Factly Weekly

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Syllabus: Polity and nation

National Consumer Disputes Redressal Commission (NCDRC)

Why in the News?

The Supreme Court has issued notice to two members of the National Consumer Disputes Redressal Commission (NCDRC) seeking an explanation from them for issuing non-bailable warrants ignoring a previous interim order of the Supreme Court.

About National Consumer Disputes Redressal Commission (NCDRC)

1. The National Consumer Disputes Redressal Commission (NCDRC) is a quasi-judicial commission which was set up in 1988 under the Consumer Protection Act of 1986.

2. Its head office is in New Delhi.

3. The Commission is headed by a sitting or a retired Judge of the Hon'ble Supreme Court of India or a sitting or a retired Chief Justice of an Hon'ble High Court.

4. The Commission is presently headed by Hon'ble Mr. Justice Amreshwar Pratap Sahi, former Chief Justice of Patna and Madras High Courts.

5. Mandate:

a) Section 21 of Consumer Protection Act, 1986 posits that the National Commission shall have jurisdiction to entertain a complaint valued more than two crore and also have Appellate and Revisional jurisdiction from the orders of State Commissions or the District fora as the case may be.

b) Section 23 of Consumer Protection Act, 1986, provides that any person aggrieved by an order of NCDRC, may prefer an Appeal against such order to Supreme Court of India within a period of 30 days.

About quasi-judicial commission

1. A quasi-judicial body is a body which has powers and procedures resembling those of a court of law or judge such as an arbitrator or tribunal board.

2. It is obliged to objectively determine facts and draw conclusions from them so as to provide the basis of an official action.

3. Their powers are usually limited to a very specific area of expertise and authority, such as land use and zoning, financial markets, public standards etc.

4. National Human Rights Commission, National Commission for Women, National Commission for Minorities, etc. are examples of quasi-judicial bodies.

Syllabus: Economy

Shrinkflation

Why in the News?

Recently, an increasing trend of shrinkflation has been observed in the Indian FMCG industry.

About Shrinkflation

Figure 1.Source: Consolidated Credit Counselling Services of Canada

1. **About:** Shrinkflation is a combination of two words "shrink" and "inflation,". It refers to the reduction in product size.

2. It is a form of hidden inflation. It occurs when a product's size decreases as a response to increasing production costs or market competition. **For ex-** Reducing the size of a chocolate bar from 55 grams to 50 grams but the price remaining the same or cutting the number of days of an internet data pack from two months to 56 days but keeping the price unaltered.

3. **Causes:** Businesses often resort to shrinkflation primarily due to high production costs and intense market competition. This tactic is primarily used in the food and beverage sectors. It increases the cost per unit to enhance profit margins.

4. **Impact:** It can complicate accurate inflation assessments. It can potentially drive consumers away if they realize they are receiving less value for the same price.

Gross Fixed Capital Formation

Why in the News?

The failure of private investment to pick up pace has been one of the major issues plaguing the Indian economy.

About Gross Fixed Capital Formation

Figure 2.Source: The hindu

1. GFCF refers to the growth in the size of fixed capital in an economy. Fixed capital require investment for their creation.

2. GFCF serves as a rough indicator of how much the private sector in an economy is willing to invest.

3. GFCF includes capital formation as a result of investment by the government.

4. **Why does it matters:**

a) GFCF helps in creation of fixed capital that helps to boost economic growth and improve living standards.

b) Fixed capital largely determines the overall

output of an economy.

Developed economies such as the U.S. possess more fixed capital per capita than developing economies such as India.

About the trend seen in private investment in India

1) In India, private investment began to pick up significantly mostly after the economic reforms of the late 1980s and the early 1990s that improved private sector confidence.

2) From independence to economic liberalisation, private investment largely remained either slightly below or above 10% of the GDP. Public investment as a percentage of GDP, on the other hand, steadily rose over the decades from less than 3% of GDP in 1950-51 to overtake private investment as a percentage of GDP in the early 1980s.

4) Public investment began to drop post-liberalisation with private investment taking on the leading role in fixed capital formation. The growth in private investment lasted until the global financial crisis of 2007-08. It rose from around 10% of GDP in the 1980s to around 27% in 2007-08.

5) From 2011-12 onwards, however, private investment began to drop and hit a low of 19.6% of the GDP in 2020-21.

India allows FIIs to Invest in Green Bonds

Why in the News?

Recently, the Reserve Bank of India (RBI) has allowed investments in the country's Sovereign Green Bonds (SGrBs) by Foreign Institutional Investors (FIIS).

This decision will expand the available capital for the country's ambitious objectives, as committed by Prime Minister Narendra Modi at the 2021 COP26 in Glasgow.

About Foreign Institutional Investors (FIIS)

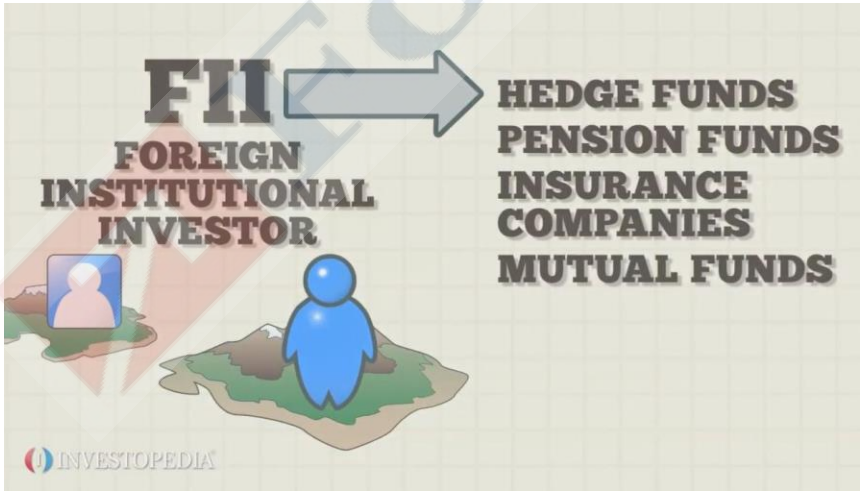


Figure 3.Source: Investopedia

1. Foreign institutional investors (FIIs) are those institutional investors who invest in assets belonging to a different country other than that where these organizations are based.

2. Investors such as pension funds, mutual funds, insurance companies, banks, and other significant financial institutions from abroad are included in Foreign Institutional Investors (FIIs).

3. FIIs are crucial to a country's financial markets as they enhance liquidity, boost trading volumes, and affect stock prices.

4. These investors deploy their capital into various financial instruments like stocks, bonds, and derivatives, driven by their strategic investment plans and views on market conditions.

5. The capital influx from FIIs can positively or negatively impact the local economy, influenced by factors including market dynamics, governmental policies, and worldwide economic conditions.

6.FIIs in India are governed by the Securities and Exchange Board of India (SEBI), and the Reserve Bank of India (RBI). They also set the investment limits for them.

7. SEBI has over 1450 foreign institutional investors registered with it.

What are green bonds?

1. **Green bonds** are bonds issued by any sovereign entity, inter-governmental groups or alliances and corporates with the aim that the proceeds of the bonds are utilised for projects classified as environmentally sustainable.

The framework for the sovereign green bond was issued by the government on November 9, 2022.

3. Green bonds are specifically designed to fund environmentally friendly initiatives. The projects they finance can include renewable energy, energy efficiency, clean transportation, sustainable agriculture, and more.

4. Green Bonds provide investors with an opportunity to support environmentally sound practices, impacting the strategic decisions of the entities issuing the bonds.

They offer a way to mitigate risks associated with climate change and aim to achieve returns that are comparable to, if not better than, traditional investments.

Syllabus: Environment

Science Based Tartget Initiative

Why in the News?

The recent decision by the Science Based Targets Initiative (SBTi) to allow carbon offsetting for Scope 3 **emissions has sparked controversy and skepticism.**

About Science Based Targets Initiative (SBTi)

1. **About:** The Science Based Targets Initiative (SBTi) is a global initiative that aims to encourage and support companies to set science-based targets (SBTs) to reduce greenhouse gas emissions and limit global warming to well below 2°C above pre-industrial levels.

2. It was established in **2015.**

3. **Partner organisations:** CDP, United Nations Global Compact, We Mean Business Coalition, World Resources Institute (WRI), and the World Wide Fund for Nature (WWF).

4. **Functions:** The Science Based Targets initiative (SBTi):

a) Establishes and encourages exemplary practices in emissions reduction and net-zero goals consistent with climatological research.

b) Creates frameworks, resources, and guidelines to assist companies and financial institutions in establishing targets based on rigorous scientific evidence.

c) Evaluates and certifies the targets set by companies and financial institutions through its verification services to ensure they are scientifically grounded.

5. It distinguishes between near- and long-term goals and commitments:

a) Near-term targets show how organizations intend to reduce emissions over the next 5-10 years, crucial for significant progress by 2030 and a prerequisite for net zero targets.

b) Long-term targets indicate how organizations need to reduce their emissions to achieve net zero, according to the criteria of the SBTi Corporate Net-Zero Standard, by 2050 at the latest (2040 for the energy sector).

6. SBTi oversees the SBTi Net-Zero Standard which is the world's only framework for corporate net-zero target setting in line with climate science.

About scope 1, 2 and 3 emissions

These scopes are defined by the Greenhouse Gas Protocol to prevent double counting and provide a comprehensive view of their greenhouse gas impacts.

a) Scope 1 Emissions: This includes direct emissions from owned or controlled sources.

b) Scope 2 Emissions: This includes indirect emissions from the generation of purchased electricity, steam, heating, and cooling consumed by the organization.

c) Scope 3 Emissions: This includes other indirect emissions not owned or controlled by the organization.

Global Alliance for Incinerator Alternatives (GAIA) Asia Pacific

Why in the News?

The Global Alliance for Incinerator Alternatives (GAIA) Asia Pacific has called on the ASEAN to take decisive action in response to plastic pollution.

About Global Alliance for Incinerator Alternatives (GAIA) Asia Pacific

1. This is a global network of over 1,000 grassroots groups, non-profits, and individuals.

2. It aims to power a transition away from our current linear and extractive economy and towards a circular system which supports people's right to a safe and healthy environment.

3. Their vision is a fair, zero-waste world that honors ecological boundaries and community rights, ensuring people are not harmed by toxic pollution and that resources are conserved responsibly rather than discarded or incinerated.

4. Their efforts include combating pollution and promoting regenerative practices in urban areas through local advocacy, policy and financial changes, research, public communication, and coalition-building.

5. They focus on four main areas: stopping incineration, achieving zero waste, reducing plastic use, and tackling climate issues.

About Incineration

1. Incineration is a waste treatment method that burns waste material.

2. Facilities that perform this are often called waste-to-energy plants because they convert waste into energy.

3. This process can reduce the amount of waste significantly, usually decreasing solid mass by 80-85% and volume by 95-96%, depending on what the waste is made of and whether materials like metals are recovered from the ashes for recycling.

4. Despite its effectiveness, incineration has raised environmental concerns, particularly with older facilities that may not have had effective gas cleaning or combustion controls.

5. Contemporary waste-to-energy plants focus on being safe, efficient, and environmentally friendly.

Supreme Court judgment on Forests as a national asset

Why in the News?

Recently, in a judgement the Supreme Court has asserted that forests in India are a national asset and a major contributor to the nation's financial wealth.

About the judgement

1. This judgment is particularly relevant given the ongoing controversy surrounding the Forest Conservation (Amendment) Act of 2023 (FCAA)

2. Highlighting the role of forest, the court held that concepts of carbon credit and green accounting to evaluate a nation's wealth had become a reality.

3. A country with surplus forest cover can sell its additional carbon credits to those lacking in forests. This underlines the significance of forests in contributing to the financial wealth of a country.

4. The judgment said India's forests serve as a major sink of carbon dioxide (CO_2).

The value of mitigation has put a conservative value of $5 per tonne of CO_2 locked in our forests, this huge sink of about 24,000 mt of CO_2 is worth $120 billion, or ₹6 lakh crores.

Protective role of forests against climate change

1. The court referred to a 2022-2023 report of the Reserve Bank of India on the macroeconomic impact of climate change and changing patterns of rainfall.

2. These factors could cost the economy 2.8% of its GDP and depress the living standards of nearly half of its population by 2050.

Syllabus: geography

Volcanic Vortex Rings

Why in the News?

Mount Etna has been producing a volcanic vortex ring which has captivated scientists.

About volcanic vortex ring

Source: Indian Express

1. Vortex rings are generated when gas which is predominantly water vapour, is released rapidly through a vent in the crater.

2. They are made from a mix of smoke, steam and other gases released from volcanic vents at high speeds.

3. The rings can remain in the air for up to 10 minutes but tend to disintegrate quickly if conditions are windy and turbulent.

3. This phenomenon was first observed at Etna and Vesuvius in Italy in 1724.

5. In more recent times, volcanic vortex rings have been observed at volcanoes such as Redoubt in Alaska, Tungurahua in Ecuador, Pacaya in Guatemala, Eyjafjallajökull and Hekla in Iceland, Stromboli in Italy, Aso and Sakurajima in Japan, Yasur in Vanuatu, Whakaari in New Zealand, and Momotombo in Nicaragua.

About Mount Etna

Figure 4.Source: Britannica

1. Mount Etna is an active volcano on the east coast of Sicily. It is the largest island in the Mediterranean Sea.

2. Etna's peak is the highest in Italy south of the Alps, and is Europe's largest and one of the most active volcanoes.

3. Etna's summit has five craters, which are responsible for most of the volcano's eruptions; there are also "flank" eruptions that occur out of 300-odd vents of varying sizes along the slopes of the mountain.

4. Since the year 1600, it has experienced consistent activity, including at least 60 flank eruptions and numerous additional summit eruptions.

Subject: Science and technology

How a beam of sunlight was directed on Lord Ram's forehead in Ayodhya temple

Why in the News?

A three-minute-long Surya Tilak ceremony was performed in Ayodhya's newly built Ram temple, marking the occasion of Ram Navami. The ritual symbolises the Sun God's blessings.

How did technology help Ram Lalla's Surya Tilak?

1. The system is an optomechanical setup designed to focus sunlight directly onto an idol's forehead using a specialized arrangement of lenses and mirrors.

2. It was developed by scientists from the Central Building Research Institute (CBRI) in Roorkee.

3. It includes an infrared filter made from heat-absorbing material at the aperture to block high-energy photons, protecting the idol from heat damage.

4. This aperture allows sunlight to enter the sanctum sanctorum ('garbhagriha') precisely when aligned.

5. The sunlight, passed through the filter, is then concentrated via four lenses and mirrors inside brass pipes angled to direct a single beam onto the idol.

6. To minimize light scattering, the interior surfaces of these components are coated with black powder.

7. The system operates without batteries or electronic devices and can be manually adjusted to ensure longevity and continuous use.

Surya Tilak in other temples in India

Figure 5.Source: The Indian express

a) Suriyanar Kovil Temple (Tamil Nadu): It was built between 11th-12th centuries, sunlight illuminates specific areas throughout the year, including the deity Suriyanar and his consorts.

b) **Nanarayanaswamy Temple (Andhra Pradesh):** Sunlight bathes the Matsya avatar of Lord Vishnu from feet to navel progressively during the five-day Surya Puja Mahotsavam festival.

c) **Mahalakshmi Temple (Maharashtra):** During the biannual Kiranotsav festival, rays of the sun grace the feet of Goddess Mahalaxmi's idol.

d) **Koba Jain Temple (Gujarat):** Each year, during the Surya Abhishek event, the forehead of the Mahaveerswami statue is lit by direct sunlight for three minutes precisely at 2:07 pm.

e) **Unav Balaji Surya Temple (Madhya Pradesh):** This temple is designed such that during its annual festival, the first rays of the sun align perfectly to illuminate the deity in the innermost sanctum.

f) **Konark Sun Temple (Odisha):** The architectural design of this temple allows the sun's first rays to enter the main entrance and reach the deepest sanctum.

g) **Gavi Gangadhareshwara Temple (Karnataka):** On Makar Sankranti, sunlight penetrates this cave temple, lighting up the Nandi and subsequently the Shivlingam.

Exo-Atmospheric Interception

Why in the News?

As tensions between Iran and Israel intensified, a video went viral on social media depicting an Exo-atmospheric interception by Israel.

About Exo-Atmospheric Interception or anti-ballistic missiles

Source: Reuters

1. **About:** Exo-atmospheric missiles are surface-to-air missiles designed to counter incoming ballistic missiles. They are also known as anti-ballistic missiles (ABMs).

2. They are designed to intercept and destroy any type of ballistic threat during the mid-course or terminal phase of their trajectory.

3. They are specifically designed to counter intercontinental ballistic missiles (ICBMs). It operates beyond the Earth's atmosphere.

4. **Features:**

a) It is equipped with advanced technology including infrared sensors and radar systems to detect and track incoming ballistic missiles and terminate them.

b) It travels at a hypersonic speed.

c) These missiles are guided by an inertial navigation system that is updated during flight using contour maps stored in the system's computerized memory.

d) It uses a three-stage solid rocket booster to propel itself out of Earth's atmosphere at near-hypersonic speed.

e) After reaching into space, it activates its sophisticated sensors to identify and track the incoming target.

They have an inbuilt rocket motor to navigate towards the target with exceptional accuracy.

Man Portable Anti-tank Guided Missile (MPATGM) Weapon System

Why in the News?

Recently, DRDO & Indian Army conducted successful trials of indigenous Man Portable Anti-tank Guided Missile Weapon System.

About Man Portable Anti-Tank Guided Missile Weapon System

Source: The statesman

Aspects	Description
About	The MPATGM (Man Portable Anti-Tank Guided Missile) Weapon System is a portable missile launcher to engage and destroy enemy tanks and armoured vehicles.
Developed by	It was indigenously designed and developed by Defence Research & Development Organisation (DRDO).
Components	MPATGM, Launcher, Target Acquisition System, and the Fire Control Unit
Features	1. It is lightweight and portable. Its design allows it to be easily carried and operated by a single soldier. This enhances the mobility of infantry units. 2. The MPATGM system can effectively hit armored targets from a considerable distance, providing infantry with crucial anti-tank functionality on the battlefield. 3. It has versatility and equipped with day/night and top-attack capabilities which enhances its effectiveness across a wide range of operational scenarios. 4. It has dual mode seeker functionality which is a great value addition to the missile capability for tank warfare. Note: The **dual-mode seeker** combines imaging IR and SAL capabilities into a single system.

Operation Meghdoot

Why in the News?

April 13, 2024, marks 40 years since the Indian Army preemptively seized the Siachen Glacier on the Saltoro Ridge.

About Operation Meghdoot

Source: PIB

1. Operation Meghdoot was the Indian Armed Forces' operation that commenced on April 13, 1984, to seize control of the Siachen Glacier which is a strategically significant area in Northern Ladakh.

2. The glacier had been a point of contention between India and Pakistan following the ambiguous delineations of the 1949 Karachi Agreement.

3. This military campaign was led by Lieutenant General Manohar Lal Chibber, Lieutenant General PN Hoon, and Major General Shiv Sharma. It marked the first combat use of the world's highest battlefield.

3. The operation was India's assertive response to counter what it viewed as Pakistan's "cartographic aggression" in the undefined territory north of the NJ9842 map reference, which was the last demarcated point on the Line of Control (LoC) agreed upon by New Delhi and Islamabad.

4. Prompted by intelligence of an impending Pakistani military operation, India moved to preemptively secure the high-altitude passes of Sia La and Bilafond La.

5. The operation involved complex coordination between the Indian Army and the Air Force, deploying troops and dropping supplies via airlift to strategic heights.

6. The successful execution of Operation Meghdoot not only precluded Pakistani control over the crucial passes but also resulted in complete Indian dominion over the Siachen Glacier.

IAF's Role and Evolution in Operation Meghdoot

1. The Indian Air Force (IAF) has played a crucial role in Operation Meghdoot using transport and helicopter aircraft to move troops and supplies.

2. Over time, the IAF expanded its role to include fighter aircraft like the Hunter, MiG-23s, and MiG-29s, operating from high-altitude bases in Leh and Thoise.

3. This expansion allowed for fighter sweeps and simulated bombing runs over the glacier, boosting morale and deterring adversaries.

4. In 2009, the IAF introduced the Cheetal helicopters, specifically modified for high-altitude performance, to its fleet.

5. A notable demonstration of its enhanced capabilities came in 2013 when a Lockheed Martin C-130J Super Hercules successfully landed at Daulat Beg Oldie, the highest airstrip in the world located near the Line of Actual Control in Ladakh.

6. Presently, the IAF employs a diverse array of aircraft, including the Rafale, Su-30MKI, Chinook, and Apache, to support the ongoing Operation Meghdoot, ensuring robust aerial capability over the contested region.

India delivers first batch of BrahMos supersonic missiles to Philippines

Why in the News?

Recently, India delivered the first batch of BrahMos supersonic cruise missiles to the Philippines.

About BrahMos supersonic missiles

Source: India tv

1. **About:** The BrahMos is a ramjet supersonic cruise missile jointly developed by the Indian Defence Research and Development Organisation (DRDO) and Russia's NPO Mashinostroyeniya.

2. The name "BrahMos" is derived from the combination of two rivers: the Brahmaputra in India and the Moskva in Russia. It is based on the Russian P-800 Oniks missile.

3. It is currently the world's fastest anti-ship cruise missile in operation and is capable of reaching speeds of Mach 2.8 to Mach 3.

4. They can hit a target up to a range of 290 kilometers and can be launched from submarines, ships, aircraft, or land platforms.

Strategic significance of BrahMos

1. BrahMos is a two-stage missile with a solid propellant booster engine.

a) Its first stage brings the missile to supersonic speed (meaning faster than sound) and then gets separated.

b) The liquid ramjet or the second stage then takes the missile closer to three times the speed of sound in cruise phase.

2. It has a very low radar signature, making it stealthy, and can achieve a variety of trajectories.

3. Being a 'fire and forget' type missile, it can achieve a cruising altitude of 15 km and a terminal altitude as low as 10 m to hit the target.

4. BrahMos which are called "standoff range weapons" are fired from a range far enough to allow the attacker to evade defensive counter-fire.

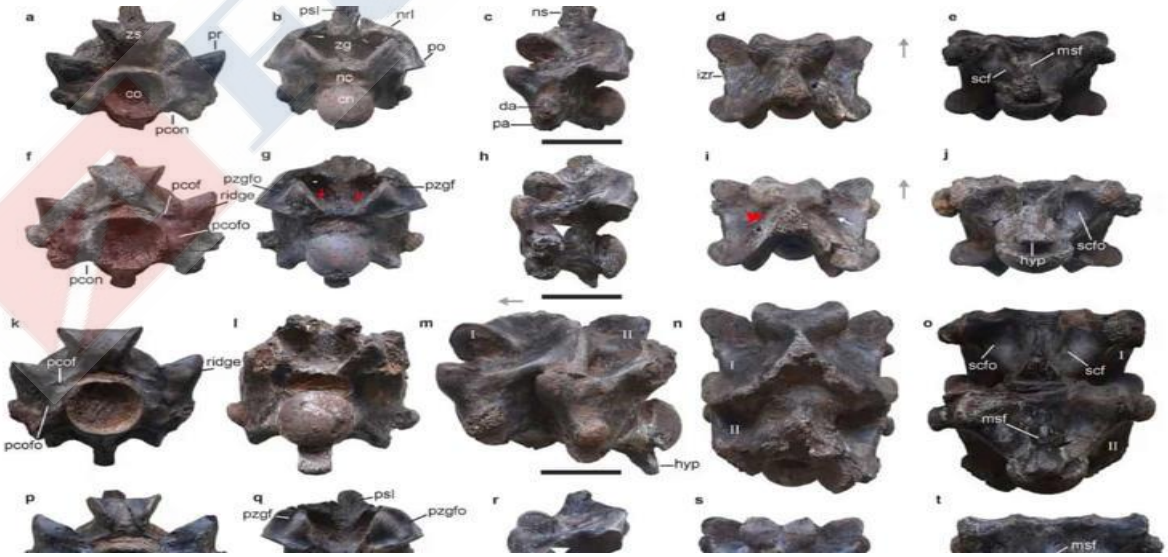
5. The BrahMos has three times the speed, 2.5 times flight range and higher range compared to subsonic cruise missiles.

Fossils of huge prehistoric snake found in Kutch mine

Why in the News?

Researchers at the Indian Institute of Technology (IIT), Roorkee have reported the discovery of fossils of one of the largest snakes that ever existed and likely lived 47 million years ago during a period called the Middle Eocene.

About Fossils of Prehistoric Snake



Source: The WION

1. The fossil was found is located in Panandhro, in the western state of Gujarat. It has been named as vasuki after the mythical snake king Vasuki, who is seen in coil around the neck of the Hindu deity Lord Shiva.

2. The reptile could have been anywhere between 10 metres and 15 metres long and weighed up to 2,200 pounds (1,000 kilogrammes).

3. It belonged to the now-extinct Madtsoiidae snake family but represents a unique lineage from India.

4. 27 vertebrae has been found in which some of them are in their original position within the spine. They believe Vasuki resembled a large python and lacked venom.

5. They also concluded that Vasuki was a slow-moving predator that would control its prey through constriction like anacondas and pythons.

6. This snake lived in a marshy swamp near the coast at a time when global temperatures were higher than today.

7. The diet of Vasuki given its large size, likely included crocodiles, as suggested by the presence of crocodile and turtle fossils found alongside Vasuki's remains.

Fossils of fish and two early whales, Kutchicetus and Andrewsiphius, were also discovered in the same area, indicating a diverse potential prey range for Vasuki.

Dragonfly Rotorcraft mission

Why in the News?

NASA has confirmed its Dragonfly rotorcraft mission to Saturn's organic-rich moon Titan.

About Dragonfly Rotorcraft mission

Source: Indian express

1. It is a "dual quadcopter" designed to fly across the surface of Titan, Saturn's largest moon. It is scheduled to reach Titan in 2034.

2. This mission will be NASA's first to employ a flying vehicle for scientific exploration on another planetary body.

3. The rotorcraft will visit numerous intriguing sites on the moon to study prebiotic chemical processes that are key to understanding both Titan and the early Earth before life began.

4. It is equipped with eight rotors and the rotorcraft operates similarly to a large drone.

5. It will be powered by a radioisotope power system, similar to the one used by the Curiosity rover on Mars.

6. It will spend most of its time on the moon's surface making science measurements.

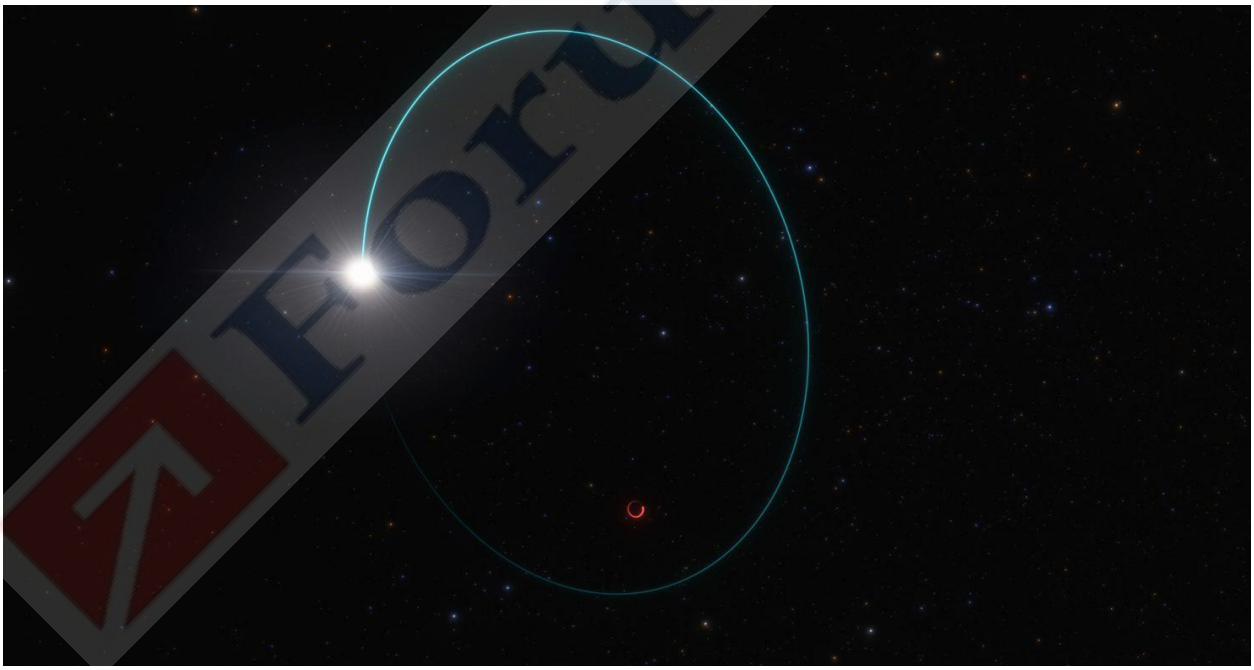
7. All flights, data transmissions, and the majority of scientific operations will occur during Titan's daytime, which will allow ample time for recharging during the moon's nighttime periods.

Gaia BH3

Why in the News?

Recently, Astronomers have discovered a massive black hole named Gaia BH3.

About Gaia BH3



Source: CNN

1. BH3 is a dormant black hole formed from the collapse of an exploding star. It has a mass 33 times greater than our sun.

2. It is located only 2,000 light years away from Earth in the Aquila constellation.

3. Astronomers discovered the black hole while combing through observations taken by the European Space Agency's Gaia space telescope for an upcoming data release to the scientific community.

4. A wobbling star orbits Gaia BH3 every 11.6 years.

5. The most massive black hole in our galaxy is Sagittarius A* which is the supermassive black hole located at the center of the Milky Way.

It has about 4 million times the mass of the sun, but that is because it's a supermassive black hole, rather than a stellar black hole.

About supermassive black hole and stellar black hole

a) Stellar-mass black holes originate from the gravitational collapse of a single star or the combination of two neutron stars.

b) These black holes typically have masses that range from approximately three to fifty times that of sun.

c) Supermassive black holes are immensely larger, with masses starting at around 50,000 times the mass of sun and can reach up to millions or even billions of times greater.

They are invariably located at the centers of galaxies and present in nearly all galaxies.

d) The formation of supermassive black holes remains a mystery to scientists, as they are too vast to have been formed from the collapse of individual stars.

Doxxing

Why in the News?

Recently, there has been a rise in cases of doxxing.

About doxxing

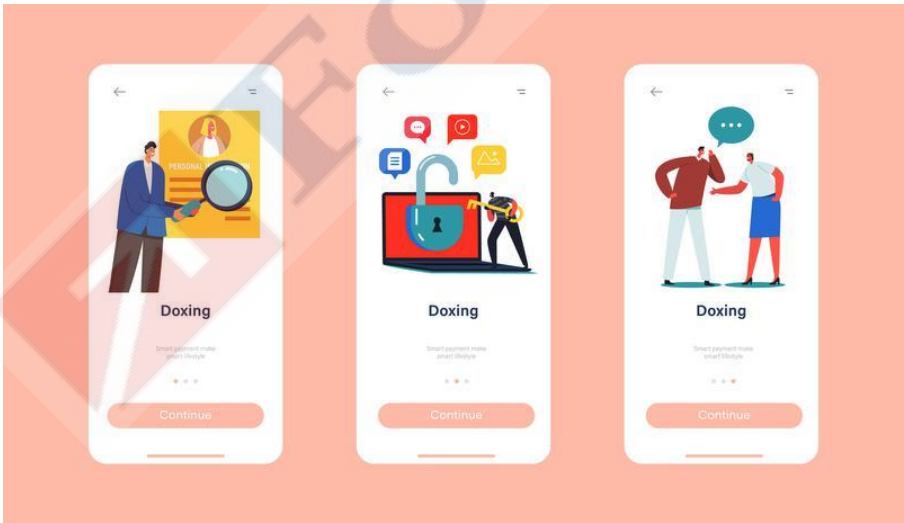


Figure 6.Source: The hindu

1. Doxxing is a form of online harassment where someone's private details are publicly disclosed.

2. This includes sensitive data such as phone numbers, private emails, medical records, government ID numbers, live locations, insurance details, and confidential employment information.

3. Doxxing also involves the release of private or semi-private content without the consent of the individual, who did not intend for it to be shared publicly.

4. This information is often acquired through unlawful means, including **hacking and theft.**

Measures to prevent doxxing:

a) It is recommended to create strong passwords that vary between platforms, incorporating a mix of letters, numbers, and symbols.

b) One should add an extra layer of security by setting up multi-factor authentication on your accounts whenever it's available.

c) One should avoid sharing images that could reveal sensitive information like your home location, house keys, or identifiable landmarks near you.

d) Use resources such as the **National Cyber Crime Reporting Portal** to report any suspicious or malicious cyber activities.

Randomised control trials- Techniques that transformed TB care

Why in the News?

Clinical trials performed using the randomisation technique have been instrumental in shaping modern medicine.

How randomisation technique transformed TB care

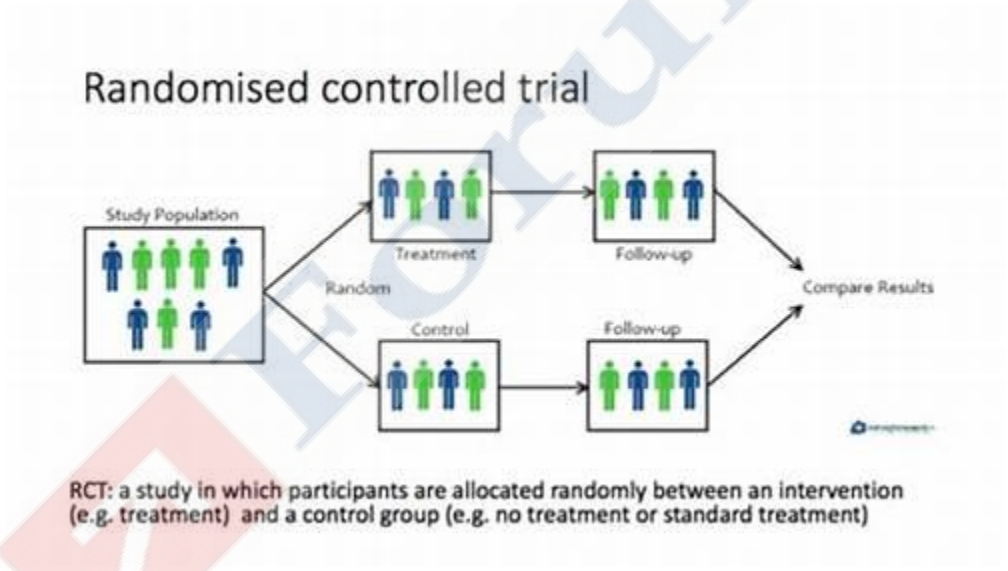


Figure 7.Source: Quizlet

1. Clinical trials utilizing randomization have profoundly impacted modern medicine by providing a reliable and impartial means to assess treatment efficacies.

2. These trials are foundational to various medical advancements, such as understanding aspirin's preventative role against heart attacks, crafting antiretroviral therapies for HIV, employing cognitive behavioral therapy for mental disorders, and developing the latest COVID-19 vaccines.

3. Randomized controlled trials (RCTs) were used to test streptomycin, marking it as the first effective antibiotic treatment against tuberculosis (TB). Sir Austin Bradford Hill is credited with the work.

4. This transition changed TB management from a specialized surgical concern to a broadly accessible primary care matter.

5. Beyond TB, Hill's legacy continues with the 'Bradford Hill Criteria,' which are fundamental in modern epidemiology.

These nine criteria strength, consistency, specificity, temporality, biological gradient, plausibility, coherence, experiment, and analogy establish a structured approach to confirming causal relationships between specific factors and health outcomes.

6. This framework has been instrumental in identifying alcohol as a risk factor for cardiovascular diseases and linking sugar-sweetened beverages with obesity.

7. Hill's criteria were crucial in proving the connection between smoking and lung cancer, countering the misinformation spread by the tobacco industry.

8. This research also influenced a major shift in public health policies and the general public's view on tobacco use.

About the Randomised control trials technique

RCTs involve dividing a population into smaller groups, in order to comparatively see the outcomes of an external stimulus.

For ex- If the aim of a study is to understand whether a free grains distribution scheme helped improve the nutrition levels among people living in a district, researchers will first create two groups within the population, and then put people into those groups randomly.

One group (called the control group) does not receive the grains or the external stimulus, while the other group (treatment group) does. After a designated period of time, details of how both the groups are doing would be collected. In this way, the goal is to understand what the overall impact is of introducing something new could be.

Global Hepatitis Report 2024

Why in the News?

Recently, the World Health Organization (WHO) released the Global Hepatitis Report 2024.

About Global Hepatitis Report 2024

1. According to the report, this disease is the second most common infectious cause of death worldwide, claiming 1.3 million lives annually.

2. The number of deaths attributed to viral hepatitis rose from 1.1 million in 2019 to 1.3 million in 2022.

3. Hepatitis B was responsible for 83% of these deaths, while hepatitis C accounted for the remaining 17%.

4. Each day, approximately 3,500 individuals worldwide succumb to infections caused by hepatitis B and C.

5. People between the ages of 30 and 54 bear half of the chronic hepatitis B and C disease burden, with children under 18 accounting for 12% of the cases. Men make up 58% of all cases.

About hepatitis

Type of Hepatitis

	A	B	C	D	E
Source of virus	feces	blood/ blood-derived body fluids	blood/ blood-derived body fluids	blood/ blood-derived body fluids	feces
Route of transmission	fecal-oral	percutaneous permucosal	percutaneous permucosal	percutaneous permucosal	fecal-oral
Chronic infection	no	yes	yes	yes	no
Prevention	pre/post-exposure immunization	pre/post-exposure immunization	blood donor screening; risk behavior modification	pre/post-exposure immunization; risk behavior modification	ensure safe drinking water

Figure 8.Source: Publichealthnotes

1. Hepatitis is an inflammation of the liver. It causes liver diseases including acute and chronic infections, liver failure, cirrhosis, and hepatocellular carcinoma.

2. **Mode of Transmission:** Hepatitis can be spread through infectious means such as viruses, contaminated food and water, and sexual contact, as well as through non-infectious means like excessive alcohol consumption, toxins, certain medications, and specific medical conditions.

The predominant mode of transmission for Hepatitis B is from mother to child, accounting for nearly 90% of cases where the infection is passed on during childbirth.

3. There are five primary strains of the hepatitis virus, identified as types A, B, C, D, and E. Each type causes liver disease but they vary significantly in transmission methods, disease severity, and geographic prevalence.

4. **Symptoms:** a) Hepatitis B often leads to an acute infection, manifesting symptoms such as nausea, vomiting, and jaundice (yellowing of the skin and eyes) that can last for several weeks.

b) Chronic Hepatitis particularly in children, can cause lifelong liver issues, potentially leading to liver scarring, known as cirrhosis, and an increased risk of liver cancer.

c) Hepatitis C symptoms typically develop two to twelve weeks after exposure and can include jaundice (yellow skin or eyes), loss of appetite, nausea, abdominal pain, fever, dark urine, pale stools, joint pain, and fatigue.

5. **Diagnosis and Treatment:** According to the report, only 2.4% of Hepatitis B cases have been diagnosed, and none have received treatment. In contrast, 28% of Hepatitis C cases were diagnosed, with 21% undergoing treatment.

Hepatitis B is preventable through immunization and Hepatitis C can be effectively cured using antiviral drugs.

Defence exercise

DUSTLIK- Military Exercise

Why in the News?

The Indian Army contingent has departed for the 5th edition of India- Uzbekistan joint military Exercise Dustlik.

About Exercise Dustlik

Source: The Financial Express

Aspects	Description
About	1. Exercise DUSTLIK is a yearly event conducted alternatively in India and Uzbekistan. 2. The Exercise is scheduled to be conducted from 15th to 28th April 2024 at Termez, the Republic of Uzbekistan. 3. The last edition was conducted at Pithoragarh (India) in February 2023.
Participating Nations	India and Uzbekistan
Objectives	The aim of Exercise Dustlik is: a) to foster military cooperation and enhance combined capabilities to execute joint operations in mountainous as well as semi-urban terrain. b) to enhance tactical, technical, and procedural interoperability and strengthen defense cooperation and bilateral relations between the two participating nations.
Focus	The exercise will emphasize high physical fitness, joint planning, tactical drills, and the basics of special arms skills.

Syllabus: Schemes and programme

National Curriculum for Early Childhood Care and Education 2024

Why in the News?

The Ministry of Women and Child Development (MWCD) has released the National Curriculum for Early Childhood Care and Education 2024 titled 'Aadharshila,' on the lines of the **National Education Policy 2020** and the **National Curriculum Framework.**

It is expected to bridge foundational literacy and numeracy gaps which may arise in later school years.

About National Curriculum for Early Childhood Care and Education 2024

Source: The Hindu

1. MWCD has released the National Curriculum for Early Childhood Care and Education 2024 titled 'Aadharshila.

2. Aadharshila (translated as foundation stone) is a detailed 48-week curriculum meant for learning in the age group of three to six-year-olds in anganwadis.

3. The curriculum aiming to develop key skills such as listening, vocabulary, imagination, narration, instruction following, creativity, social skills, self-expression, and self-esteem.

These competencies prepare children for a smooth transition into Grade 1.

4.The program is tailored for different ages, detailing required materials, age-appropriate specifications, variations, and teacher guidelines, including targeted educational objectives and competencies.

Activities are designed to observe and respond to the children's interests.

5. The curriculum is structured around a weekly play calendar. Children aged three to six years participate in this mixed-age group setting at the anganwadi.

6. It starts with four weeks of initiation involving academic activities to ease children's transition from home to the anganwadi center through engaging and playful interactions.

7. This is followed by 36 weeks including varied activities such as exploration, free play, conversations, creative arts, and reflection.

It also includes storytelling focused on themes like conflict resolution and cooperation, along with singing and crafting.

8. Children are introduced to various concepts such as colors, shapes, numbers, sensory uses, body parts, and personal relationships.

9. They also engage in activities that develop listening, basic numerical skills, sound recognition and imitation, and knowledge about seasons, festivals, and food.

10. The last eight weeks focus on reviewing and reinforcing previous learning through worksheets and performance assessments.

Subject: Art and architecture

Fort Emmanuel

Why in the News?

Historians are exploring measures to preserve the laterite-brick remains of Fort Emmanuel, which the Portuguese constructed along the beachfront in 1503.

About Fort Emmanuel

Source: Kerala Tourism

1. Fort Emmanuel was built in 1503 by the Portuguese. It is one of the earliest European forts built in India.

2. It is a ruined fort located at Fort Kochi Beach in Kochi, Kerala.

3. Fort Emmanuel was a large structure that enclosed an entire township, strengthening Portuguese control in the area.

4. It remained under Portuguese rule until 1683 when it was captured by Dutch colonial forces, who destroyed Portuguese institutions.

5. The Dutch held the fort until 1795, when the British took over and by 1806, had demolished most of its walls and bastions.

6. It was a symbol of the strategic alliance between the Maharajah of Kochi and the Monarch of Portugal, after whom it was named.

7. Foreign control of Fort Kochi ceased in 1947 when India gained independence.

Portuguese strategy of building forts in coastal colonies

1. The Portuguese strategy of building forts in coastal colonies such as Fort Kochi, Goa, Kollam, Kozhikode, and Kodungalloor which were crucial for their defense.

2. These forts not only secured their colonies but also supported their naval capabilities.

3. This fortification was essential for protecting the lucrative trade in spices such as pepper, which the Portuguese exported from Kerala back to Europe.

Pahariyas tribe

Why in the News?

Jharkhand's Pahariya tribe aims to achieve seed independence by depositing native varieties in community-led banks

About Pahariyas tribe

Figure 9.Source: Down to earth

1. The Pahariyas primarily reside in Jharkhand and West Bengal, with smaller populations in Uttar Pradesh, Maharashtra, and Odisha. Some of the Mal Paharia tribes also identify them as Malto, Malti, Maltu, Maler, etc

2. They are forest dwellers and mainly engage in jhum or shifting agriculture.

3. In Jharkhand, the Pahariyas are divided into two groups:

a) Mal Pahariya: These individuals inhabit the southern hills of Damin-i-koh and the southern and eastern regions of the Santhal Parganas. They belong to the Proto-Australoid race.

b) Shauria Pahariya (or Maler Paharia): This group is

predominantly found in the Santhal Parganas. Historically, their main settlement was in the region of Karnataka, but today they are primarily located in the mountainous areas of Rajmahal and Santhal Pargana.

They speak Malto, their native language, which shows influences from Havli and Chharisgarhi languages.

4. **Religious Practices:** The Pahariyas worship deities specific to their households, clans, and villages, such as Mait, Maa, Gangadi, Sunadi, Rupadi, and Budharaj. They also believe in naturalism and worship natural objects like sun, river, mountain, tree, animal, birds,
plants and bushes.

5. **Language:** They speak mal Pahariya language. This language is influenced by local dialects Havli and Chharisgarhi. Their language is mixture of Santali, Bengali and Hindi.