critical and Emerging Technology(iCET)

Subhadra Yojana

Why in News?

Recently, the Prime Minister launched ‘SUBHADRA’ Scheme in Bhubaneswar, Odisha.

About Subhadra Yojana

Aspects	Description
About	This scheme is a flagship scheme of Government of Odisha. It was launched on 17th September 2024.
Purpose	Financial assistance aimed at empowering women in Odisha, ensuring their economic independence and overall well-being.
Eligibility Criteria	<p>1) Women must be aged 21–60, 2) She must be native to Odisha 3) She must meet specific income criteria.</p> <p>Exclusions: Women from wealthy families, government workers, income tax payers and Recipients of other government support above Rs 1,500 per month (or Rs 18,000 per year).</p>
Key Features of the Scheme	<p>1. Financial Support: The scheme provides Rs 10,000 per year to over one crore women in Odisha from 2024 to 2029.</p> <p>2. Payment Schedule: Funds are distributed in two installments of Rs 5,000 each—on Rakhi Purnima (August) and International Women’s Day (March 8).</p> <p>3. Mode of Payment: Direct deposit into Aadhaar-enabled single-holder bank accounts. Subhadra Debit Card will be provided to recipients for easy access to funds.</p> <p>4. Registration: Over 60 lakh women have registered. Registrations are open until all qualifying beneficiaries are covered.</p> <p>5. Incentives: Rs 500 for 100 top digital transaction performers in each panchayat/urban area.</p>

UPSC Syllabus: Schemes and Programs

Rapa Nui Island

Why in News?

Studying Indigenous genomes reveals vital insights into population history, ecological adaptations, and human migration. Research on Rapa Nui genomes, for instance, helps debunk harmful stereotypes and misconceptions about Indigenous communities, showing how science can challenge derogatory myths.

About Rapa Nui Island

Aspects	Description
About	Rapa Nui, or Easter Island, is one of the world's most isolated inhabited islands with population of about 7,000.
Location	It is located in the southeastern Pacific Ocean.
Geography	<ol style="list-style-type: none"> 1. Rapa Nui is a triangular island with an area of about 163.6 square kilometers. 2. It is of volcanic origin, consisting mainly of three extinct volcanoes: Terevaka, Poike, and Rano Kau. 3. The island has a temperate climate, with relatively cool temperatures throughout the year.
History	<ol style="list-style-type: none"> 1. Polynesians settled Rapa Nui around 1200 AD, developing a complex society and rapidly growing population, which led to the creation of the famous moai statues. 2. In 1722, Dutch navigator Jacob Roggeveen renamed it Easter Island after arriving on Easter Sunday.
Reason for decline	<ol style="list-style-type: none"> 1. Rapa Nui civilization declined due to deforestation, overpopulation, and resource depletion. 2. European contact later introduced diseases and the slave trade, further reducing the population.
UNESCO conservation	<ol style="list-style-type: none"> 1. In 1995, Rapa Nui National Park, covering much of the island and its archaeological sites, became a UNESCO World Heritage Site. 2. This recognition helps preserve the island's cultural and natural heritage. 3. The moai statues, the ceremonial village of Orongo, and other significant archaeological sites have been carefully protected and studied to understand the history and culture of the Rapa Nui people.