G20 Map

//


G20
Founded in 1999 after Asian financial crisis to discuss global economic and financial issues
No permanent secretariat
Members: 19 countries, The European Union (EU) and The African Union
Permanent Guest: Spain
G20 Summit: Takes place annually
2023 Presidency: India (Theme: One Earth, One Family, One Future)
Sherpas: The agenda and work are coordinated by them as the representatives of the G20 countries
Troika: The Presidency is supported by the Troika (previous, current and incoming Presidency)
ALASKA (US)
Juneau
CANADA
Ottawa
UNITED STATES
Washington
MEXICO
Mexico City
BRAZIL
Brasilia
ARGENTINA
Buenos Aires
EUROPEAN UNION
GERMANY
UK
London
Berlin
Paris
FRANCE
Rome
ITALY
Moscow
TURKEY
Ankara
SAUDI ARABIA
Riyadh
AFRICAN UNION
SOUTH AFRICA
Cape Town
RUSSIA
CHINA
Beijing
INDIA
New Delhi
JAPAN
Seoul
Tokyo
REPUBLIC OF KOREA
INDONESIA
Jakarta
AUSTRALIA
Canberra
Drishti IAS

Governor’s Power over State Bills

For Prelims: Governor’s Power over State Bills, Supreme Court, Legislative Assemblies, Article 200, **Article 201, Gubernatorial Procrastination,** Article 355.

For Mains: Governor’s Power over State Bills, Gubernatorial Procrastination and issues related to it.

Why in News?

Recently, the **Supreme Court (SC)** have observed that bills sent to the governor for assent must be returned **"as soon as possible"** and not sit over them, causing **Gubernatorial Procrastination** and making state Legislative Assemblies **wait indefinitely.**

- The SC observed as a part of judicial order in a petition filed by the State of Telangana complaining that the Governor has kept **pending several important Bills sent.**

What are the Governor’s Powers over State Bills?

- **Article 200:**
  - Article 200 of the Indian Constitution outlines the process for a Bill passed by the Legislative Assembly of a State to be presented to the Governor for assent, who may either **assent, withhold assent or reserve the Bill for consideration** by the President.
  - The Governor may also return the Bill with a message **requesting reconsideration by the House** or Houses.
- **Article 201:**
  - It states that when a **Bill is reserved for the consideration** of the President, the President may assent to or withhold assent from the Bill.
  - The President may also **direct the Governor to return the Bill to the House** or Houses of the Legislature of the State for reconsideration.
- **Options Available with the Governor:**
  - He may give assent, or he can send it back to the Assembly requesting it to **reconsider some provisions of the Bill, or the Bill itself.**
  - He may reserve the bill for the consideration of the president. The reservation is obligatory where the bill passed by the state legislature endangers the position of the state high court. However, the governor can also reserve the bill if it is of the following nature:
    - Against the provisions of the Constitution
    - Opposed to the DPSP
    - Against the larger interest of the country
    - Of grave national importance
    - Deals with compulsory acquisition of property under Article 31A of the Constitution.
  - Another option is to withhold the assent, but this is not normally done by any Governor because it would be an extremely unpopular action.

What is the SC's Observation?

- While referring to the first proviso to Article 200 **of the Constitution**, the SC mandated that Governors should not **delay over Bills sent to them for assent** after they had been passed by Legislative Assemblies.
- They should be returned **"as soon as possible"** and not sit over them. The expression "as soon as possible" in this article has significant constitutional intent and that constitutional authorities should keep this in mind.

What are Recent Instances of Gubernatorial Procrastination?

- Also Tamil Nadu Assembly passed a resolution **urging the** President **of India, among other things, to fix a timeline for assent to be given to Bills** passed by the Assembly.
    - For instance, in the TN Governor forwarded the **Bill for exemption from the** National Eligibility cum Entrance Test (NEET) to the President after considerable delay.
- In Kerala, the situation has become a bit curious with the Governor publicly announcing that he **would not give assent to the** Lokayukta Amendment Bill and the Kerala University Amendment Bill.

What are the Legal Arguments against Delaying Assent?

- **States' Constitutional Obligation:**
    - The Governor's inaction on bills passed by the Assembly creates a situation where the **state government is unable to function in accordance with the Constitution.**
    - If the Governor continues to fail to act in accordance with the Constitution, the State government has a **constitutional obligation to invoke** Article 355 and notify the President, requesting that appropriate instructions be issued to the Governor to ensure that the process of government is conducted in accordance with the Constitution.
- **SC Ruling:**
    - Under **Article 361** of the Constitution, the **Governor has complete immunity from court proceedings** for any act done in the exercise of their powers.
        - This provision **poses a unique situation when a government may need to challenge a Governor's action** of withholding assent to a Bill.
        - Hence, the Governor, while declaring that s/he withholds assent to a bill, will have to disclose the reason for such refusal; being a high constitutional authority, s/he **cannot act in an arbitrary manner.**
    - If the grounds for refusal disclose mala fide or extraneous considerations or ultra vires, the Governor's **action of refusal could be struck down as unconstitutional.**
        - This point has been settled by a constitution bench of the Supreme Court in ***Rameshwar Prasad and Ors. vs Union Of India and Anr.***
        - The Court held: **"the immunity granted by Article 361(1) does not, however, take away the power of the Court to examine the validity of the action including on the ground of malafides".**

What are the Practices Overseas?

- **United Kingdom:**
    - The practice of requiring royal assent for a Bill to become law exists in the United Kingdom, but by practice and usage, there is **no power of veto exercised by the crown**, and refusal of royal assent on controversial grounds is considered unconstitutional.
- **United States:**
    - In the United States, the President can refuse assent to a Bill, but if the Houses pass **it again with two thirds of each House, the Bill becomes law.**

Note:

- The refusal of assent is not followed in other democratic countries, and in some cases, the Constitution provides a remedy so that a **Bill passed by the legislature can become law**

despite the refusal of assent.

Way Forward

- The framers of the Constitution did not anticipate Governors sitting on Bills indefinitely without taking any action under Article 200.
- Gubernatorial Procrastination is a is a new phenomenon that requires a new solution within the framework of the Constitution. Therefore, the **Supreme Court should set a reasonable time frame for Governors to make a decision** on a Bill passed by the Assembly in the interest of federalism in the country.

UPSC Civil Services Examination Previous Year Question (PYQ)

Prelims

Q. Consider the following statements: (2018)

1. No criminal proceedings shall be instituted against the Governor of a State in any court during his term of office.
2. The emoluments and allowances of the Governor of a State shall not be diminished during his term of office.

Which of the statements given above is/are correct?

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

Ans: (c)

Q. Which of the following are the discretionary powers given to the Governor of a State? (2014)

1. Sending a report to the President of India forimposing the President's rule
2. Appointing the Ministers
3. Reserving certain bills passed by the State Legislature for consideration of the President of India
4. Making the rules to conduct the business of the State Government

Select the correct answer using the code given below:

(a) 1 and 2 only
(b) 1 and 3 only
(c) 2, 3 and 4 only
(d) 1, 2, 3 and 4

Ans: (b)

Q. Which one of the following statements is correct? (2013)

(a) In India, the same person cannot be appointed as Governor for two or more States at the same time

(b) The Judges of the High Court of the States in India are appointed by the Governor of the State just as the Judges of the Supreme Court are appointed by the President

(c) No procedure has been laid down in the Constitution of India for the removal of a Governor from his/her post

(d) In the case of a Union Territory having a legislative setup, the Chief Minister is appointed by the Lt. Governor on the basis of majority support

Ans: (c)

Mains

Q. Whether the Supreme Court Judgment (July 2018) can settle the political tussle between the Lt. Governor and elected government of Delhi? Examine. **(2018)**

Q. Discuss the essentials of the 69th Constitutional Amendment Act and anomalies, if any, that have led to recent reported conflicts between the elected representatives and the institution of the Lieutenant Governor in the administration of Delhi. Do you think that this will give rise to a new trend in the functioning of the Indian federal politics? **(2016)**

Source: TH

Fertiliser Consumption in India

For Prelims: Fertiliser Subsidy, Urea, DAP, Nutrient Based Subsidy (NBS) Scheme

For Mains: Issues Related with Fertiliser Subsidy.

Why in News?

The Indian government has implemented several measures to promote balanced fertilisation. Despite these efforts, the consumption of urea has risen, leading to **imbalanced fertilisation, decreased nitrogen use efficiency, and a decline in crop yield response to fertiliser use.**

What Measures have been taken to Promote Balanced Fertilisation?

- **Initiatives:**
  - In 2015, Indian government mandated **neem-coating of all urea**
  - Govt introduced 45kg urea bags in place of 50kg to cut demand in 2018
  - **Indian Farmers Fertiliser Cooperative Limited (IFFCO)** launched liquid **'Nano Urea'** in 2021.
    - More recently, **first** Liquid Nano Urea **(LNU) plant was inaugurated at Kalol, Gujarat.**
      - LNU is urea in the form of a nanoparticle and is developed to **replace conventional urea and curtail its requirement by at least 50%.**
- **Impact of the Measures Taken:**
  - Initially, the use of **neem-coated urea led to a dip in consumption**, making it difficult for urea to be used for non-agricultural purposes.
  - However, this **trend reversed from 2018-19.** Urea sales in 2022-23 were about 5.1 mt

higher than in 2015-16 and over 9 mt higher than in 2009-10, before the introduction of the **Nutrient-Based Subsidy (NBS)** regime in April 2010.

Why does Urea Continue to be the Dominant Fertiliser?

- **Favourable Characteristics:** Urea is the most widely used fertilizer because it is a **rich source of nitrogen, an essential nutrient for plant growth.**
  - Urea is a **readily available and affordable** nitrogen source for farmers, making it a popular choice.
  - It can also be **easily stored and transported,** making it a convenient choice for both farmers and manufacturers.
  - Urea is also a **versatile fertilizer that can be applied to a wide range of crops and soil types.**
- **Heavy Subsidy:** In India, urea is the **most produced, imported, consumed and physically regulated** fertiliser of all.
  - **Urea consumption rose by over a third since 2009-10;** this has been largely courtesy of its MRP going up by a mere 16.5% – from **Rs 4,830 to Rs 5,628 per tonne.**
  - This current per-tonne MRP for urea against DAP (Rs 27,000) and MOP (Rs 34,000) is **nowhere compatible with a 4:2:1 NPK use ratio generally considered ideal for Indian soils.**

What is the Nutrient-based Subsidy (NBS) regime?

Drishti IAS

Nutrient Based Subsidy Scheme

About:
- A fixed rate of subsidy (in ₹per Kg) **decided on an annual basis**
- Being implemented since **2010**

Aim:
- Ensure the **availability of fertilisers** to farmers at an **affordable price**
- Increase consumption of P&K fertilizers to achieve optimum **NPK ratio (4:2:1)**

Implemented by:
- Department of Fertilisers, **Ministry of Chemicals & Fertilizers**

Ambit of NBS:
- Given on nutrients - **Nitrogen, Phosphate, Potash and Sulphur**
- For Phosphatic and Potassic (P&K) fertilisers
- **Doesn't include Urea based fertilisers**
- NBS is **available for imported complex fertilisers** except **Ammonium Sulphate**

Fertilisers in India:
- 3 basic fertilisers – **Urea, Diammonium Phosphate (DAP),** and **Muriate of Potash (MOP)**
- **Urea** is the **most – produced, consumed, imported** and **physically regulated** fertiliser of all
- Urea is subsidised only for agricultural uses

Nutrient	Main Source
Nitrogen (N)	Urea
Phosphorus (P)	DAP
Potassium (K)	MOP

- **Targeted Beneficiaries:**
  - The NBS regime is aimed at benefiting farmers across the country, especially **small and marginal farmers** who may not be able to afford fertilizers at market rates.
  - The scheme provides subsidies to farmers based on their fertilizer requirements, and the subsidy amount is **directly transferred to their bank accounts.**
- **Benefits:**
  - It helps in improving **soil fertility and crop productivity.**
  - Reduces the **cost of cultivation** for farmers by providing fertilizers at subsidized rates.

- Improves the **quality of agricultural produce**, which can help farmers get **better prices for their crops in the market.**
- It helps in **conserving soil health** and reducing the **environmental impact** of excessive use of fertilizers.

- **Failure of NBS:**
  - **Urea is left out of the scheme** and hence it remains under price control. There is technically **no price control on other fertilizers.**
    - The prices of the other fertilizers which were **decontrolled have gone up** which has led the farmers to **use more urea than before.**
    - This has further worsened **fertilizer imbalance.**
  - Price controls on **DAP** have been reintroduced, with companies not allowed to **charge more than Rs 27,000 per tonne**. This has led to the sales of both **urea and DAP soaring in 2022-23.**

What is the Cost of Imbalanced Fertilisation?

- **Reduced Crop Yields and Quality:**
  - Applying too little or too much fertilizer can lead to **reduced crop yields** and quality, resulting in **financial losses for farmers.**
- **Soil Degradation:**
  - Imbalanced fertilization can lead to **nutrient imbalances in the soil,** leading to **soil degradation,** erosion**, and loss of soil fertility** over time.
- **Environmental Pollution:**
  - Overuse of fertilizers can lead to the leaching of excess nutrients, such as nitrogen and phosphorus, into water bodies, **causing** eutrophication**, algal blooms, and other environmental problems.**
- **Health Risks:**
  - Excessive use of fertilizers can result in the accumulation of nitrates in crops, which can be **harmful to human health if consumed in large quantities.**

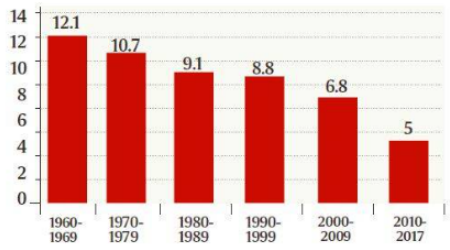
ALL-INDIA USE OF FERTILISER PRODUCTS

	UREA	DAP	MOP*	NPKS	SSP
2009-10	266.73	104.92	46.34	80.25	26.51
2010-11	281.13	108.7	39.32	97.64	38.25
2011-12	295.65	101.91	30.29	103.95	47.46
2012-13	300.02	91.54	22.11	75.27	40.3
2013-14	306	73.57	22.8	72.64	38.79
2014-15	306.1	76.26	28.53	82.78	39.89
2015-16	306.35	91.07	24.67	88.21	42.53
2016-17	296.14	89.64	28.63	84.14	37.57
2017-18	298.94	92.94	31.58	85.96	34.39
2018-19	314.18	92.11	29.57	90.28	35.79
2019-20	336.95	101	27.87	98.57	44.03
2020-21	350.43	119.11	34.25	118.11	44.89
2021-22	341.8	92.72	24.57	114.79	56.81
2022-23	357.25	105.31	16.32	100.73	50.18

*For direct application, excluding supply to complex fertiliser units.

Gettyimages

CROP YIELD RESPONSE TO FERTILISERS



Way Forward

- **Expand the NBS Regime to Include Urea:**
  - The current exclusion of urea from the NBS regime has led to an increase in its consumption, exacerbating the problem of imbalanced fertilisation.
    - **Including urea in the NBS regime would promote its balanced use and reduce its consumption,** which would in turn reduce the cost of cultivation for farmers and improve crop productivity.
- **Encourage the use of Alternative Fertilisers:**
  - The use of **alternative fertilisers, such as** organic and bio-fertilisers, can help reduce the **reliance on synthetic fertilisers,** which can lead to imbalanced fertilisation.
  - Promoting the use of alternative fertilisers through **subsidies, awareness campaigns, and capacity building** can help improve soil health and reduce environmental pollution.

- **Promote Soil Testing and Balanced Fertilisation:**
  - Soil testing can help determine the **nutrient requirements of crops,** which can help farmers apply fertilisers in a balanced manner.
  - Promoting soil testing and providing subsidies for it can encourage farmers to adopt balanced fertilisation practices, which can improve crop yields and soil health.
- **Monitor and Regulate the Prices of Decontrolled Fertilisers:**
  - **Regulating the prices of decontrolled fertilisers, such as DAP**, can help prevent their excessive use and promote the use of balanced fertilisers.
  - The government can consider reintroducing price controls on decontrolled fertilisers to ensure their affordability and prevent their excessive use.
- **R&D of Sustainable Fertilisers:**
  - Investing in R&D of sustainable fertilisers can help develop fertilisers that are environmentally friendly, promote balanced fertilisation, and improve crop productivity.
  - The government shall provide funding for R&D of sustainable fertilisers besides encouraging private sector participation.
- **Improving NUE (Nitrogen Use Efficiency):**
  - NUE refers to the proportion of Nitrogen applied mainly through urea that is actually utilized by crops to produce harvested yields.
  - It will enable farmers to harvest the same or more grain yields with fewer bags.

UPSC Civil Services Examination, Previous Year's Question (PYQs)

Q. With reference to chemical fertilizers in India, consider the following statements: (2020)

1. At present, the retail price of chemical fertilizers is market-driven and not administered by the Government.
2. Ammonia, which is an input of urea, is produced from natural gas.
3. Sulphur, which is a raw material for phosphoric acid fertilizer, is a by-product of oil refineries.

Which of the statements given above is/are correct?

(a) 1 only
(b) 2 and 3 only
(c) 2 only
(d) 1, 2 and 3

Ans: (b)

Q. Why does the Government of India promote the use of 'Neem-coated Urea' in agriculture? (2016)

(a) Release of Neem oil in the soil increases nitrogen fixation by the soil microorganisms.

(b) Neem coating slows down the rate of dissolution of urea in the soil.

(c) Nitrous oxide, which is a greenhouse gas, is not at all released into atmosphere by crop fields.

(d) It is a combination of a weedicide and a fertilizer for particular crops.

Ans: (b)

Source: IE

World Malaria Day

For Prelims: Malaria - causes, symptoms, vaccine, Efforts to Control Malaria

For Mains: Health, Malaria and its Eradication

Why in News?

World Malaria Day is observed every year on **25th April.**

- It was established by the **World Health Organization (WHO)** in 2007 to raise awareness about malaria.
- The theme for World Malaria Day 2023 is **"Time to deliver zero malaria: invest, innovate, implement".**

What is Malaria?

- **About:**
  - **Malaria** is a life-threatening disease caused by the **Plasmodium parasite**.
    - This parasite is transmitted to humans **through the bites of infected female Anopheles mosquitoes.**
  - Malaria is **most common in tropical and subtropical regions** of the world, including sub-Saharan Africa, Southeast Asia, and South America.
    - While **Plasmodium falciparum is responsible for more deaths, Plasmodium vivax is the most widespread** of all of the malaria species.
- **Symptoms:**
  - Once inside the human body, the **parasites multiply in the liver and then infect red blood cells**, causing symptoms such as fever, chills, headache, muscle aches, and fatigue.
  - In **severe cases**, malaria can lead to **organ failure, coma, and death.**
- **Vaccine:**
  - Till now, no malaria vaccine has shown the benchmark efficacy of 75% set by WHO. Still, WHO gave a go-ahead for the **first malaria vaccine called** RTS,S to be rolled out in high transmission African countries understanding the urgency of malaria control and prevention.
    - It has relatively **low efficacy somewhere between 30-40%.**
    - This vaccine has been developed by a collaborative effort of several organisations including GlaxoSmithKline (GSK), Bill and Melinda Gates Foundation etc.
  - In India, Bharat Biotech **has been granted license to manufacture this vaccine.**
    - **Similar to RTS,S vaccine the Oxford University has developed a vaccine called R21 which is still waiting for the WHO's approval.**
      - Ghana and Nigeria have approved this vaccine for use in their countries.
      - It is also being manufactured by Serum Institute of India.
- **Malaria Cases:**
  - As per the World Malaria Report 2022**,** the disease claimed the lives of an estimated 6,19,000 people in 2021.
  - The report also highlighted that India has shown a **significant decline in malaria cases and deaths in past 10 years.**

What are the Efforts Made to Contain Malaria?

- **Globally:**

- **Global Malaria Program:**
  - It was launched by WHO and is responsible for coordinating WHO's global efforts to control and eliminate malaria.
  - Its work is guided by the "Global technical strategy for malaria 2016–2030".
    - The strategy aims to reduce malaria case incidence and mortality rates by at least 40% by 2020, at least 75% by 2025 and at least 90% by 2030 against a 2015 baseline.
- **Malaria Elimination Initiative:**
  - It was launched by **Bill and Melinda Gates Foundation.**
  - This initiative focuses on eliminating malaria in certain regions of the world through a combination of strategies, including increasing access to effective treatments, reducing the mosquito population, and developing new tools and technologies to combat the disease.
- **E-2025 initiative:**
  - In 2021, WHO launched the E-2025 initiative to halt the transmission of malaria in 25 identified countries by 2025.

- **India's efforts:**
  - **National Vector-Borne Disease Control Programme:** It is an umbrella programme for prevention and control of vector borne diseases viz. **Malaria**, **Japanese Encephalitis (JE)**, **Dengue**, **Chikungunya**, **Kala-azar** and **Lymphatic Filariasis.**
  - **National Malaria Control Programme (NMCP):** Launched in 1953, it is built around three key activities:
    - Insecticidal residual spray (IRS) with DDT
    - Monitoring and surveillance of cases
    - Treatment of patients
  - **National Framework for Malaria Elimination 2016-2030:**
    - Based on WHO Global Technical Strategy for Malaria 2016–2030 (GTS), the goals of the NFME are:
      - Eliminate malaria (zero indigenous cases) throughout the entire country by 2030
      - Maintain malaria–free status in areas where malaria transmission has been interrupted and prevent re-introduction of malaria.
  - **High Burden to High Impact (HBHI) Initiative**: It was started in four states (West Bengal, Jharkhand, Chhattisgarh and Madhya Pradesh) in July 2019.
    - **Distribution of Long-Lasting Insecticidal Nets (LLINs)** to high burden areas has led to a reduction in endemicity in these 4 very high endemic states.
  - **Malaria Elimination Research Alliance-India (MERA-India):** It has been established by **Indian Council of Medical Research (ICMR)** with the conglomeration of partners working on malaria control.

Conclusion

- India's aim is to be malaria-free by 2027 and to eliminate the disease by 2030. Through various measures, the country has made stupendous progress in thwarting malaria, by reducing the disease by 66% between 2018 and 2022.

UPSC Civil Services Examination, Previous Year Questions (PYQs)

Q. Widespread resistance of malarial parasite to drugs like chloroquine has prompted attempts to develop a malarial vaccine to combat malaria. Why is it difficult to develop an effective malaria vaccine? (2010)

(a) Malaria is caused by several species of Plasmodium
(b) Man does not develop immunity to malaria during natural infection
(c) Vaccines can be developed only against bacteria
(d) Man is only an intermediate host and not the definitive host

Ans: (b)

Source: IE

National Security Act 1980

For Prelims: National Security Act, 1980, National Security Council (NSC), Article 22, Article 23, Preventive Detention, National Security Advisor.

For Mains: National Security Act, 1980 and its Structure, Function and Implications.

Why in News?

Recently, the **Supreme Court** heard a plea by an accused for clubbing the FIRs against him in **Bihar** with those in **Tamil Nadu.**

- The accused was allegedly spreading fake news about laborer from Bihar getting attacked in **Tamil Nadu**, under the stringent **National Security Act (NSA), 1980**

What is the National Security Act, 1980?

- **About:**
  - The **NSA** is a **preventive detention law** enacted in **1980** to maintain public order **and** national security.
  - **Preventive Detention** involves the **detainment (containment) of a person** in order to keep him/her from committing future crimes and/or from escaping future prosecution.
    - Article 22 **(3) (b)** of the Constitution allows for **preventive detention** and restriction on **personal liberty** for reasons of state security and public order.
    - **Article 22(4)** states that no law providing for preventive detention shall authorize the detention of a person for a longer period than three months.
- **Powers to the Government:**
  - The **NSA** empowers the **Centre or a State government** to detain a person to prevent him from acting in any manner prejudicial to national security.
  - The government can also **detain a person** to prevent him from **disrupting public order or for maintenance of supplies and services essential to the community.**
- **Period of Confinement:**
  - The maximum period for which one may be detained is **12 months.**
- **Establishment of National Security Council:**
  - The act also provides for the constitution of a **National Security Council,** which advises the Prime Minister on matters relating to national security.

What is the National Security Council (NSC)?

- **About**:
  - The NSC in India is a high-level body that advises the Prime Minister of India on matters related to national security, strategic policy, and defense.
    - It is a **three-tiered organization** that oversees **political, economic, energy and security issues** of strategic concern.
  - The **NSC** is chaired by the **Prime Minister.**

    - It was formed in **1998,** where all aspects of **national security** are deliberated upon.
- **Members:**
    - **National Security Advisor (NSA)**
    - **Chief of Defence Staff (CDS)**
    - Deputy National Security Advisors
    - Ministers of Defence
    - Ministers of External Affairs
    - Ministers of Home Affairs
    - Minister of Finance
    - Vice Chairman of the **NITI Aayog**
- **Functions:**
    - NSC advises the PM on issues of national security, strategic policy, and defense, **providing strategic direction to the country's security and defense policies** and ensuring their implementation.
        - **It also conducts regular reviews** of the country's security situation and makes recommendations to the PM on policy changes, if needed.
    - **It coordinates the activities of various agencies** involved in the country's security, including the armed forces, intelligence agencies, and law enforcement agencies.
    - **It analyses emerging security threats** and provides early warning to the govt and **preparing contingency plans** for various security scenarios.

What is the Criticism of the National Security Act?

- **Misuse of Power:** One of the major challenges of the NSA is its potential misuse by the authorities. The **law grants the government the power to detain individuals without trial for up to a year.**
    - This power can be easily misused by the authorities to suppress dissent or target political opponents.
- **Violation of Human Rights:** The NSA, if misused, can lead to a **violation of human rights.**
    - The law provides for preventive detention without trial, which can be seen as a **violation of the** right to a fair trial, the right to freedom of expression**, and the** right to personal liberty**.**
- **Lack of Transparency**: Another challenge with the NSA is the **lack of transparency in the detention process.**
    - Detainees are often **not informed of the grounds for their detention,** and the detention orders are not made public. This lack of transparency can lead to abuse of power by the authorities.
- **Legal Challenges:** Critics have argued that the law is **unconstitutional and violates fundamental rights guaranteed** under the Indian Constitution.
    - The Supreme Court of India has also struck down several detention orders issued under the NSA.
- **Limited effectiveness**: While the NSA is intended to prevent threats to national security, its effectiveness is limited.
    - **Detaining individuals without trial may not necessarily prevent the threat,** and in some cases, it **may even exacerbate the problem by radicalizing individuals.**

Way Forward

- **Ensure Transparency:** The government should ensure transparency in the detention process by informing detainees of the grounds for their detention and making detention orders public. This will help prevent abuse of power by the authorities.
- **Strict Implementation:** The authorities must ensure that the NSA is implemented strictly in accordance with the law and is not misused to target political opponents or suppress dissent.
- **Strengthen Judicial Oversight:** The judicial oversight of preventive detention orders under the NSA should be strengthened to ensure that they are not arbitrary or unconstitutional.
- **Focus on Intelligence Gathering:** The government should focus on intelligence gathering and

other measures that can help prevent threats to national security without resorting to preventive detention.

Source: IE

Buy Now

India's Cheetah Translocation Project

For Prelims: **Cheetah Reintroduction Plan**, **Kuno-Palpur National Park (KNP)**, Gandhi Sagar Wildlife Sanctuary, Mukundara Tiger Reserve

For Mains: Challenges Associated with the Translocation of Cheetah in India,

Why in News?

India's ambitious Cheetah Translocation Project is facing a new set of challenges as two cheetahs have died, bringing the number of cheetahs left in the project to 18 out of the initial 20.

- **Uday, a six-year-old male cheetah**, died on April 23, 2023, in **Kuno National Park**, and **Sasha, a five-year-old female cheetah**, died on March 27, 2023, in the same park.
- Therefore, the government is now considering alternative conservation models, such as the **South African model of conserving cheetahs in fenced reserves.**

Were these Deaths Expected?

- The project anticipated a high mortality rate, and its short-term goal was to achieve a **50% survival rate for the first year, which is 10 out of 20 cheetahs.**
    - However, experts pointed out that the project had overestimated **Kuno National Park's carrying capacity for cheetahs, and this added pressure on the project staff to look for alternative sites.**
- **Causes of Death:**
    - A South African study found that **predation was the biggest killer,** accounting for 53.2% of cheetah mortality. Lions, leopards, hyenas, and jackals were primarily responsible.
        - **Cheetahs suffer very high cub mortality – up to 90%** in protected areas – mainly due to predation.
        - In Africa, **the lion is the chief predator of cheetahs;** in India, where lions are absent (except in Gujarat), **leopards are likely to slip into that role** in potential cheetah landscapes.
    - Other causes of mortality can be **holding camps, immobilization/transit, tracking devices**, and other wildlife killing cheetah (cubs) including warthogs, baboons, snakes, elephants, crocodiles, vultures, zebras, and even ostriches.

South African Model for Conserving Cheetahs:

- In South Africa, a conservation strategy called **meta-population management** was used to protect cheetahs.
- This strategy involved **moving cheetahs from one small group to another** to ensure that they have **enough genetic diversity and to maintain a healthy population**.
- This approach was successful in maintaining a **viable population of cheetahs in South Africa; in 6 years, the meta-population grew to 328 cheetahs.**

What are the Options Available to the Project?

- The authorities are exploring the possibility of preparing Gandhi Sagar Wildlife Sanctuary in the Chambal River valley **as the second home for cheetahs**.
- Another option is to move a few cheetahs from Kuno to the safety of an 80-sq-km fenced area in **Rajasthan's Mukundra Hills Tiger Reserve.**
    - However, both options would mean shifting the project's goal from establishing the cheetah in **an open landscape to managing the African imports as a few pocket populations in fenced-in or restricted areas.**

Gandhi Sagar Wildlife Sanctuary

- It is located in **Madhya Pradesh** on the northern boundary of the Mandsaur and Nimach districts, adjoining Rajasthan
- The landscape is characterized by **vast open landscapes and rocky terrain**
- The vegetation includes northern **tropical dry deciduous forest, mixed deciduous forest, and scrub**
- Some of the flora found in the sanctuary are **Khair, Salai, Kardhai, Dhawda, Tendu**, and **Palash.**
- The fauna includes **Chinkara, Nilgai, Spotted Deer, Striped Hyena, Jackal and crocodiles.**

Mukundra Tiger Reserve

- it is situated near **Kota, Rajasthan**, in a valley formed by **two parallel mountains, Mukundra and Gargola.**
- The valley is bounded by four rivers - **Ramzan, Ahu, Kali, and Chambal** - and drained by their tributaries.
- **Protected area:**
    - Mukundra Hills was declared a Wildlife Sanctuary in 1955 and a National Park (Mukundra

Hills (Darrah) National Park) in 2004.
    - It was declared a **Tiger Reserve** in 2013, becoming the third in Rajasthan after **Ranthambore** and **Sariska.**
- **Parks and sanctuaries:**
    - Mukundra TR consists of three Wildlife Sanctuaries - Darrah, Jawahar Sagar, and Chambhal - and covers four districts of Rajasthan: Kota, Bundi, Chittorgarh, and Jhalawar.

Way Forward

- The success of the cheetah project should **align with India's traditional conservation ethos**. India's conservation approach emphasizes **protecting naturally dispersing wildlife in viable non-fragmented habitats.**
- The Cheetah Project can choose to cut the risk by settling for the South African model of retaining a few pocket populations in fenced-in reserves.
    - However, keeping cheetahs in leopard-proof enclosures might not be a **sustainable solution**. Also, repeated sedate-and-recover interventions to restrict cheetahs to sanctuaries and national parks **can harm the animals.**

UPSC Civil Services Examination Previous Year Question (PYQ)

Prelims

Q. Consider the following: (2012)

1. Black-necked crane
2. Cheetah
3. Flying squirrel
4. Snow leopard

Which of the above are naturally found in India?

(a) 1, 2 and 3 only
(b) 1, 3 and 4 only
(c) 2 and 4 only
(d) 1, 2, 3 and 4

Ans: (b)

Source: IE

Thirunelli Temple

Why in News?

Recently, the **Indian National Trust for Art and Cultural Heritage (INTACH)** has urged the government to conserve the **600-year-old ‘Vilakkumadom’,** at the Sree Mahavishnu Temple at Thirunelli, Kerala.

What are the Concerns?

- The 600-year-old Vilakkumadom structure, made of exquisite granite, is located at the Sree Mahavishnu Temple in Thirunelly, Wayanad district.
    - The ongoing renovation of the temple has raised **concerns about the preservation of its heritage.**
- The structure has a rich history dating back to the **15th century AD,** and its key elements have not been given **due consideration during the renovation process.**
- The potential completion of the Vilakkumadom structure and the **destruction of the Chuttambalam** (rectangular structure covering the temple) has resulted in a loss of heritage and created a gap in its value and importance that could be forgotten or misinterpreted in the future.
- The incomplete structure had **stood as a testimony to a rich cultural heritage but has been remodeled** in an insensitive way.
    - It is said that the work was launched by the king of Coorg without the permission of the temple's custodian, Kottayam Raja. Later, the Kottayam Raja ordered the construction work, and the structure remained untouched afterwards.

What are the Key Points Related to Thirunelli Temple?

- **About:**
    - Thirunelli Temple, also known as Amalaka or Sidha Temple, is a Vishnu temple in Wayanad district, Kerala.
    - The temple gets its name from an **idol of Lord Vishnu resting on an amla tree** in a valley, which was discovered by **Lord Brahma while circling the globe.**
- **Architecture of Thirunelli Temple:**
    - The Thirunelli temple's **architecture** follows the **traditional Kerala style.** The temple has an **inner sanctorum, surrounded by a tile roof structure, and an open courtyard** around it.
    - The east entrance of the temple is decorated with a **granite lamp post.** The outer wall of the temple is bound by granite pillars that are cut in cubicle style, which is **not commonly seen in Kerala.**

What are the Efforts to Safeguard Cultural Heritage?

- **Global:**
    - **Convention for the Safeguarding of the Intangible Cultural Heritage, 2005**
    - Convention on the Protection and Promotion of the Diversity of Cultural Expressions, 2006.
    - **United Nations World Heritage Committee:** India has been elected as a member of the committee for the term 2021-25.
- **Indian:**

- **Adopt a Heritage Programme**
- **Project Mausam**
- **Article 49 (DPSP)**
- AMASR Act **and** National Monuments Authority (NMA)
- **PRASHAD Scheme**

UPSC Civil Services Examination, Previous Year's Question (PYQs)

Q. Which of the following is/are among the Fundamental Duties of citizens laid down in the Indian Constitution? (2012)

1. To preserve the rich heritage of our composite culture
2. To protect the weaker sections from social injustice
3. To develop the scientific temper and the spirit of inquiry
4. To strive towards excellence in all spheres of individual and collective activity

Select the correct answer using the codes given below:

(a) 1 and 2 only
(b) 2 only
(c) 1, 3 and 4 only
(d) 1, 2, 3 and 4

Ans: (c)

Source: TH

Multiple Sclerosis

Why in News?

Recently, Scientists have **fabricated monolayers of pure Myelin Basic Protein (MBP).**

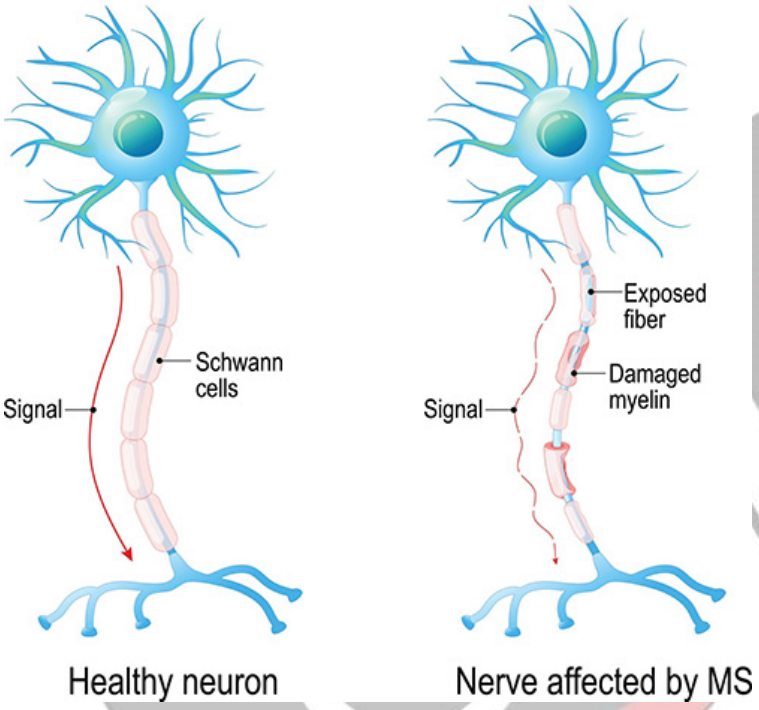
- **MBP is a major protein component of the myelin sheath,** a protective membrane that wraps around the axon of **nerve cells** and acts as a **model protein in studying diseases like** multiple sclerosis (MS).

What is Multiple Sclerosis?

- **About:**
  - Multiple Sclerosis (MS) is a c**hronic autoimmune disease** that affects the **central nervous system (CNS).**
    - In MS, the immune system attacks and damages the **myelin sheath,** a protective

covering that surrounds the **nerve fibers in the brain and spinal cord, causing a range of symptoms.**

- **Symptoms:**
  - **Muscle weakness** and Numbness
    - **Bladder Problems:** A person may have difficulty emptying their bladder or need to urinate frequently or suddenly
    - **Bowel problems, Fatigue, Dizziness,** and **damaged nerve fibers** in the spinal cord.
  - Since symptoms are common, people don't often recognise the disease early and often takes many years for someone to be diagnosed, as it is impossible to determine a specific cause or trigger.
- **Causes:**
  - The exact cause of the disease is unknown, but it could be a combination of:
    - **Genetic factors:** Susceptibility may pass down in the genes
    - **Smoking and Stress**
    - **Vitamin D and B12 deficiency**



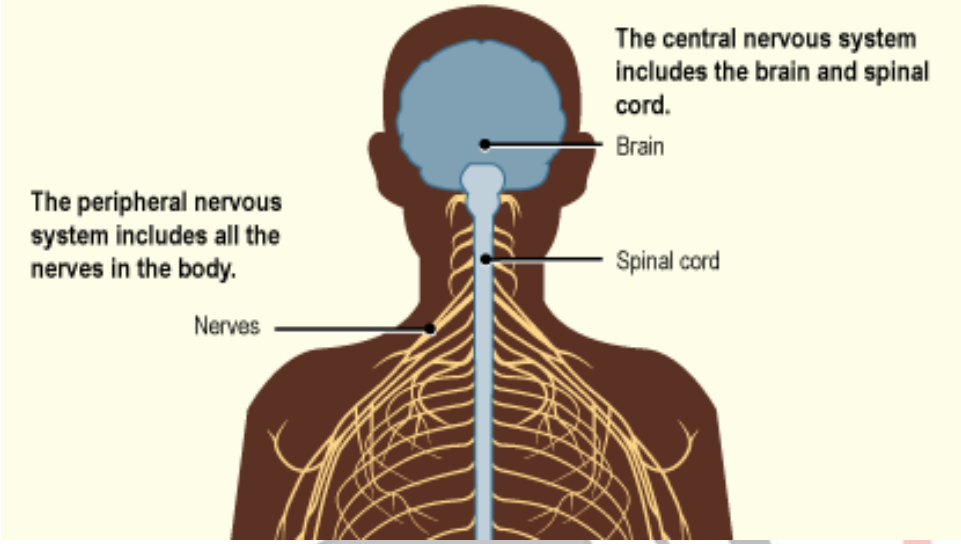
What are the Key Highlights from the Research?

- **Understanding the Behaviour of Protein under Variable pH Conditions:**
  - The researchers studied how the protein behaved in different levels of acidity, by looking at different parts of the layer formed on top of the water.
  - They found that the **stiffness of the layer was related to the specific patterns formed and the space they occupied on the water surface.**
- **Fabricated MBP Layer:**
  - The researchers have created a tightly packed layer of MBP using Langmuir-**Blodgett (LB) technique.**
    - **The Langmuir-Blodgett (LB) technique is a process used to create monolayers of molecules, including proteins, at air-water and air-solid interfaces.**
  - This layer can be used to study the **different properties of MBP in 2D and how it interacts with other proteins.**
    - The researchers also found that the **layer can act as a template for other proteins to crystallize on**, which can help in **studying their structures.**

- Overall, this research helps us better understand the role of MBP in our bodies and how it interacts with other molecules.

What is the Central Nervous System?

- Central nervous system (CNS) is composed of the **brain and spinal cord:**
  - The brain is responsible for **processing information and controlling body functions.**
  - The **spinal cord acts as a relay between the brain and the rest of the body.**
- The CNS is protected by the **skull and spinal column.**
  - Neurons are the basic building blocks of the CNS.
  - The CNS uses neurotransmitters to communicate between neurons.
- Disorders of the CNS can result in a wide range of neurological conditions such as Alzheimer's**,** Parkinson's**, and Multiple sclerosis.**



Source: PIB

Rapid Fire Current Affairs

Insights into Mars' Core and Potential Habitability

A new study has revealed that **Mars'** core is **smaller and denser than previously believed**, with a radius estimated to be between **1,780-1,810 kilometres.** The team of international researchers used seismic data from **NASA's InSight Mars Lander** to analyse seismic waves that pass through different materials in Mars' interiors. They found that the **core is likely in a liquid state,** and is composed of **mostly iron with light elements, including sulphur and oxygen**, which comprise a **fifth of its weight**. The study also highlighted that the core's physical properties could inform better models of how Earth and Mars formed.

Planetary cores are important because they can sometimes generate a **planet-wide magnetic field, which Mars' core does not do.** Earth's magnetic field is generated in its **outer liquid core, and it protects the planet from solar winds,** allowing it to **keep water.** However, Mars' core does not generate this protective shield, making the planet's surface **conditions hostile to life.** Though Mars is believed to have possessed a **magnetic field in the past and was once habitable,** the planet's

interiors played a key role in its evolution to its current state. Even though the InSight mission has been retired, researchers are still analysing the gathered data to better understand the Red Planet's composition and properties.

Read more: Red Planet Day, NASA's InSight Mars Lander

Ramanujacharya

Recently, the Prime Minister has paid tributes to Sri Ramanujacharya on his Jayanti. Ramanujacharya, born in 1017 in Sriperumbudur in Tamil Nadu, is widely respected as a **Vedic philosopher and social reformer.** He is renowned for advocating **social equality and justice**, which was revolutionary for his time, and for his propagation of the **Bhakti movement**, which inspired other Bhakti schools of thought. He was instrumental in reviving the **Vishishtadvaita subschool of Vedanta philosophy**, which posits **non-dualism of the qualified whole.** Ramanujacharya wrote nine scriptures known as the **navaratnas** and composed numerous commentaries on Vedic scriptures, including the **Vedanta Sutras and the Bhagavad-Gita.** His teachings emphasized the need for **harmony with nature and compassion, humility, equality, and mutual respect among all people.** He advocated the concept of "vasudhaiva kutumbakam," which translates to **"all the universe is one family."**

Ramanujacharya embraced the socially marginalized and condemned them and asked royal courts to treat them as equals. He liberated millions from social, cultural, gender, educational, and economic discrimination with his belief that every human is equal regardless of nationality, gender, race, caste, or creed. Because of his work to promote social equality, the **213-feet tall statue of Ramanujacharya in Hyderabad is known as the** Statue of Equality.

Read more: Philosopher-saint Ramanujacharya

Jagadguru Adi Shankaracharya

Recently, the Prime Minister paid tributes to Jagadguru Adi Shankaracharya on his birth anniversary. **Jagadguru Adi Shankaracharya, born in the 8th century AD in Kerala**, is one of the most **revered philosophers** in Indian history. He is considered to be the founder of the **Advaita Vedanta school** of philosophy, which emphasizes the **ultimate unity and oneness of all existence.** Shankaracharya is credited with **reviving Hinduism and restoring its philosophical and spiritual foundation**. He was a prolific writer, composing commentaries on the Vedas, Upanishads, and other important texts. His most significant works include the commentary on the **Brahma Sutras (Bhashya), Bhajagovinda Stotra, Nirvana Shatakam, and Prakaran Granths.** Shankaracharya was also a **social reformer and worked to eliminate caste-based discrimination and promote social equality.**

Read more: Adi Shankaracharya

India’s First Water Metro

The Prime Minster has recently inaugurated the first phase of **Kochi Water Metro in Kerala – first-ever metro system of its kind.** It’s a **public boat service** integrated with the metro rail network. The project is being **implemented by Kochi Metro Rail Corporation with the financial assistance provided by a German funding agency.**

The **main objective is to link ten island communities in Kerala's city with the mainland**, resulting in shorter travel times and more cost-effective transportation.

Moreover, Kochi Water Metro is a modern ferry transport project consisting of numerous boats running along 16 routes across Greater Kochi. Equipped with cutting-edge safety devices and advanced technology, the ferry ensures smoother commutes and more efficient travel experiences. **The boats in the Kochi Water Metro are powered by batteries** and require only 10 to 20 minutes to traverse each route.
