Factly Weekly

Compilation

2024

For UPSC CSE Prelims Exam

3rd Week
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INDEX

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UPSC Syllabus: Polity and nation

Council of Ministers (COM)

Why in news?

Recently, The Union Council of Ministers (COM) led by Prime Minister Narendra Modi was sworn in at the Rashtrapati Bhavan in New Delhi on June 9, 2024.

About Council of Ministers (COM)

1. Council of Ministers (CoM)is the highest decision-making body in the government. They are headed by the Prime Minister.

Note: According to the 91st Constitutional Amendment Act of 2003, the total number of ministers, including the Prime Minister, in the Central Council of Ministers must not exceed 15 percent of the total strength of the Lok Sabha.

2. Members: Its member includes the Prime Minister, Cabinet Ministers, Ministers of State (MoS) with independent charge, MoS, and Deputy Ministers.

3. Roles:

i) Cabinet Ministers handle major ministries like Home, Defense, and Finance.

ii) Ministers of State may have independent charge or assist Cabinet Ministers.

iii) Deputy Ministers assist both Cabinet Ministers and MoS.

iv) Deputy Prime Minister is appointed for political reasons on the Prime Minister's suggestion.

About Constitutional Provisions

Article	Provision
Article 74	i) Establishes the CoM to aid and advise the President. ii) Presidential decisions based on this advice are not subject to judicial inquiry.
Article 75	i) Prime Minister appointed by the President; other ministers appointed on PM's advice. ii) CoM collectively responsible to the Lok Sabha. iii) Ministers must be members of Parliament within six months of appointment. iv) Salaries determined by Parliament.
Article 77	i) All executive actions taken in the name of the President. ii) Presidential rules for transaction and allocation of government business.
Article 78	i) Prime Minister communicates CoM decisions and legislative proposals to the President. ii) Prime Minister provides information requested by the President.
Article 88	Ministers can participate in parliamentary proceedings and committees.

About Oath and Salary of Ministers

i) Oath is administered by the President; includes allegiance to the Constitution, sovereignty, and duties of office.

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ii) Salary is determined by Parliament; includes allowances, accommodation, travel, medical facilities, and other perks.

Responsibilities of the CoM

1. **Collective Responsibility:** Article 75(3) lays down that the Council of Ministers shall be collectively responsible to the Lok Sabha. They must resign if a no-confidence motion is passed. They are bound by Cabinet decisions, even if initially opposed.

2. Individual Responsibility: Ministers serve at the President's pleasure and can be removed on the Prime Minister's advice. PM can request resignation or advise dismissal if unsatisfied with a minister's performance.

Issues and Challenges

1. Parliamentary Secretaries: Some States appoint Parliamentary Secretaries to bypass the 91st Amendment's limit on the number of Ministers.

2. Legal Challenges: Various High Courts and the Supreme Court have questioned or invalidated these appointments.

2. Disparities in Ministerial Limits: States like Sikkim and Goa, with populations ranging from seven to forty lakhs, have a minimum of 12 Ministers. NCT of Delhi and Jammu & Kashmir, with populations over 2 crores and 1.5 crores respectively, have a maximum of 7 and 9 Ministers.

3. Considerations for Union Territories: In Delhi, public order, police, and land administration are not under the Delhi government. Similarly, Jammu and Kashmir's government does not control public order and police. Given their large populations, the 10% limit for these Union Territories' COM may need reconsideration.

Pro-tem Speaker

Why in the news?

The 18th Lok Sabha will hold its first session from June 24 to July 3, with the election of the new Speaker scheduled for June 26. Congress leader Kodikunnil Suresh, the seniormost member, is expected to be appointed as the pro-tem Speaker to swear in the new MPs.

About Pro-tem Speaker

1. Pro-tem Speaker is a temporary Speaker appointed to perform certain duties until a new Speaker is elected. The term "Pro-tem" means "for the time being" or "temporarily."

2. The Constitution does not explicitly mention the post of Pro-tem Speaker. The official 'Handbook on the Working of Ministry of Parliamentary Affairs' outlines the 'Appointment and Swearing in of Speaker pro tem.'

Selection of the Pro-tem Speaker

1. When the Speaker post is vacant before a new Lok Sabha, the duties are assigned to a Member of the House appointed by the President as the Pro-tem Speaker.

2. Normally, the senior-most members of the Lok Sabha (based on years of membership) are chosen. Although there can be exceptions.

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3. After the new government is formed, the Legislative Section prepares a list of the senior-most Lok Sabha members. The list is submitted to the Minister of Parliamentary Affairs or the Prime Minister for identifying the Pro-tem Speaker and three other members for administering oaths.

4. The Minister of Parliamentary Affairs obtains the consent of the selected members. A note is then submitted to the President for approval of the appointments and the date and time of the swearing-in ceremony.

5. Once approved by the President, the Ministry informs the Pro-tem Speaker and the other three members about their appointments.

Duties of Pro tem speaker

1. Administering Oaths to New MPs: The primary duty is to administer the oath or affirmation to newly elected Members of Parliament (MPs). Under Article 99 of the Constitution, every Member must make and subscribe to an oath before the President or a person appointed by him.

2. Oath Administration by Other Members: Three other elected members are also appointed by the President for MPs to take oath before them. These members are generally senior-most members of the Lok Sabha.

3. Swearing-in Ceremony: The President administers the oath to the Pro-tem Speaker at the Rashtrapati Bhawan. He/she then administers the oath to the other three members in the Lok Sabha.

4. Session Timing: The swearing-in of the Pro-tem Speaker usually takes place at 9:30 am on the same day the Lok Sabha session starts. The Lok Sabha's timing typically begins at 11 am, subject to the President's convenience.

Public Examinations (Prevention of Unfair Means) Bill 2024

Why in the news?

The Union government notified the Public Examinations (Prevention of Unfair Means) Act, 2024. It has come into effect from 21 June 2024.

About Public Examinations (Prevention of Unfair Means) Bill 2024

1. Objective: To prevent unfair practices in public examinations, ensuring greater transparency, fairness, and credibility.

2. Background: The Bill follows the cancellation of several recruitment exams due to paper leaks, such as the teacher recruitment exam in Rajasthan and the constable recruitment examination in Bihar.

Provisions of the Public Examinations Bill 2024

1. It defined Unfair Means under the Bill, Section 3 which Lists 15 actions considered as using unfair means in public examinations for monetary or wrongful gain.

2. It defined Public Examinations under the Bill, Section 2(k) which defines a "public examination" as any examination conducted by a "public examination authority" listed in the Schedule of the Bill.

3. Section 9 of the Bill deals with the nature of offences under the new Bill.

4. **Nature of Offences**– The offences under the new bill have been made Cognizable, Non-bailable and Non-compoundable.

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a. **Cognizable**– An arrest can be made without a warrant

b. **Non-bailable**– Bail will not be a matter of right. A magistrate will determine whether the accused is fit to be released on bail

c. **Non-compoundable**– A non-compoundable offence is one in which the case cannot be withdrawn by the complainant even when the complainant and the accused have reached a compromise. A trial will necessarily follow for the accused.

5. Punishments under the Bill:

i) Punishment for any person or group of persons resorting to unfair means- 3–5 years in prison and fine up to Rs. 10 Lakh. In case of failure to pay the fine, additional punishment as per the provisions of Bharatiya Nyaya Sanhita 2023 will be imposed.

ii) Punishment in case of organised Paper Leak- 5-10 years in prison and fine of more than one crore rupees. In case of failure to pay the fine, additional punishment as per the provisions of Bharatiya Nyaya Sanhita 2023 will be imposed.

iii) Punishment for Service Provider- Fine of Rs 1 cr and are further barred from conducting future examination for period of 4 years.

The Telecommunications Act 2023

Why in the news?

Recently, Union Government issued Gazette Notification for enforcing sections 1, 2, 10 to 30, 42 to 44, 46, 47, 50 to 58, 61 and 62 of the Telecommunications Act, 2023.

About the Telecommunications Act, 2023

1. The Telecommunications Act 2023 aims to update and unify the laws related to developing, expanding, and operating telecommunication services and networks. It also covers the assignment of spectrum and other related matters.

2. This new Act replaces older laws like the Indian Telegraph Act, 1885, and the Indian Wireless Telegraph Act, 1933, due to significant technological advancements in the telecom sector.

3. The Act promotes digital implementation, including online dispute resolution and other frameworks.

4. It is guided by principles like Inclusion (Samavesh), Security (Suraksha), Growth (Vriddhi) and Responsiveness (Tvarit).

Key Features:

1. The Act clearly defines various telecom-related terms. This reduces uncertainties and improving investor confidence, which aids in ease of doing business.

2. It provides an effective Right of Way (RoW framework) for both public and private properties. It includes government agencies, local bodies, and PPP projects like airports, seaports, and highways.

Note- RoW framework is one in which a public entity that owns the land has to grant 'right of way' permission expeditiously unless it gives a substantive ground for refusal.

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3. Telecommunication infrastructure will be considered separate from the property it is on. This will reduce disputes when the property is sold or leased.

4. The Central Government will establish common ducts and cable corridors, in line with the PM Gati Shakti vision.

5. The Act empowers setting standards and conformity assessments for telecommunication services, networks, and security to ensure national security and promote Indian technology.

6. Universal Service Obligation Fund- It has been expanded to support services in underserved areas and fund research and development of telecom services and technologies.

MPs term and oath

Why in the news?

The 18th Lok Sabha's first session will start on Monday. Before the House begins its legislative work, the newly elected Members of Parliament (MPs) must take the oath as provided in the Constitution.

About the term of a Lok Sabha MP

1. Lok Sabha MP's Term: The five-year term of a Lok Sabha MP begins when the Election Commission of India (ECI) declares the results according to Section 73 of the Representation of the People Act, 1951.

2. From that day onward, MPs are eligible for certain rights as elected representatives.

3. The start of their term means that if MPs change their party allegiance, their political party can ask the Speaker to disqualify them from Parliament under the anti-defection law.

4. Requirements for an MP to Participate in Lok Sabha:

i) Winning the election and starting the term does not automatically allow an MP to participate in House proceedings.

ii) To debate and vote in Lok Sabha, an MP must take a seat in the House by making and subscribing to an oath or affirmation as prescribed in the Constitution (Article 99).

iii) The Constitution specifies a financial penalty of Rs 500 if a person participates or votes in House proceedings without taking the oath (Article 104). This is the only financial penalty mentioned in the Constitution.

5. Exception: An individual can become a minister without being elected to Parliament. They have six months to secure a seat in either Lok Sabha or Rajya Sabha. During this time, they can participate but not vote in House proceedings.

About Parliamentary oath

1. The text of the parliamentary oath is found in the third schedule of the Constitution.

2. Before taking the oath, MPs must submit their election certificate to the Lok Sabha staff. This requirement was introduced after a 1957 incident where a mentally unsound individual posed as an MP and took the oath.

3. Once verified, MPs can take the oath or affirmation in English or any of the 22 languages specified in the Constitution. Approximately half of the MPs take their oath in Hindi or English. Sanskrit has also become a popular choice in recent Lok Sabhas.

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4. MPs must use the name mentioned in their election certificate and adhere to the exact text of the oath.

5. MPs can choose between swearing in the name of God or making a solemn affirmation.

6. The Constitution specifies that if an MP does not attend Parliament for 60 days, their seat can be declared vacant. Courts have used this ground to allow MPs in jail to take an oath in Parliament.

UPSC Syllabus: International relations

Ukraine Peace Summit

Why in the News?

The two-day Ukraine Peace Summit ended recently.

About Ukraine Peace Summit

Source: The hindu

Aspects	Description
About	This summit underscores the international community's efforts to find a resolution to the ongoing conflict between Russia and Ukraine, with a focus on humanitarian issues and global security.
Held at	It was held at the Bürgenstock resort, Switzerland.
Participants	It was attended by 100 delegations, including 80 countries and four organizations.

Focus	It focuses on nuclear safety, global food security, and humanitarian issues.
Non-Signatories	India did not sign the document; Brazil attended as an observer.
Highlights of the declaration	1. The declaration condemned the Russian Federation's war against Ukraine for causing large-scale human suffering and global crises. 2. Humanitarian Demands include release of all prisoners of war and return of deported and unlawfully displaced Ukrainian children and civilians.
Challenges and Criticisms	1. Russia's Absence: Russia was not invited, raising questions about the summit's effectiveness. The host, Switzerland, adheres to the Rome Statute, which could have led to Putin's arrest if he attended. 2. China's Position: China's absence was noted as problematic, with calls for China to leverage its influence over Russia to help end the conflict.

UPSC Syllabus: Defence Exercise

Tarang Shakti Exercise 2024

Why in the News?

India will host its first multinational air exercise Tarang Shakti 2024 in August.

About Tarang Shakti Exercise 2024

Source: The Hindu

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Aspects	Description
About	It is the Indian Air Force's first multinational air exercise which will be held in August.
Participating Nations	1. Ten countries will be participating in the exercise. In addition to this, few others would be acting as observers. 2. Australia, France, Germany, Japan, Spain, the United Arab Emirates, the United Kingdom, and the United States will be sending contingents. 3. Germany will deploy fighter jets and also an A-400M transport aircraft.
Objectives	The plan is to invite friendly foreign countries with whom the IAF interacts regularly and has a certain degree of interoperability.
What will happen during the exercise	1. The exercise is now planned to take place in two phases. 2. The first phase will occur in southern India during the first two weeks of August, and the second phase will be in the western sector from late August to mid-September. 3. Some countries will participate in both phases, while others will join only one of the two phases.

About Red Flag exercise

Aspects	Description
About	1. Red Flag is an air combat exercise conducted with multiple scenarios designed to provide realistic combat settings. 2. It is the Second edition of Red Flag this year. 3. Red Flag is conducted four times annually by the USAF.
Hosted by	U.S. Air Force (USAF)
Held at	Eielson Air Force Base, Alaska
Parcipating Force	Indian Air Force (IAF), Singapore Air Force, U.K.'s Royal Air Force, Royal Netherlands Air Force and German Luftwaffe
What will happen during the exercise	1. Air combat exercise with multiple realistic combat scenarios Forces divided into two groups: 2. Red Force:It will simulates air defence elements 3. Blue Force: It will simulates offensive composite elements 4. In this edition, the Red Force comprised mainly of the USAF Aggressor Squadron, flying F-16 and F-15 aircraft.

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Joint Doctrine for Cyberspace Operations

Joint Doctrine for Cyberspace Operations

Why in the news?

Recently, CDS released the Joint Doctrine for Cyberspace Operations during the Chiefs of Staff Committee (COSC) meeting.

About the Joint Doctrine for Cyberspace Operations

i) The doctrine emphasizes understanding military aspects of cyberspace operations and provides conceptual guidance to commanders, staff, and practitioners for planning and conducting these operations.

ii) It aims to raise awareness among warfighters at all levels about the importance and execution of cyberspace operations.

Significance of the Joint Doctrine

i) Guidance for Commanders: The Joint Doctrine is a keystone publication designed to guide commanders in conducting cyberspace operations within today's complex military environment.

ii) Enhancing Jointness and Integration: Development of joint doctrines is crucial for promoting jointness and integration which is an actively pursued goal by the Indian Armed Forces.

iii) Impetus to Ongoing Processes: The release of this doctrine is a significant step forward in advancing the ongoing processes related to cyberspace operations.

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Prerna Sthal

Why in the News?

Vice President Jagdeep Dhankhar recently inaugurated the Prerna Sthal at the Parliament House Complex.

About Prerna Sthal

Figure 1.Source: PIB

1. Prerna Sthal is located at the Parliament House Complex.

2. The Sthal contains statues of India's prominent leaders and freedom fighters, which were formerly dispersed throughout different areas of the Parliament House complex.

3. The initiative aims to enhance visitor experience by providing easier access and utilizing modern technology, such as QR codes, to narrate the life stories of these inspiring figures in Indian history.

About Committee on the Installation of Portraits and Statues of National Leaders and Parliamentarians

1. The Committee on the Installation of Portraits and Statues of National Leaders and Parliamentarians is responsible for decisions regarding the placement of statues and portraits of national leaders and parliamentarians within the Parliament House Complex.

2. It also handles the acceptance of such items from outside organizations and individuals, and determines their placement within the complex.

3. However, it has not been reconstituted since 2019.

UPSC Syllabus: Art and culture

Nalanda University

Why in the news?

Prime Minister Narendra Modi is set to inaugurate the new Nalanda University campus near the ancient university ruins in Rajgir.**About Nalanda University**

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Source: mondesetmerveilles.centerblog.net

1. Nalanda is recognized as the most ancient university on the Indian subcontinent.

2. It was established by Kumar Gupta of the Gupta dynasty in Bihar during the early 5th century. The university thrived for 600 years until the 12th century.

3. It reached its zenith during the reign of Harshavardhan and the Pala monarchs. It served as a hub for learning, culture, and intellectual exchange, significantly influencing Indian civilization and beyond.

4. It was primarily a place where monks and nuns lived and studied. It focused on teaching major philosophies of Buddhism.

5. It attracted students from regions including China, Korea, Japan, Tibet, Mongolia, Sri Lanka, and Southeast Asia. Students followed a strict code of conduct and participated in daily meditation and study sessions.

6. It offered courses in medicine, Ayurveda, religion, Buddhism, mathematics, grammar, astronomy, and Indian philosophy.

7. The university was destroyed in 1193 by Bakhtiyar Khilji, a general of the Turkish ruler Qutbuddin Aibak.

8. It rediscovered in 1812 by Scottish surveyor Francis Buchanan-Hamilton and later identified as the ancient university by Sir Alexander Cunningham in 1861.

9. The Chinese monk Xuan Zang provided invaluable insights into Nalanda's academic and architectural grandeur. Nalanda is recognized as a UNESCO World Heritage Site.

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UPSC Syllabus: World History

Juneteenth and its significance

Why in the news?

Recently, Juneteenth has been observed on June 19, in the United States of America.

About Juneteenth

Juneteenth is a short name for "June Nineteenth". It is a holiday commemorating the end of slavery in the United States.
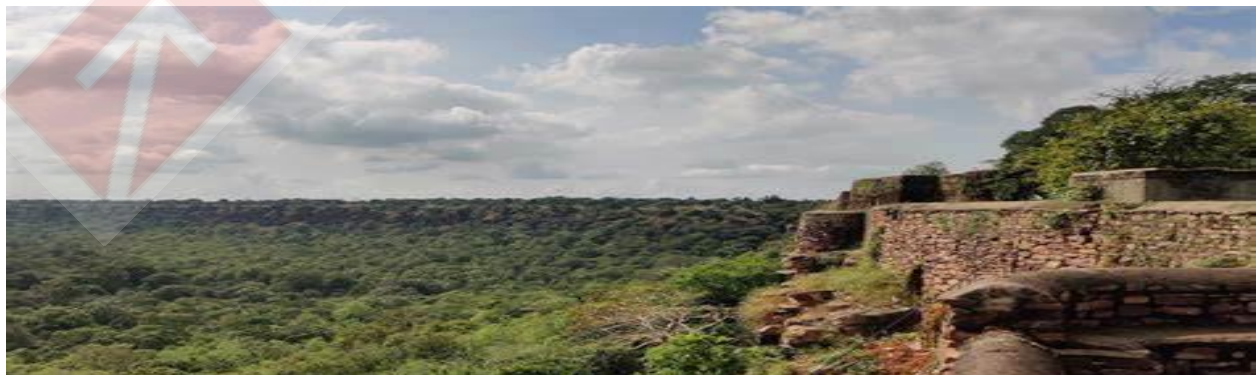
2. Historical Significance:

i) Juneteenth marks the day on June 19, 1865, when Union General Gordon Granger arrived in Galveston, Texas and announced the end of the Civil War and the emancipation of enslaved African Americans.

ii) Although President Abraham Lincoln's Emancipation Proclamation had legally freed slaves in Confederate states on January 1, 1863, enforcement had been slow in some regions, particularly in Texas.

3. Juneteenth is celebrated with various activities such as parades, cultural events, educational workshops, and family gatherings.

4. It is a time to honor African American freedom, heritage, and achievements while reflecting on the ongoing struggle for equality.

5. Juneteenth has gained recognition as a significant cultural and historical event in the United States. In 2021, it was declared a federal holiday, further solidifying its importance in American history.

Gandhi Sagar Wildlife Sanctuary

Why in the News?

Recently it was announced that the Gandhi Sagar Wildlife Sanctuary will be the second home for cheetahs in India.

About Gandhi Sagar Wildlife Sanctuary

Source: Nature inFocus

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Aspects	Description
About	1. It is located on the northern boundary of the Mandsaur and Nimach districts in Madhya Pradesh. 2. It is named after the Gandhi Sagar Dam which is situated on the Chambal River. 3. It was notified in the year 1974 and added to the list of sanctuaries in 1984.
River flowing through it	The Chambal River flows through the sanctuary, dividing it into two distinct parts.
Topography	The sanctuary boasts a varied landscape, featuring hills, plateaus, and the catchment area of the Gandhi Sagar Dam on the Chambal River.
Vegetation	It lies in the Khathiar-Gir dry deciduous forests ecoregion.
Cultural significance	The sanctuary is home to numerous sites of historical, archaeological, and religious importance, including Chaurasigarh, Chaturbhujnath Temple, Bhadkaji Rock Paintings, Narsinghjhar Hinglajgarh Fort and Taxakeshwar Temple
Flora	The primary tree species in the sanctuary are Khair, Salai, Kardhai, Dhawda, Tendu and Palash
Fauna	The sanctuary supports a diverse range of wildlife, including chinkara, Nilgai, Spotted Deer, Indian Leopard, Striped Hyena, Jackal, Crocodiles, otters, turtles and various fishes.

UPSC Syllabus: Environment

India's Bio-Bitumen Initiative

Why in the news?

India is planning to initiate large-scale production of bio-bitumen derived from biomass or agricultural waste.

About India's Bio-Bitumen Initiative

i) India is actively exploring large-scale production of bio-bitumen from biomass or agricultural waste.

ii) This innovative approach aims to reduce the country's dependence on imported bitumen which is commonly used for road asphalting, while also addressing the persistent issue of stubble burning.

iii) India currently imports about half of its annual bitumen requirement. The goal is to replace these imports with bio-bitumen over the next decade.

About Bio-Bitumen

i) Bio-bitumen is a sustainable alternative to traditional fossil-fuel-based bitumen. It is petroleum-free and manufactured from organic materials such as bio-char, bio-oil, and similar substances. It is also known as bio-asphalt.

ii) Bio-bitumen can be used to supplement bitumen or to reduce the amount of bitumen in binder mixtures.

How is Bio-Bitumen Made?

i) Bio-bitumen is an asphalt mixture made from lignins which are natural biopolymers found in the plant cell wall. Lignins provide structural support and aid in plant growth.

ii) The production process involves heating the waste mixture to around 500°C without oxygen in a process known as pyrolysis. This method is similar to the production of charcoal and biochar and is also used in biofuel manufacturing.

Benefits of Bio-Bitumen

i) **Economic Impact:** Bio-bitumen production from biomass could lead to substantial savings in foreign exchange by reducing the need for imports. It would also make India self-reliant in bio-bitumen production.
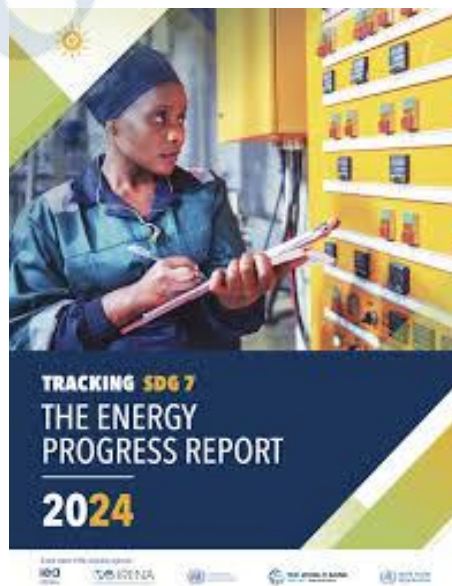
ii) **Environmental Impact:** This initiative provides an effective solution to the problem of stubble burning, promoting the sustainable use of agricultural waste and biomass.

Tracking SDG 7: The Energy Progress Report 2024

Why in News?

According to the recently released "Tracking SDG 7: The Energy Progress Report 2024", the the world is not on course to achieve the Sustainable Development Goal (SDG) 7 for energy by 2030.

SDG 7 aims to ensure access to affordable, reliable, sustainable and modern energy. The SDG 7 goal includes reaching universal access to electricity and clean cooking, doubling historic levels of efficiency improvements, and substantially increasing the share of renewables in the global energy mix.

Source- WHO

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About the Report and its important Findings

Released By	The Report is released annually by the five custodian agencies. The agencies are as follows- 1. The International Energy Agency (IEA) 2. The International Renewable Energy Agency (IRENA) 3. The United Nations Statistics Division (UNSD) 4. The World Bank 5. The World Health Organization (WHO)
Focus of the Report	This report summarizes global progress on energy access, energy efficiency, renewable energy, clean cooking, and international cooperation to advance SDG 7.
Highlights of the Report	**1.Insufficient Progress-** While the share of renewables in global electricity consumption has increased to 28.2%, this is still insufficient to reach the targets set forth in the SDGs. **2. Offtrack in achieving universal access to clean cooking-** The world remains off track to achieve universal access to clean cooking by 2030. 2.1 billion people still live without access to clean cooking fuels and technologies, largely in Sub-Saharan Africa and Asia. **3. Increase in the number of people living without electricity-** The number of people living without electricity grew for the first time in over a decade. **4. Premature Deaths-** Household air pollution created by using polluting fuels and technologies for cooking results in 3.2 million premature deaths each year. **5. Increase in per-capita installed energy-generating capacity-** The installed renewable energy-generating capacity per capita has reached a new record in 2022 at 424 watts per capita globally. However considerable disparities exist between the developed and the developing countries. Developed countries (at 1,073 watts per capita) have 3.7 times more capacity installed than developing countries (at 293 watts per capita).

UPSC Syllabus- Science and technology

MATSYA 6000 Submarine

Why in News?

India is set to be the 6th country of the world to have its own Deep Sea Mission. The other 5 countries are-France, the US, China, Russia and Japan. 1st Stage of harbor trail (40-50m) deep of deep sea mission planned by September 2024. MATSYA 6000 submarine is going to play a critical role in the Deep Sea Mission.

About MATYSA 6000

Source- PIB

About	The Matsya 6000 is a three-person submersible that will be able to go 6,000 metres under the sea.
Developed By	The vessel is being developed by Chennai's National Institute of Ocean Technology (NIOT).
Structure	1. Matsya 6000 is a 2.1-diameter sphere. 2. It is made up of of 80mm-thick titanium alloy. It will be able to withstand a pressure 600 times greater than that at sea level. 3. The Matsya 6000 will be able to operate from 12 to 16 hours straight and will have an oxygen supply of 96 hours. 4. Matsya 6000 will also feature the ultra-short baseline acoustic positioning system (USBL). This will allow the mothership carrying the transponder to send information and the submersible to respond, which will then let the mothership know where the submersible is.
Function/Aim	1. Matsya 6,000 will look at chemosynthetic biodiversity in hydrothermal vents and low-temperature methane seeps in the ocean. 2. Matsya 6000 will also promote tourism and ocean literacy.

About the Samudrayan/Deep Ocean Mission Project

Samudrayan Project- The Samudrayaan project is slated to explore the ocean depths for resources. The mission will scout for precious metals such as cobalt, copper and manganese. The project will also examine the biodiversity of the ocean.

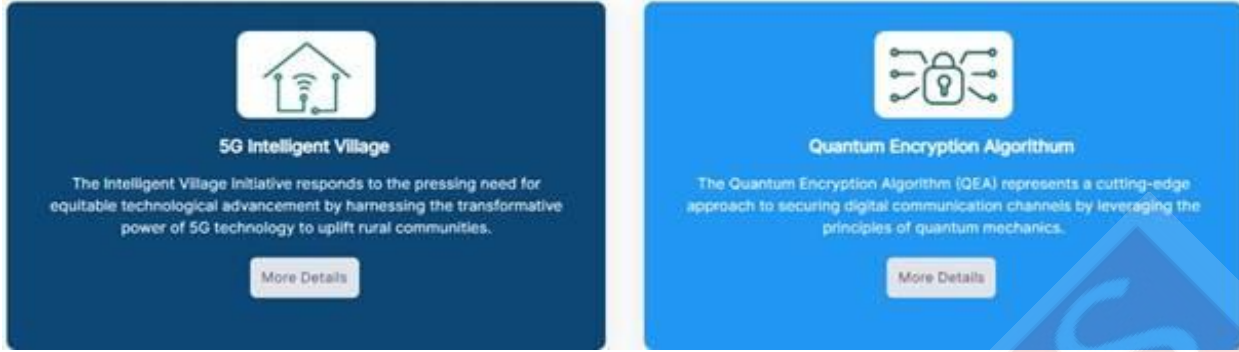**Read More- Deep Ocean Mission**

5G Intelligent Village Initiative

Why in the news?

The Department of Telecommunications (DoT) has announced two innovative proposals-5G Intelligent Village and Quantum Encryption Algorithm (QEA)—to drive technological advancement in the telecom sector.

About 5G Intelligent Village Initiative

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Source: PIB

Aspects	Description
Aim	The 5G Intelligent Village Initiative aims to uplift rural communities by harnessing the transformative power of 5G technology.
Focus	Addresses key sectors such as agriculture, education, healthcare, governance, and sustainability.
Features	i) It utilizes Ultra-Reliable Low-Latency Communication (URLLC) and massive Machine Type Communication (mMTC) features of 5G in selected villages. ii) It addresses key sectors such as agriculture, education, healthcare, governance, and sustainability.

About Quantum Encryption Algorithm (QEA)

1. Quantum encryption algorithms use quantum computing techniques to encrypt messages (classical or quantum) into quantum states that are communicated to and decrypted by the recipient.

2. Goal: To develop an India-specific Quantum Encryption Algorithm for securing digital communications using quantum mechanics.

3. Features: The algorithm aims to provide unparalleled security, advanced encryption capabilities, and ultra-fast and efficient encryption. These proposals will be funded under the Telecom Technology Development Fund (TTDF) scheme of the DoT.

About Telecom Technology Development Fund (TTDF)

1. It was established under the Universal Services Obligation Fund (USOF) of the DoT, Government of India.

2. Purpose: To promote the ecosystem for research, design, prototyping, proof of concept testing, IPR creation, field testing, security, certification, and manufacturing of telecom products.

Sleeping Sickness

Why in the news?

Chad became the first country to eliminate a neglected tropical disease (NTD) this year and the 51st globally. The disease eliminated is the gambiense form of human African trypanosomiasis (HAT), also known as sleeping sickness.

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About World Health Organization (WHO) Validation

1. The World Health Organization (WHO) has previously validated the elimination of the gambiense form of HAT in seven countries: Togo (2020), Benin (2021), Ivory Coast (2021), Uganda (2022), Equatorial Guinea (2022), Ghana (2023), and Chad (2024).

2. The rhodesiense form of HAT has been eliminated as a public health problem in Rwanda.

About Sleeping Sickness

1. Scientific Name: Human African trypanosomiasis (HAT)

2. Cause: The disease is caused by protozoan parasites transmitted by infected tsetse flies.

3. Impact: HAT is typically fatal if untreated, causing symptoms like fatigue, headaches, and in severe cases, coma.

4. Types of HAT: There are two main types of HAT: Trypanosoma brucei gambiense, which accounts for 92% of cases, and Trypanosoma brucei rhodesiense, which accounts for 8% of cases.

5. Diagnosis: It involves 3 steps:

i) screening for potential infection using serological tests (only available for *T. b.gambiense*) and clinical examination;

ii) confirmation by observing microscopically the parasite in body fluids; and

iii) staging the disease progression via clinical examination and analysis of cerebrospinal fluid obtained by lumbar puncture, if needed.

About Chad

1. Location: Chad is an independent state located at the crossroads of North and Central Africa.

2. Borders: The landlocked country is bordered by Libya to the north, Sudan to the east, the Central African Republic to the south, Cameroon to the southwest, Nigeria to the southwest (at Lake Chad), and Niger to the west.

V-LEX-02 Mission

Why in the news?

Recently, ISRO successfully completed the third reusable launch vehicle landing experiment (RLV LEX) at the Aeronautical Test Range in Chitradurga, Karnataka.

About V-LEX-02 Mission

1. The RLV-LEX-02 mission is the third and final test of a series of landing experiments conducted at the Aeronautical Test Range.

2. Mission Objectives: The primary objective of the RLV-LEX-02 mission was to demonstrate the autonomous landing capability of the reusable launch vehicle (RLV) from challenging initial conditions after being released from a helicopter.

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3. In this mission, the winged vehicle named Pushpak was lifted by an Indian Air Force Chinook helicopter and released from an altitude of 4.5 km.

4. Pushpak autonomously approached the runway, performing cross-range corrections. It then landed precisely on the runway, utilizing a brake parachute, landing gear brakes, and a nose wheel steering system to come to a halt.

5. Reusability and Systems: The winged body and all flight systems used in the RLV-LEX-01 mission were reused in the RLV-LEX-02 mission after receiving the necessary certifications and clearances.

6. The mission was accomplished through the collaboration of the Vikram Sarabhai Space Centre (VSSC), the Liquid Propulsion System Centre (LPSC), and the ISRO Inertial Systems Unit (IISU).

About Reusable Launch Vehicle (RLV)

1. The reusable launch vehicle is essentially a space plane with a low lift-to-drag ratio, requiring it to approach at high glide angles and necessitating a landing at high velocities of 350 km/h.

2. The RLV utilizes several indigenous systems, including localized navigation systems based on pseudolite systems, as well as instrumentation and sensor systems developed by ISRO.

UPSC Syllabus: Schemes and programmes

GREAT Scheme

Why in the news?

The Ministry of Textiles announced the GREAT Scheme during the 7th meeting of the Empowered Programme Committee (EPC) of the National Technical Textiles Mission (NTTM).

About GREAT Scheme

Aspects	Description
About	The Grant for Research and Entrepreneurship across Aspiring Innovators in Technical Textiles (GREAT) Scheme is designed to support individuals and companies in translating prototypes into technologies and products, including commercialization. The GREAT Scheme is aligned with the objectives of the National Technical Textiles Mission.
Aim	i) To boost the development of the technical textiles startup ecosystem in India. ii) Focuses on niche sub-segments such as biodegradable and sustainable textiles, high-performance and specialty fibers, and smart textiles.
Funding	Provides a grant-in-aid of up to Rs 50 lakh for a period of up to 18 months. The Ministry of Textiles additionally provides 10% of the total grant-in-aid to incubators. Incubatees are required to contribute a minimum of 10%. Incubators include IITs, NITs, Textiles Research Associations, and Centres of Excellence.

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Infrastructure and Training	26 institutes have been approved for upgrading their laboratory infrastructure and training of trainers in technical textiles application areas.

About National Technical Textiles Mission (NTTM)

Aspects	Description
About	National Technical Textiles Mission (NTTM) was launched to increase the penetration level of technical textiles in India and leverage the sector's extraordinary growth rate.
Nodal Ministry	Ministry of Textiles
Implementation Period	It has been approved for four years, starting from FY 2020-21 to FY 2023-24.
Aim	It aims to position India as a global leader in technical textiles.
Components	**Research, Innovation, and Development:** Fostering advancements and innovation in the technical textiles sector. **Promotion and Market Development**: Enhancing market growth and promoting technical textiles. **Export Promotion**: Increasing the export of technical textiles. **Education, Training, and Skill Development**: Developing skills and providing education related to technical textiles.

Krishi Sakhi Convergence Program (KSCP)

Why in the news?

The Prime Minister of India recently Krishi Sakhigranted certificates to over 30,000 women from Self Help Groups (SHGs), recognizing them as 'Krishi Sakhis' under the Krishi Sakhi Convergence Programme (KSCP).

About Krishi Sakhi Convergence Program (KSCP)

Aspects	Description
About	The Krishi Sakhi Convergence Programme (KSCP) aims to empower rural women in India by training and certifying them as Krishi Sakhis, who serve as para-extension workers.
Initiative by	Ministry of Agriculture and Farmers' Welfare & Ministry of Rural Development
Objective	i) Transform rural India by empowering women through agricultural training. ii) Aligns with the broader 'Lakhpati Didi' program, which aims to create three crore Lakhpati Didis (women earning at least Rs 1 lakh per annum) by enhancing their agricultural skills and providing employment opportunities

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Selection of Krishi Sakhis	Krishi Sakhis are trusted community resource persons and experienced farmers.
Training modules	i) Krishi Sakhis have already been trained on various extension service for 56 days on the following modules: 1. Agro Ecological Practices from land preparation to harvest 2. Organising Farmer Field schools 3. Seed banks + Establishment and Management 4. Soil health, soil and moisture conservation practices 5. Integrated Farming Systems 6. Basics of Livestock Management 7. Preparation and use of Bio inputs and establishment of Bio inputs shops 8. Basic communication skills ii) Currently, Krishi Sakhis are undergoing refresher training with a special focus on Natural Farming and Soil Health Card through DAY-NRLM agencies in coordination with MANAGE.
States covered under Krishi Sakhi Training Program	Krishi Sakhi Training Program has been rolled out in 12 states in Phase – 1: Gujarat, Tamil Nadu, Uttar Pradesh, Madhya Pradesh, Chhattisgarh, Karnataka, Maharashtra, Rajasthan, Odisha, Jharkhand, Andhra Pradesh, and Meghalaya

Krishi Sakhis under MOVCDNER Scheme

1. Role and Responsibilities:

i) Local Resource Persons (LRP): 30 Krishi Sakhis are working as Local Resource Persons.

ii) Farm Visits: They visit each farm once a month to check on farm activities and understand the challenges faced by farmers.

iii) Weekly Meetings: They conduct weekly meetings with Farmer Interest Groups (FIG) to train farmers and discuss their issues.

iv) Farmer Interaction: Krishi Sakhis interact with farmers to understand their problems, help with Farmer Producer Organisation (FPO) functioning, and assist with marketing activities.

v) Record Keeping: They maintain a farmer diary to keep track of all activities and challenges.

2. For their efforts, Krishi Sakhis receive a resource fee of INR 4,500 per month.

UPSC Syllabus: World Geography

Delos Island

Why in the news?

An expert has warned that the remarkable ancient site on the small Greek island of Delos is "at risk of vanishing" within decades due to rising sea levels and geological processes.

About Delos Island

Source: ancientwisdom.com

Aspects	Description
About	1. It is a rocky island and part of the Cyclades archipelago in the Aegean Sea. It was first settled in the 3rd millennium B.C. and significant in the 1st millennium B.C. 2. Delos is now largely uninhabited, but its rugged granite landscape covers approximately 1.3 square miles.
Mythology and History	1. Delos was considered a holy sanctuary for a millennium before it became known as the birthplace of Apollo and Artemis in Olympian Greek mythology. 2. The island's Sacred Harbour features three conical mounds associated with a goddess (possibly Athena). 3. UNESCO recognized Delos as a World Heritage Site due to its exceptional archaeological remains, its influence on Greek architecture, and its sacred importance throughout Ancient Greece
Archaeological Significance	1. Extensive excavations have revealed artifacts that are now displayed at the Archaeological Museum of Delos and the National Archaeological Museum of Athens. 2. The island was inhabited since the third millennium BCE and served as a major cult center for gods like Dionysus and Leto. 3. Delos underwent purification rituals to ensure proper worship of the gods, including

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	the removal of graves within sight of the temple.

Key Facts about the Aegean Sea

1. It is located in the East Mediterranean Basin, with the Greek peninsula to the west and Anatolia (Asian side of Turkey) to the east.

2. The Bosphorus and Dardanelles Straits connect the Aegean Sea to the Black Sea and the Marmara Sea, respectively.

3. Most Aegean Islands belong to Greece. Turkey's notable possessions in the Aegean Sea are Imbros (Gökçeada) and Tenedos (Bozcaada) in the northeastern part.

Climate of the Aegean Sea

1. It is characterized by hot, dry summers and mild, wet winters, typical of Western Turkey and Greece.

2. It is defined by drier and hotter summers with milder winters. It is classified as cold semi-arid, with cooler summers.

3. The Etesian wind significantly influences the weather in the Aegean basin.

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