

DAILY CURRENT AFFAIRS

By



SOURCES



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Important News Articles

GSI

1. What drives the process of “atlantification” in Arctic seas? - The Hindu

Relevance: Salient features of the world's physical geography.

News:

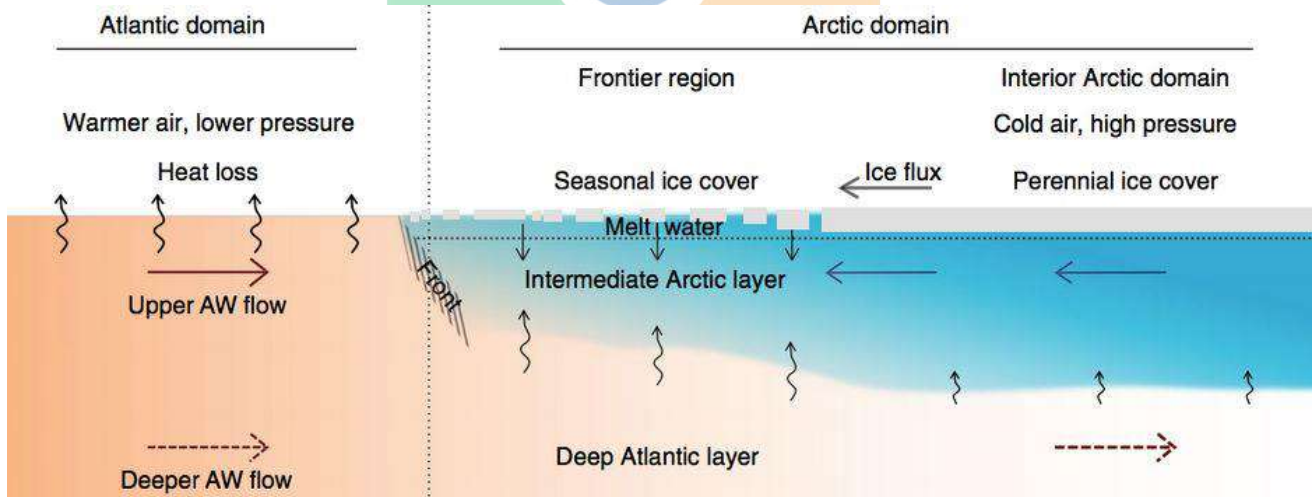
- In recent years, a phenomenon called “atlantification” has disturbed ocean stratification in the Arctic and **caused heat fluxes that help melt sea ice.**
- A study shows the Arctic **Dipole is the reason** behind it.

Prelims Takeaway

- Arctic Dipole Anomaly
 - Atlantification

Atlantification

- It is the **increasing influence of Atlantic water in the Arctic.**
- **Warmer and saltier Atlantic water** is extending its reach **northward into the Arctic Ocean.**
- The **Arctic Ocean** is becoming **warmer** and saltier and **sea-ice is disappearing** as a result.
- This change in the Arctic climate is **most prominent in the Barents Sea**, a shallow shelf sea north of Scandinavia, where **sea-ice is disappearing faster** than in any other Arctic region.
- **Impact:**
 - This pattern, associated with anticyclonic winds over North America and cyclonic winds over Eurasia.
 - It affects the inflow of water from the North Atlantic through the Fram Strait.



Arctic dipole anomaly

- The Arctic dipole anomaly is a pressure pattern characterized by **high pressure on the arctic regions of North America and low pressure on those of Eurasia.**
- It was observed for the first time in the first decade of 2000s and is perhaps **linked to recent climate change.**
- **The Arctic dipole lets more southern winds into the Arctic Ocean** resulting in more ice melting.

GS II**2. LPG price cut, Ujjwala expansion could cost over 37k cr annually - Indian Express**

Relevance: Welfare schemes for vulnerable sections of the population by the Centre and States and the performance of these schemes; mechanisms, laws, institutions and Bodies constituted for the protection and betterment of these vulnerable sections.

News

- Recently, the Union government announced a **price cut** of Rs 200 per **cylinder** for all users and the **beneficiaries of the government's Ujjwala Yojana** will now get a reduction of Rs 400 per cylinder.
- **Expanding** the Yojana by adding **75 lakh poor households to its beneficiary base could cost upwards of Rs 37,000 crore on an annualised basis.**

Prelims Takeaway

- Socio Economic Caste Census Data 2011
- Pradhan Mantri Ujjwala Scheme

Pradhan Mantri Ujjwala Scheme

- The Scheme was **launched** by the **Prime Minister on 1st May, 2016 with the slogan of "Clean Fuel, Better Life"**.
- **Objective:** To safeguard the health of women & children by providing them with a clean cooking fuel – LPG.
- **Implementing Agency:** Ministry of Petroleum & Natural Gas
- **5 crore LPG connections** were to be provided to **BPL (Below Poverty Line)** families with a support of Rs 1600 per connection in the next 3 years (2016-19).
- Subsequently, the target was revised to **8 crore LPG connections** in April 2018.
- **Connections** are issued in the name of **women of the households.**
- The **identification** of the **BPL** families is done through **Socio Economic Caste Census Data 2011.**

3. Centre's DIKSHA e-education platform to offer AI help - The Hindu

Relevance: Issues relating to development and management of Social Sector/Services relating to Health, Education, Human Resources.

News:

- The **National eGovernance Division (NeGD)** is set to integrate **Personalised Adaptive Learning (PAL)** into its existing **DIKSHA** platform.

Personalised Adaptive Learning (PAL)

- PAL's software-based approach will allow each student to have an **individualised learning experience** over the course of the curriculum **based on their unique needs and abilities.**
- The National Council of Educational Research and Training (NCERT) has sought the **MeitY's expertise in facilitating PAL for DIKSHA.**
- The process of making PAL is **time consuming** and it will still take three to four years to develop the tech and roll it out for use
- **Budget constraints** have been an obstacle.
- Focus on **improving learning outcomes and school retention.**

Digital Infrastructure for Knowledge Sharing (DIKSHA)

- **Ministry:** Ministry of Education
- **Objectives**
 - Provides e-content for schools via an online portal and a mobile application.
 - It has embedded assistive technologies for learners with visual or hearing impairments.
- It is a **static content repository.**
- It features **digitised National Council of Educational Research and Training (NCERT) textbooks** used by national and State Boards.

Prelims Takeaway

- Digital Infrastructure for Knowledge Sharing (DIKSHA)
- Personalised Adaptive Learning (PAL)

- It hosts 2.43 lakh **contributions by 11,624 academicians by way of teaching videos, explainers, and practice questions.**

4. Community radio station lends an ear to palliative care patients - The Hindu

Relevance: Development processes and the development industry —the role of NGOs, SHGs, various groups and associations, donors, charities, institutional and other stakeholders.

News:

- **Radio Saanthwanam 90.4 FM**, perhaps a first-of-its-kind initiative in **Kerala**, dealing with **social isolation, anxiety and pain of persons undergoing palliative care.**
- The community radio operated by **Pain and Palliative Care Trust**

Prelims Takeaway

- Palliative care
- World health organisation (WHO)

Features:

- Radio Saanthwanam will be transmitting a **wide range of programmes** enabling social interactions and enhancing patients' quality of life. "
- Through the radio station, all **information regarding free clinical services and medication** can be easily shared.
- **Effective directions to caregivers** can be given who are attending the patients,"

Palliative care

- It is explicitly recognized under the **human right to health.**
- It is a type of medical care that focuses on **improving the quality of life** for people with serious illnesses.
- It is meant to **address physical, psychological, spiritual, and social needs for people with serious disease.**
- According to **WHO**, each year an estimated **40 million people are in need of palliative care**, 78% of whom live in low- and middle-income countries.
- Also worldwide, only about **14% of people who need palliative care currently receive it.**
- Furthermore, WHO explicitly recognized that **palliative care is part of the comprehensive services required for Non-Communicable Diseases (NCDs) through the Global Action Plan for the Prevention and Control of NCDs 2013–2020.**
- In 2019, the World Health Assembly extended the **WHO Global action plan for the prevention and control of NCDs 2013–2020 to 2030.**

5. Canada pauses negotiations on trade agreement with India, says official - Indian Express

Relevance: Bilateral, regional and global groupings and agreements involving India and/or affecting India's interests.

News

- Recently, **Canada** has **paused negotiations for a free trade agreement with India.**
- Now both countries will **mutually decide on resuming the talks** in the future.
- Earlier, both countries **re-launched negotiations for an interim agreement**, officially dubbed as **Early Progress Trade Agreement (EPTA).**

Prelims Takeaway

- Free Trade Agreement
- Globalisation

Free Trade Agreement (FTA)

- An **agreement** between countries or regional blocks to **reduce or eliminate trade barriers**, through mutual negotiations with a view to **enhancing trade.**
- It includes **goods, services, investment, intellectual property**, competition, government procurement and other areas.
- This **concept** of free trade is the opposite of **trade protectionism or economic isolationism.**
- FTAs can be **categorised** as
 - Preferential Trade Agreement
 - Comprehensive Economic Cooperation Agreement (CECA)

- Comprehensive Economic Partnership Agreement (CEPA)

Impact of FTA on the Global Economy

- By blending **local production** with foreign trade, FTAs help **boost growth in economies**.
- As **selected goods** are produced by every country at **lower costs** due to FTAs, international trade increases **production and consumption**.
- FTAs also help **diversify supply chains** by making it easier for more businesses to **conduct business across borders**.

Focus Areas

- **India:** Duty-free access for products like textiles and leather, easy visa norms for the movement of professionals.
- **Canada:** Areas like dairy and agricultural products.
- The **bilateral trade** has **increased to USD 8.16 billion in 2022-23** from USD 7 billion in 2021-22.

Impact of Halting of Negotiations

- It **does not harm Indian trade interests** as **more than half of Indian products** already **enter Canada duty-free**.
- It may **harm Canadian exports**, which would have benefitted from the **crumbling of the high tariff wall in India**.

GS III

6. Using AI on X-rays can detect more TB cases - The Hindu

Relevance: Issues relating to development and management of Social Sector/Services relating to Health, Education, Human Resources.

News:

- India has a powerful technology — **AI-assisted chest X-ray — to screen presumptive TB cases**.
- **The AI algorithm (qXR)**, which was developed by the Mumbai-based Qure.ai, can **help in early detection** of people with presumptive **TB disease**.

Prelims Takeaway

- Tuberculosis (TB)
- AI-assisted chest X-ray-qXR

AI-assisted chest X-ray- qXR:

- The AI software combined with molecular tests for TB disease confirmation **can vastly increase detection rates**.
- It was one of the three **AI algorithms that the WHO had referenced** to when updating the TB screening guidelines in March 2021.
- Unlike in adults, **paediatric pulmonary TB detection using X-rays is a challenge** as radiological evidence of pulmonary TB in children is less specific.
- The **qXR software meets the WHO requirement** with over 90% sensitivity and more than 70% specificity in people older than 15 years.
- It is already being **used in over 50 countries**.
- In India, **24 States are using it in about 150 sites**. But nowhere in India is the software used at scale.
- In some States, **the qXR software is used in just one site, like in Kerala**.
- It **was first installed in January 2021 at the S.K. Patil Hospital in Mumbai**.
- The absence of policy guidance has led to low adoption.
- The Central TB Division is yet to recommend the use of qXR.

Tuberculosis (TB)

- It is an infectious disease caused by **Mycobacterium tuberculosis**.
- It commonly **affects the lungs**, but can also affect other parts of the body.
- It is a **treatable and curable disease**.
- **Transmission:** TB is spread from person to person through the air.
- **Symptoms:** Common symptoms of active lung TB are cough with sputum and blood at times, chest pains, weakness, weight loss, fever and night sweats.
- **Vaccine:** Bacille Calmette-Guérin (BCG) is a vaccine for TB disease.

India's Efforts

- **India's National TB Elimination Programme** is strengthened to meet the goal of ending the TB epidemic by **2025** from the country, **five years ahead of the Sustainable Development Goals (SDG) for 2030.**

Other Initiatives

- National Strategic Plan (NSP) for Tuberculosis Elimination (2017-2025)
- The Nikshay Ecosystem (National TB information system)
- Nikshay Poshan Yojana (NPY- financial support)
- TB Harega Desh Jeetega Campaign

7. Three-fourths of India's irrigation sources run on electricity: study - The Hindu

Relevance: different types of irrigation and irrigation systems storage

News:

- The **latest (sixth) edition of the Minor Irrigation Census (MIC)** finds that **electricity is the dominant source of power to extract water**, over diesel, windmills, and solar pumps.
- Minor Irrigation Census (MIC) is a **compendium of borewells, tubewells, and other privately owned irrigation sources by farmers.**
- The data reflects **irrigation trends in 2017-18 in all States and UTs** except Delhi, Daman & Diu, Dadra and Nagar Haveli and Lakshadweep.
- Data collection requires **collecting granular data down to the block level**, so it takes a few years to compile and make the data public.

Prelims Takeaway

- Minor Irrigation Census
- Methods of Irrigation

Use of Electricity

- It showed a **quantum jump** from powering only 56% of sources in 2011 to **70% in 2017.**
- The latest report shows **electricity as powering 76% of sources - a slower growth rate.**
- This electrification of groundwater withdrawal corresponds to a **rise in the use of tube wells and borewells** capable of extracting water at greater depths.

Dominant source of Groundwater

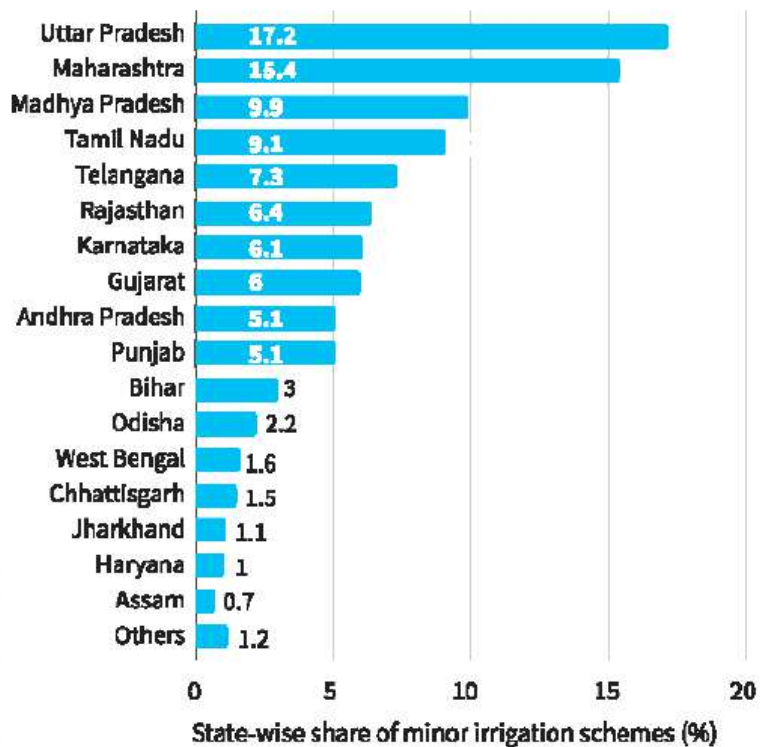
- **Dug-wells or ponds remain the dominant source of groundwater.**
- However, their **number has declined** from 87 lakh to 82 lakh between the fifth and sixth editions.
- **'Shallow' tube wells** too have **declined** from 59 lakh to 55 lakh.
- **'Medium-sized' wells** grew from 31 lakh to 43 lakh
- **'Deep' wells** rose from 26 lakh to 37 lakh.

Causes for the Increase of more powerful and deep-reaching tubewells

- **Excessive groundwater withdrawal** has been a matter of long-standing concern.
- However, the report **doesn't discuss the causes for such an increase.**
- **State government schemes** where farmers are incentivised or get access to loans to buy such **tubewells**, could be an explanation.
- However, the **lower growth in electrification** is also likely to be a result of **greater emphasis on energy efficient water extraction.**

Irrigation share

According to the 6th minor irrigation census, there were 23.14 million schemes in the country, with Uttar Pradesh possessing the largest share (17.2%), followed by Maharashtra and Madhya Pradesh



Key Findings on Minor Irrigation (MI) Schemes

- Overall, 23.14 million MI schemes were reported in India from 695 districts and 6,47,394 villages.
- Out of all MI schemes, 21.93 million (94.8%) were for groundwater (GW) and 1.21 million (5.2%) for surface-water (SW) extraction.
- The number of MI schemes increased by about 1.42 million between the fifth and sixth editions.
- Most of the schemes (96.6%) were privately owned and small and marginal farmers owned the majority of MI schemes.
- **Top Positions**
 - **Uttar Pradesh:** Largest number of MI schemes in the country (17.2%)
 - Maharashtra (15.4%)
 - Madhya Pradesh (9.9%)
- Maharashtra, Karnataka, Telangana, Odisha and Jharkhand have the highest share in surface-water (SW) schemes.

8. Early prediction of preeclampsia using a biomarker - The Hindu

Relevance: Awareness in the fields of IT, Space, Computers, robotics, nano-technology, bio-technology and issues relating to intellectual property rights.

News

- According to a study, a **liquid-biopsy approach** that measures **DNA-methylation levels in the blood** may **improve the detection of pregnancies at risk of developing preeclampsia at early stages.**

Prelims Takeaway

- Preeclampsia
- Liquid Biopsy
- Biomarkers

Liquid Biopsy

- It is a simple and non-invasive alternative to surgical biopsies.
- It enables doctors to discover a range of information about a tumour through a simple blood sample.

- It is increasingly being used to detect disease and monitor progression and treatment response.

Preeclampsia

- It is a **serious blood pressure condition** that **develops during pregnancy**.
 - It typically develops after the **20th week of pregnancy**.
- It can also **affect other organs in the body** and be **dangerous for both the mother and her developing foetus**.
- It is a **major cause of morbidities during gestation**.
- **Early-onset preeclampsia**, occurring before 34 weeks of gestation, is associated with a **higher risk of severe disease and foetal mortality**.
- Previous studies have shown that **widespread methylation changes in the placenta occur at delivery**.

Symptoms

- **high blood pressure** (hypertension) and **high levels of protein in urine** (proteinuria).
- **changes in vision**, including temporary loss of vision, blurred vision or light sensitivity

Prevention and Treatment

- **Low-dose aspirin at early stages** of the disease (before 16 weeks of gestation) can reduce the risk of developing preeclampsia.
 - However, **early identification of the disease is needed** to initiate this intervention.
- **Lifestyle and healthy choices**

Biomarker

- Refers to a **measurable indicator of some biological state or condition**.
- They are often **measured and evaluated to examine normal biological processes**, pathogenic processes or pharmacologic responses to a therapeutic intervention.
- Often **used in clinical trials**, where they are **derived from bodily fluids** that are easily available to the early phase researchers.
- **Disease-related biomarkers** give an **indication of the probable effect of treatment on patients**.

Editorials, Gists and Explainers

1. Measuring hunger across States - The Hindu

Relevance: Reports and Indices

Context

- **India** still grapples with significant levels of **food insecurity, hunger and child malnutrition**.
- This is despite India being a **major food producer with extensive food security schemes** and the **largest public distribution system in the world**.

Reports and Indices

- **Global Hunger Index (GHI), 2022**
 - It ranked India 107 among 121 countries, behind Nigeria (103) and Pakistan (99).
 - The GHI provides a composite measurement and tracks undernourishment and hunger at the national level across three dimensions
 - Calorie undernourishment
 - Child malnutrition
 - Under-five mortality
- **State of Food Security and Nutrition in the World, 2022**
 - It noted that India is home to 224.3 million undernourished people.
- **Niti Aayog Report**
 - 13.5 crore Indians moved out of multidimensional poverty in five years

India specific Hunger Index

- Leveraging subnational data that encompasses the three dimensions of the GHI will enable the development of an India-specific hunger index at the level of States and Union Territories.
- This plays a pivotal role in evaluating the extent of undernourishment at a more localised scale.
- This is critical for meeting the Sustainable Development Goals of eradicating hunger and malnutrition.

The State Hunger Index

- The State Hunger Index (SHI) is calculated using the same indicators of GHI except calorie undernourishment.
- This is replaced by body mass index (BMI) undernourishment among the working-age population
 - This is because data on calorie undernourishment have not been available since 2012.
- Sources
 - Data for stunting, wasting, and mortality among children below the age of five are sourced from the fifth round of the National Family Health Survey (NFHS-5).
 - The prevalence of BMI undernourishment is computed using NFHS-5 (2019-21) and Wave 1 of the Longitudinal Ageing Study in India (2017-18).
- SHI Scores
 - The calculation of the SHI score involves combining the normalised values of the four indicators using the techniques recommended by the GHI.
 - Range between 0 and 100, with higher scores indicating more hunger.
 - Scores below 10 signify low hunger, 10-20 moderate, 20-30 serious, 30-40 alarming, and 50 or above extremely alarming.

States Performance

- In the SHI, Bihar, Jharkhand, and Chhattisgarh scored 35, which places them in the 'alarming' category.
- Gujarat, Uttar Pradesh, Assam, Odisha, Madhya Pradesh, Tripura, Maharashtra, and West Bengal all scored above the national average (29).
- Chandigarh scored 12, and Sikkim, Puducherry, and Kerala all scored below 16. These States, along with Manipur, Mizoram, Punjab, Delhi, Arunachal Pradesh, Andaman and Nicobar Islands and Tamil Nadu, fall under the 'moderate hunger' category.
- All the other States, which scored below the national average and above 20, have a problem of 'serious hunger'.
- No State falls under the 'low hunger' category.
- The impact of COVID-19 on the SHI is not captured here since post-pandemic estimates are not yet available.

Facing the Reality

- The GHI has faced significant criticism from experts regarding its conceptualisation, indicator selection, and aggregation methods.
- However, it does provide critical insight into the state of undernourishment and child nutrition.
- India's poor performance in the GHI is primarily attributed to its high prevalence of undernourishment and child malnutrition.
 - Food and Agriculture Organization: The proportion of calorie undernourishment in India has been escalating since 2017.
 - No National Sample Survey (NSS) round on nutritional intake has been conducted by the government since 2011-12.
- India ranks unfavourably in child wasting, performing worse than many low-income African nations.
- The NFHS-5 indicated that one-third of children under the age of five are stunted and underweight, while every fifth child suffers from wasting.

Conclusion

- Various **challenges still persist** in addressing the **disparity in food insecurity, hunger and child malnutrition**.
- This is **despite India's notable progress in alleviating extreme poverty** over the last 15 years, as indicated by the recent **National Multidimensional Poverty Index**.

2. Transition without playbook - Indian Express

Relevance: Infrastructure: Energy, Ports, Roads, Airports, Railways etc.

Context

- The **energy transition** is a **complex process**.
- It requires the effort to shift a **\$100 trillion global economy built on fossil fuels** to one **underpinned by clean energy**.

Steps to Achieve Energy Transition	Current Scenario
<p>Steps to Achieve Energy Transition</p> <ul style="list-style-type: none"> • The industrial and transportation systems should be electrified through green energy. • Technological advancement should bring down the costs of generation and storage • Infrastructure must be upgraded and innovative financing mechanisms should be developed to finance this upgrade. • Demand conservation and energy efficiency must be the running thread that connects all these initiatives. <p>The Challenges</p> <ul style="list-style-type: none"> • These solutions lay out the road map and do not guarantee movement • At least not at the pace required to keep global temperatures from rising above 2° C relative to pre-industrial levels. • These solutions do not take into account international dynamics and domestic political and social realities. <p>IMF Report</p> <ul style="list-style-type: none"> • In 2022, governments allocated \$1.5 trillion to explicitly subsidise fossil fuels. • It noted that if the implicit cost of underpricing the consequential negative externality of air pollution and global warming (estimated to be \$5.5 trillion) were added, the world would have spent the equivalent of 7.1% of global GDP to "support" fossil fuels. • The nature and scope of this support differs from country to country but the reason to do so is the same. • The fossil fuel industry is integral to energy security and "good politics". 	<p>Current Scenario</p> <ul style="list-style-type: none"> • Green energy transition is taking place at a time when the energy order has fragmented. <ul style="list-style-type: none"> ◦ Global leaders remind each other that climate change recognises no national borders. ◦ However, many governments are incentivising investors to create green energy capacity in their country. ◦ They are also raising barriers to protect the investment. ◦ For example USA's Inflation Reduction Act, 2022. <ul style="list-style-type: none"> ▪ The value of the tax credits, subsidies, guarantees and grants on offer under this act is \$365 billion. ▪ This is possibly the most generous green energy package ever legislated. ◦ The production-linked incentive scheme in India is cut from a similar mould. • The Green Energy Transition has distributional consequences. <ul style="list-style-type: none"> ◦ The transition will not be socially neutral. ◦ There will be, for instance, less need for coal miners and oil riggers. ◦ There will be more need for engineers who can install and maintain solar modules, wind turbines and batteries. ◦ Governments face the social choice of deciding how to distribute the costs and benefits. • The phrase "green energy transition" lacks conceptual clarity. <ul style="list-style-type: none"> ◦ Transition suggests transformation, a change from one state to another. ◦ However, this transition will not lead to the complete replacement of fossil fuels by clean energy, at least not in the foreseeable future. ◦ It will lead to the decline in the market share of fossil fuels to the point the latter dominates the energy basket.

Conclusion

- The **energy transition** has to be **accelerated**.
- **Institutions have to be built** that **facilitate global cooperation, skill development and technology transfer**.
- They should also enable the mediation of the domestic and international conflicts that have been inevitably aroused.

Quick Look

1. Kukis

- They are an ethnic group comprising multiple tribes who originally inhabited the North-Eastern states of India, parts of Myanmar, and Bangladesh.
- They are present in all Northeast Indian states except Arunachal Pradesh.
- The Chin people of Myanmar and the Mizo people of Mizoram are kindred tribes of the Kukis and are collectively known as the Zo people.
- In Manipur, Kuki tribes comprise around 30% of the population and mainly reside in the hills.
- Culture
 - Normally they do not arrange any marriage alliance outside their community.
 - They have their own customary laws and village council.
 - LAL is a term used to denote village chief.
 - The village chief generally looks up all sorts of social and religious disputes, including disputes related to marriage and divorce

2. First Information Report (FIR)

- It is a written document prepared by the police when they receive information about the commission of a cognizable offence.
- It is a report of information that reaches the police first in point of time and that is why it is called the First Information Report.
- It is generally a complaint lodged with the police by the victim of a cognizable offence or by someone on his/her behalf.
- Anyone can report the commission of a cognizable offence either orally or in writing.
- The term FIR is not defined in the Indian Penal Code (IPC), Code of Criminal Procedure (CrPC), 1973, or in any other law.
- However, in police regulations or rules, information recorded under Section 154 of CrPC is known as First Information Report (FIR).
- Three important elements of an FIR
 - The information must relate to the commission of a cognizable offence,
 - It should be given in writing or orally to the head of the police station,
 - It must be written down and signed by the informant, and its key points should be recorded in a daily diary.

3. Kumki

- Kumki (also known as Thappana in Malayalam) is a term used in India for trained captive Asian elephants.
- They are used in operations to trap wild elephants, sometimes to rescue or to provide medical treatment to an injured or trapped wild elephant.
- Kumkis are used for capturing, calming and herding wild elephants or to lead wild elephants away in conflict situations.

4. Dementia

- It is a syndrome, usually of a chronic or progressive nature that leads to deterioration in cognitive function beyond what might be expected from the usual consequences of biological ageing.
- It affects memory, thinking, orientation, comprehension, calculation, learning capacity, language, and judgement.
- However, the consciousness is not affected.
- Symptoms
 - Memory loss, Difficulties with thinking, Visual perception, Self-management, Problem solving or language and the ability to focus and pay attention.
 - Personality changes, like depression, agitation, paranoia, and mood swings.

- Causes
 - When brain cells are damaged then dementia may occur.
 - It can be caused by a head injury, a stroke, a brain tumour or due to HIV infection.
- Treatment: There is currently no treatment available to cure dementia.

5. Sherpa

- A Sherpa is a personal representative of the leader of a member country at an international Summit meeting such as the G8, G20, the Nuclear Security Summit etc.
- The term is derived from the Nepalese Sherpa people, who serve as guides for mountaineers in the Himalayas.
- The Sherpa engages in planning, negotiation and implementation tasks through the Summit.
- They coordinate the agenda, seek consensus at the highest political levels, and participate in a series of pre-Summit consultations to help negotiate their leaders' positions.
- Sherpas are career diplomats or senior government officials appointed by the leaders of their countries.

6. Archaeological Survey of India (ASI)

- ASI under the Ministry of Culture is the premier organization for archaeological research and protection of the cultural heritage of the nation.
- It was founded in 1861 by Alexander Cunningham.
- Maintenance of ancient monuments and archaeological sites and remains of national importance is the prime concern of the ASI.
- Besides, it regulates all archaeological activities in the country as per the provisions of the Ancient Monuments and Archaeological Sites and Remains Act, 1958.
- It also regulates the Antiquities and Art Treasure Act, 1972.

7. Rule of Law

- It states that 'the Law is supreme and no human being has authority over it'.
- In India, the Rule of Law is guaranteed by the Constitution (Article 14), which means that all authorities must strictly adhere to it.
- Three principles of Rule of Law as defined by A.V. Dicey
- Supremacy of Law: All individuals, including government officials, are subject to the law and no one is above the law.
- Equality Before the Law: All individuals are equal under the law and are entitled to the same legal rights and protections, regardless of their social status or wealth.
- Individual Rights: The Rule of Law protects individual rights and freedoms, including property rights, freedom of speech, and personal liberty.

8. Hirakud Dam

- It is built across the Mahanadi River, close to Sambalpur city in Odisha in India.
- It is a composite structure of earth, concrete and masonry.
- It is the longest major earthen dam in India.
- With successful irrigation provided by the dam, Sambalpur is called the rice bowl of Odisha.

9. United Nations Development Programme (UNDP)

- The UNDP is a United Nations agency tasked with helping countries eliminate poverty and achieve sustainable economic growth and human development.
- UNDP was established in 1966 by the General Assembly of the United Nations.
- UNDP's work is concentrated in three focus areas namely
 - Sustainable development
 - Democratic governance and peace building
 - Climate and disaster resilience

- It is funded entirely by voluntary contributions from member nations.
- Headquarters: New York, USA
- Reports published by UNDP
 - Human Development Index
 - Sustainable Development Goals
 - Gender Inequality Index

10. Anti Dumping Duty

- Dumping is said to occur when the goods are exported by a country to another country at a price lower than the price it normally charges in its own home market.
- This is an unfair trade practice which can have a distortive effect on international trade.
- Imposition of Anti-dumping duty is a measure to rectify the situation arising out of the dumping of goods and its trade distortive effect.
- It is a protectionist tariff that a domestic government imposes on foreign imports that it believes are priced below fair market value.
- The use of anti-dumping measures as an instrument of fair competition is permitted by the World Trade Organisation.

11. Kerch Bridge

- The Kerch bridge, across the Kerch Strait, is 19 km long and has two parallel rail and roadways.
- It was opened in 2018 by Russian President Vladimir Putin, four years after Russia annexed Crimea from Ukraine through a contested referendum.
- It is also a symbol of Russia's control over Crimea, annexed in 2014.
- It holds symbolic importance for Russia, as it provides direct connectivity between the mainland and the annexed Crimea.

12. POCSO Act

- Enacted in 2012 in consequence to India's ratification of the UN Convention on the Rights of the Child in 1992.
- Objective: To address offences of sexual exploitation and sexual abuse of children, which were either not specifically defined or in adequately penalised.
- The Act defines a child as any person below the age of 18 years.
- The Act provides punishment as per the gravity of offence.
- The Act recognizes that both girls and boys can be victims of sexual abuse and that such abuse is a crime regardless of the gender of the victim.

13. Unified Payments Interface (UPI)

- It is an advanced version of Immediate Payment Service (IMPS) round-the-clock funds transfer service to make cashless payments faster, easier and smoother.
- NPCI launched UPI with 21 member banks in 2016.
- UPI is a system that powers multiple bank accounts into a single mobile application (of any participating bank), merging several banking features, seamless fund routing & merchant payments into one hood.
- UPI is currently the biggest among the National Payments Corporation of India (NPCI) operated systems including National Automated Clearing House (NACH), Immediate Payment Service (IMPS), Aadhaar enabled Payment System (AePS), Bharat Bill Payment System (BBPS), RuPay etc.

14. Pirola

- An article published recently has noted Covid-19 infections in multiple countries are driven by a new Coronavirus variant called BA 2.86, informally termed Pirola.
- Pirola has been witnessed in the US, the UK, and other countries, in unrelated cases.

Prelims Track Question**Q1. Consider the following statements about Atlantification**

1. Warm water from the Atlantic is being advected into the low-latitude ocean in increasing amounts.
2. Its effect is most prominent in the Barents Sea.
3. It affects the inflow of water from the North Atlantic through the Fram Strait.

How many of the statements given above is/are correct?

- (a) Only one
- (b) Only two
- (c) All three
- (d) None

Q2. Consider the following statements about Pradhan Mantri Ujjwala Scheme

1. The Ministry of Petroleum & Natural Gas is implementing the scheme to safeguard the health of women & children by providing them with a clean cooking fuel LPG.
2. The identification of the families under the scheme is done through Socio Economic Caste Census Data 2011.
3. Connections are issued in the name of women of the households.

How many of the statements given above is/are correct?

- (a) Only one
- (b) Only two
- (c) All three
- (d) None

Q3. Consider the following statements with reference to Personalised Adaptive Learning (PAL)

1. The Ministry of Education launched integrated Personalised Adaptive Learning (PAL) into its existing Digital Infrastructure for Knowledge Sharing (DIKSHA) platform.
2. PAL's software-based approach will allow each student to have an individualised learning experience over the course of the curriculum based on their unique needs and abilities.

Which of the statements given above is/are correct?

- (a) Only 1
- (b) Only 2
- (c) Both 1 and 2
- (d) Neither 1 nor 2

Q4. Consider the following statements with reference to Palliative Care

1. It is a type of medical care that focuses on improving the quality of life for people with serious illnesses.
2. It is explicitly recognized under the human right to health
3. It is meant to address physical, psychological, spiritual, and social needs for people with serious disease.
4. It was recognised by WHO as part of the comprehensive services required for Non-Communicable Diseases(NCDs) through the Global Action Plan for the Prevention and Control of NCDs 2013–2020.

How many of the statements given above is/are correct?

- (a) Only one
- (b) Only two
- (c) Only three
- (d) All four

Q5. What is the primary purpose of biomarkers seen in the news recently?

- (a) To identify specific genes responsible for diseases
- (b) To track the movement of pathogens within the body
- (c) To predict disease risk, diagnose conditions, and monitor treatment responses
- (d) To determine the patient's blood type for transfusions

Q6. Consider the following statements about tuberculosis

1. It is a communicable disease caused by Mycobacterium tuberculosis commonly affecting the lungs and other parts of the body.
2. India's National TB Elimination Programme is strengthened to meet

the goal of ending the TB epidemic by 2025 from the country.

Which of the statements given above is/are incorrect?

- (a) Only 1
- (b) Only 2
- (c) Both 1 and 2
- (d) Neither 1 nor 2

Q7. With reference to Minor Irrigation Census (MIC), consider the following statements

1. The MIC is a compendium of borewells, tubewells, and other privately owned irrigation sources by farmers.
2. Most of the Minor Irrigation Schemes are privately owned.
3. The latest edition of the Minor Irrigation Census (MIC) finds that diesel is the dominant source of power to extract water.

How many of the statements given above is/are correct?

- (a) Only one
- (b) Only two
- (c) All three
- (d) None

Q8. With reference to Preeclampsia, consider the following statements

1. It is a serious blood pressure condition that develops during pregnancy.
2. People with preeclampsia often have high levels of protein in their urine.
3. Low dose aspirin at early stages of the disease can reduce the risk of developing preeclampsia.

How many of the statements given above is/are not correct?

- (a) Only one
- (b) Only two
- (c) All three
- (d) None

Q9. Consider the following statements on Global Hunger Index

1. It is a tool for comprehensively measuring and tracking hunger at global levels only.
2. It is prepared by the UN Food and Agriculture Organization (FAO) and European NGO Concern Worldwide.
3. The GHI score is calculated on a 100-point scale reflecting the severity of hunger where 100 is the best score.
4. The GHI is an annual report and each set of GHI scores uses data from a 5-year period.

How many of the statements given above is/are correct?

- (a) Only one
- (b) Only two
- (c) Only three
- (d) All four

Q10. Which of the following statements describe the term "biofuel" most aptly?

- (a) Any renewable energy source derived from plant or animal matter.
- (b) A fuel produced from fossilised remains of ancient plants and animals.
- (c) A fuel made from natural gas and petroleum reserves.
- (d) The energy generated from nuclear reactions.

Prelims Track Answer**Ans. 1 Option B is correct****Explanation**

- Atlantification is the increasing influence of Atlantic water in the Arctic (high latitude). **Hence statement 1 is incorrect.**
- Warmer and saltier Atlantic water is extending its reach northward into the Arctic Ocean.
- The Arctic Ocean is becoming warmer and saltier and sea-ice is disappearing as a result.
- This change in the Arctic climate is most prominent in the Barents Sea, a shallow shelf sea north of Scandinavia, where sea-ice is disappearing faster than in any other Arctic region. **Hence statement 2 is correct.**
- This pattern, associated with anticyclonic winds over North America and cyclonic winds over Eurasia.
- It affects the inflow of water from the North Atlantic through the Fram Strait. **Hence statement 3 is correct.**

Ans. 2 Option C is correct**Explanation**

- Pradhan Mantri Ujjwala Scheme was launched by the Prime Minister on 1st May, 2016 with the slogan of "Clean Fuel, Better Life".
- Objective: To safeguard the health of women & children by providing them with a clean cooking fuel – LPG.
- Implementing Agency: Ministry of Petroleum & Natural Gas **Hence statement 1 is correct.**
- 5 crore LPG connections were to be provided to BPL (Below Poverty Line) families with a support of Rs 1600 per connection in the next 3 years (2016-19).
- Subsequently, the target was revised to 8 crore LPG connections in April 2018.
- Connections are issued in the name of women of the households. **Hence statement 2 is correct.**
- The identification of the BPL families is done through Socio Economic Caste Census Data 2011. **Hence statement 2 is correct.**

Ans. 3 Option B is correct**Explanation**

- The National eGovernance Division (NeGD) under the Ministry of Electronics and Information Technology (MeitY) is set to integrate Personalised Adaptive Learning (PAL) into its existing Digital Infrastructure

for Knowledge Sharing (DIKSHA) platform. **Hence statement 1 is incorrect.**

- Personalised Adaptive Learning (PAL) is software-based approach that will allow each student to have an individualised learning experience over the course of the curriculum based on their unique needs and abilities. **Hence statement 2 is correct.**
- The National Council of Educational Research and Training (NCERT) has sought the MeitY's expertise in facilitating PAL for DIKSHA.

Ans. 4 Option D is correct**Explanation**

- It is a type of medical care that focuses on improving the quality of life for people with serious illnesses. **Hence statement 1 is correct.**
- It is explicitly recognized under the human right to health. **Hence statement 2 is correct.**
- It is meant to address physical, psychological, spiritual, and social needs for people with serious disease. **Hence statement 3 is correct.**
- According to WHO, each year an estimated 40 million people are in need of palliative care, 78% of whom live in low- and middle-income countries.
- Also worldwide, only about 14% of people who need palliative care currently receive it.
- Furthermore, WHO explicitly recognized that palliative care is part of the comprehensive services required for Non-Communicable Diseases (NCDs) through the Global Action Plan for the Prevention and Control of NCDs 2013–2020. **Hence statement 4 is correct.**

Ans. 5 Option C is correct**Explanation**

- A biomarker refers to a measurable indicator of some biological state or condition.
- They are often measured and evaluated to examine normal biological processes, pathogenic processes or pharmacologic responses to a therapeutic intervention. **Hence, Option C is correct**
- Often used in clinical trials, where they are derived from bodily fluids that are easily available to the early phase researchers.

- Disease-related biomarkers give an indication of the probable effect of treatment on patients.

Ans. 6 Option D is correct

Explanation

- Tuberculosis (TB) is an infectious disease caused by Mycobacterium tuberculosis.
- It commonly affects the lungs, but can also affect other parts of the body.
- It is a treatable and curable disease.
- Transmission: TB is spread from person to person through the air.
- Symptoms: Common symptoms of active lung TB are cough with sputum and blood at times, chest pains, weakness, weight loss, fever and night sweats.
- Vaccine: Bacille Calmette-Guérin (BCG) is a vaccine for TB disease.
- India's National TB Elimination Programme is strengthened to meet the goal of ending the TB epidemic by 2025 from the country, five years ahead of the Sustainable Development Goals (SDG) for 2030.

Ans. 7 Option B is correct

Explanation

- The latest (sixth) edition of the Minor Irrigation Census (MIC) finds that electricity is the dominant source of power to extract water, over diesel, windmills, and solar pumps. **Hence, statement 3 is incorrect.**
- Minor Irrigation Census (MIC) is a compendium of borewells, tubewells, and other privately owned irrigation sources by farmers. **Hence, statement 1 is correct.**
- The data reflects irrigation trends in 2017-18 in all States and UTs except Delhi, Daman & Diu, Dadra and Nagar Haveli and Lakshadweep.
- This electrification of groundwater withdrawal corresponds to a rise in the use of tube wells and borewells capable of extracting water at greater depths.
- Overall, 23.14 million MI schemes were reported in India from 695 districts and 6,47,394 villages.
- Out of all MI schemes, 21.93 million (94.8%) were for groundwater (GW) and 1.21 million (5.2%) for surface-water (SW) extraction.
- Most of the schemes (96.6%) were privately owned and small and marginal farmers owned the majority of MI schemes. **Hence, statement 2 is correct.**

Ans. 8 Option D is correct

Explanation

- Preeclampsia is a serious blood pressure condition that develops during pregnancy. **Hence, statement 1 is correct.**
- It typically develops after the 20th week of pregnancy.
- It can also affect other organs in the body and be dangerous for both the mother and her developing foetus.
- It is a major cause of morbidities during gestation.
- Symptoms: high blood pressure (hypertension) and high levels of protein in urine (proteinuria), changes in vision, including temporary loss of vision, blurred vision or light sensitivity. **Hence, statement 2 is correct.**
- Low-dose aspirin at early stages of the disease (before 16 weeks of gestation) can reduce the risk of developing preeclampsia. **Hence, statement 3 is correct.**
- However, early identification of the disease is needed to initiate this intervention.

Ans. 9 Option A is correct

Explanation

- The Global Hunger Index (GHI) is a tool for comprehensively measuring and tracking hunger at global, regional, and national levels. **Hence, statement 1 is incorrect.**
- GHI scores are based on the values of four component indicators viz. Undernourishment, Child stunting, Child wasting and Child mortality.
- The GHI score is calculated on a 100-point scale reflecting the severity of hunger - zero is the best score (implies no hunger) and 100 is the worst. **Hence, statement 2 is incorrect.**
- The GHI is prepared by European NGOs of Concern Worldwide and Welthungerhilfe. **Hence, statement 3 is incorrect.**
- The GHI is an annual report and each set of GHI scores uses data from a 5-year period. **Hence, statement 4 is correct.**
- The 2022 GHI scores are calculated using data from 2017 through 2021.

Ans. 10 Option A is correct

Explanation

- Biofuel is a type of renewable energy derived from organic materials such as plants and animal waste. **Hence, Option A is correct**
- It is considered a sustainable and environmentally friendly alternative to fossil fuels.

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