



**PRELIMS** 

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WITH DISABILITY	POLITY &  GOVERNANCE ECONOMY	 	Who was Sant Kabir, the extraordinary poet-saint of the Bhakti movement? Panel to hear appeals on social media posts IRDAI eases capital requirement for PMJJBY to bring in more insurers FM Nirmala Sitharaman reviews progress in setting up of
GS-III PROJECT TO TRACK SMALL FISHING VESSELS PENDING SINCE 26/11 INDIA'S POSITION IN SUSTAINABLE DEVELOPMENT	ENVIRONMENT	0 0 0 0	NARCL 75% of river monitoring stations report heavy metal pollution PM launches global initiative 'Lifestyle for the Environment- LiFE Movement' World's first fishing cat census done in Chilika Keep eco-sensitive zone of 1 km around forests: SC Gecko found in Andhra, Odisha turns out to be a new species Largest known plant in the world is 4,500 years old and stretches across 180km China to not give advanced safety to emperor penguins
REPORT: A CAUSE OF CONCERN HOW FPI DUMPING IMPACTS THE INDIAN MARKET? USE OF CERAMICS IN MEDICAL PURPOSES INTERNATIONAL LIQUID-MIRROR TELESCOPE (ILMT)	SCIENCE & Technology	0 0 0 0	Climate change victim: Kalahari bird What is norovirus, the stomach bug that infected two students in Kerala? How barcodes differ from radio-frequency identification tags D2M technology James Webb Space Telescope will closely observe two extremely hot 'super-Earths' Vietnam develops new vaccine for African swine fever: official India successfully carries out training launch of Intermediate Range Agni 4 Ballistic Missile IISC scientists develop miniproteins that may prevent COVID infection

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# - Disclaimer -

The current affairs articles are segregated from prelims and mains perspective, such separation is maintained in terms of structure of articles. Mains articles have more focus on analysis and prelims articles have more focus on facts.

However, this doesn't mean that Mains articles don't cover facts and PT articles can't have analysis. You are suggested to read all of them for all stages of examination.

# CONTENTS

# WEEK - 2 (JUNE, 2022)

Section - A: MAINS CURRENT AFFAIRS			
	Area of GS	Topics in News	Page No.
	POLITY &	Rights of Persons with disability	02
GSII	GOVERNANCE	National Sports Code	05
	INTERNAL SECURITY	<ul> <li>Project to track small fishing vessels pending since 26/11</li> </ul>	07
		<ul> <li>India's position in Sustainable Development Report: a cause of concern</li> </ul>	09
		How FPI dumping impacts the Indian market?	12
	SCIENCE &	Use of Ceramics in Medical purposes	14
	TECHNOLOGY	International Liquid-Mirror Telescope (ILMT)	16
	Section	- B: PRELIMS CURRENT AFFAIRS	
	Area of GS	Topics in News	Page No.
GS I	HISTORY AND ART & CULTURE	Who was Sant Kabir, the extraordinary poet-saint     of the Bhakti movement?	19
GS II	POLITY & GOVERNANCE	Panel to hear appeals on social media posts	19
ECONOMY	<ul> <li>IRDAI eases capital requirement for PMJJBY to bring in more insurers</li> </ul>	21	
	<ul> <li>FM Nirmala Sitharaman reviews progress in setting up of NARCL</li> </ul>	22	
		<ul> <li>75% of river monitoring stations report heavy metal pollution</li> </ul>	23
		<ul> <li>PM launches global initiative 'Lifestyle for the Environment- LiFE Movement'</li> </ul>	25
		World's first fishing cat census done in Chilika	27
		<ul> <li>Keep eco-sensitive zone of 1 km around forests: SC</li> </ul>	30
GS III		Gecko found in Andhra, Odisha turns out to be a new species	30
		<ul> <li>Largest known plant in the world is 4,500 years old and stretches across 180km</li> </ul>	31
	<ul> <li>China to not give advanced safety to emperor penguins</li> </ul>	33	
		Climate change victim: Kalahari bird	35
		<ul> <li>What is norovirus, the stomach bug that infected two students in Kerala?</li> </ul>	36
	SCIENCE & TECHNOLOGY	How barcodes differ from radio-frequency identification tags	38
		D2M Technology	39

		<ul> <li>James Webb Space Telescope will closely observe two extremely hot 'super-Earths'</li> </ul>	41
so SCIENCE &	<ul> <li>Vietnam develops new vaccine for African swine fever: official</li> </ul>	42	
65 111	GS III TECHNOLOGY	<ul> <li>India successfully carries out training launch of Intermediate Range Agni 4 Ballistic Missile</li> </ul>	43
		<ul> <li>IISC scientists develop miniproteins that may prevent COVID infection</li> </ul>	45
		Section - C: QUICK BYTES	
	Area of GS	Section - C: QUICK BYTES Topics in News	Page No.
GS II	Area of GS INTERNATIONAL RELATIONS	Section - C: QUICK BYTES Topics in News India Bangladesh joint military exercise: EX SAMPRITI-X	Page No. 48
GS II GS I	Area of GS INTERNATIONAL RELATIONS ART & CULTURE	Section - C: QUICK BYTES Topics in News India Bangladesh joint military exercise: EX SAMPRITI-X Pandit Bhajan Sopori passes away	Page No. 48 48

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# SECTION: A (MAINS)

# **CURRENT AFFAIRS**

### **RIGHTS OF PERSONS WITH DISABILITY**

#### CONTEXT

The 'Accessible India Campaign' (AIC) was launched for making government buildings, public transport and websites accessible for Persons with disability (PwD).

• The Ministry of social justice and empowerment has formed an advisory board to look after this campaign and deadline for its implementation till June this year.

#### • BACKGROUND

- As per Census 2011, in India, out of the total population of 121 crore, about 2.68 Cr persons are 'Disabled' (2.21% of the total population)
- Out of 2.68 crore, 1.5 crore are males and 1.18 crore are females.
- Majority (69%) of the disabled population resided in rural areas.
- After the government has launched the legislation for Person with disability act, 2016, it is evident that till now no state is able to fulfil the criteria for disability infrastructure.
- Progress on public transport was less, with only 8.73% of buses fully accessible as against the target of 25% targeted.
- The DEPwD had raised concerns about the slow pace of implementation of AIC and emphasized on the need of concrete changes in the ecosystem of public infrastructure to make it accessible for **Divyangjans.**



#### What a disability mean?

 Disability is an umbrellaterm, covering impairments, activity limitations, and participation restrictions. Such impairment is a problem in body function or structure or an activity limitation is a difficulty encountered by an individual in executing a task or action.

#### **Constitutional provisions**

- Article 41 of the Directive Principles of State Policy (DPSP) states that State shall make effective provision for securing right to work, to education and to public assistance in cases of unemployment, old age, sickness and disablement, within the limits of its economic capacity and development.
- The subject of 'relief of the disabled and unemployable' is specified in state list of the Seventh Schedule of the constitution.

#### Legislative backing for Disabled in India

- Rights of person with Disability Act,2016
  - The Act replaces the Persons with Disabilities (Equal Opportunities, Protection of Rights and Full Participation) Act, 1995.
  - "Person with disability" means a person with long term physical, mental, intellectual or sensory impairments which, in interaction with barriers, hinders his full and effective participation in society equally with others.
  - Disability has been defined based on an evolving and dynamic concept.
  - Principles stated to be implemented for empowerment of persons with disabilities (PWD) are respect for the inherent dignity, individual autonomy including the freedom to make one's own choices, and independence of persons.
  - ➤ The principle reflects a paradigm shift in thinking about disability from a social welfare concern to a human rights issue.
  - The act added mental illness, autism, spectrum disorder, cerebral palsy, muscular dystrophy, chronic neurological conditions, speech and language disability, thalassemia, hemophilia, sickle cell disease, multiple disabilities including deaf blindness, acid attack victims and Parkinson's disease which were largely ignored in earlier act.



#### WEEK - 2 (JUNE, 2022)

# Some programmes and initiatives for PwD in India

- Accessible India Campaign : Creation of Accessible Environment for PwDs:
  - A nation-wide flagship campaign for achieving universal accessibility that will enable persons with disabilities to gain access for equal opportunity.
  - The campaign targets at enhancing the accessibility of built environment, transport system and Information & communication ecosystem.
- National Fellowship for Students with Disabilities (RGMF)
  - The scheme aims to increase opportunities to students with disabilities for pursuing higher education.
- DeenDayal Disabled Rehabilitation Scheme: Under the scheme financial assistance is provided to NGOs for providing various services to Persons with Disabilities, like special schools, vocational training centres, community based rehabilitation, pre-school and early intervention etc
- Assistance to Disabled Persons for Purchase / fitting of Aids and Appliances (ADIP): The Scheme aims at helping the disabled persons by bringing suitable, durable, scientificallymanufactured, modern, standard aids and appliances within their reach.

#### **Issues and Challenges**

- Health: A large number of disabilities are preventable, including those arising from medical issues during birth, maternal conditions, malnutrition, as well as accidents and injuries.
  - Healthcare facilities and poorly trained healthworkers in rehabilitation centres is another concern.
- Education: There are various issues such as availability special schools, access to schools, trained teachers, and availability of educational materials for the disabled.
  - Further, reservation for the disabled in higher educational institutions has not been fulfilled in many instances.
- Employment: Even though many disabled adults are capable of productive work, disabled adults have far lower employment rates than the general population.
  - The situation is even worse in the private sector, where much less disabled are employed.

- Accessibility: Physical accessibility in buildings, transportation, access to services etc still remains a major challenge.
- Discrimination/Social Exclusion: Negative attitudes held by the families of the disabled, and often the disabled themselves, hinder disabled persons from taking an active part in the family, community or workforce.
- Inadequate data and statistics: The lack of rigorous and comparable data and statics further hinders inclusion of persons with disabilities.

The major issues with collection of data and measuring disability are:

- > Difficult to define disability
- Coverage: Different purposes require different disability data
- Reluctance in reporting disability as disability is considered to be a stigma in many places/ societies
- Poor implementation of policies and schemes hinders the inclusion of disabled persons.
- Though various acts and schemes have been laid down with an aim to empower the disabled, their enforcement face many challenges.

#### • WAY FORWARD

- **Prevention and Health:** Preventive health programs need to be strengthened and all children need to be screened at a young age.
  - Kerala has already started an early prevention programme. Comprehensive New-born Screening (CNS) programme seeks early identification of deficits in infants and reduce the state's burden of disability.
- Awareness: People with disabilities need to be better integrated into society by overcoming stigma
  - There should be awareness campaigns to educate and aware people about different kinds of disability
- **Employment:** Disabled adults need to be empowered with employable skills
  - The private sector needs to be encouraged to employ them.
- **Better measurement**: The scale of disability in India needs to be better understood by improving the measurement of disability.
- **Education:** State-wise strategies on education for children with special needs need to be devised.
  - There should be proper teacher training to address the needs of differently-abled children



#### WEEK - 2 (JUNE, 2022)

CURRENT AFFAIRS WEEKLY

and facilitate their inclusion in regular schools

- Further there should be more special schools and ensure educational material for differentlyabled children
- Access: Safety measures like road safety, safety in residential areas, public transport system etc, should be taken up
- Further, it should be made legally binding to make buildings disabled-friendly.
- Policy Interventions:
  - More budgetary allocation for welfare of the disabled. There should be a disability budgeting on line of gender budget.

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### NATIONAL SPORTS CODE

#### CONTEXT

The Delhi High Court summoned the joint secretary of the sports ministry for overlooking the violation of the National Sports Code by the federations.

#### Origin

- The government constituted panel to draft National Sports Development Code initially.
- In this former Olympic champion Abhinav Bindra, legendary badminton player Prakash Padukone and athlete Anju Bobby George were the part of a nine-member government panel formed to make recommendations for bringing out a comprehensive National Sports Development Code across all disciplines.
- The committee will be headed by Sports Secretary and will study issues related to sports governance, including court judgments and best international practices.

#### Role of the Committee:

- Identify basic universal principles of ethics and good governance based on the – IOC Charter international best practices – Draft National Sports Development Bill – National Sports Development Code, 2011, – Supreme Court and High Court judgments, etc.
- To identify issues pertaining to good governance in administration of sports in the country.
- To make specific recommendations for bringing out a comprehensive Sports Code to address the issues of governance pertaining to the National Olympic Committee.

#### • ANALYSIS

#### What is the Sports Code?

- It is a set of regulations passed by the government in 2011, which enunciated the 'basic universal principles of good governance, ethics and fair play.'
- The Sports Code seeks to put restrictions on the age and tenure of the office-bearers of federations apart from envisaging transparent functioning along with free and fair elections.

#### What is the legal status of the Code?

 The Code was notified by the Ministry of Youth Affairs and Sports, Government of India (Government) in 2011, with an aim of bringing together all notifications and instructions pertaining to good governance of National Sports Federations.

 Various High Courts and the Supreme Court have upheld the binding nature of the **provisions of** the Code.

#### What entities are covered by the Code?

• The Code largely governs the functioning of national level sports governing bodies, officially termed as "**National Sports Federations**" (**NSF**). Under the Code, NSFs are fully accountable for the management, direction, promotion, and sponsorship of the discipline for which they are recognized by the relevant International Federation.

# What are the benefits of recognition as an NSF?

- While the Code treats NSFs as autonomous bodies, government recognition is necessary for them to represent the country.
- Recognition is also necessary to obtain government funding and enjoy the various facilities/concessions that the government provides.
- NSFs officially represent the country in international sporting events are authorized, through this recognition, to use the word "India" in its name.
- In addition to this, the government also **provides funding to NSFs with recognition.**
- Other financial concessions are also provided to NSFs in the form of customs duty exemptions, tax benefits and special dispensation to remit funds abroad.

# Who is responsible for ensuring that the federations follow the Sports Code?

- The government is responsible for ensuring that all federations are compliant with the Sports Code.
- In 2014, a Delhi High Court bench held that the government can insist upon adherence to these provisions (sports code), without the aid of legislation and the sports code provisions were 'neither arbitrary' nor did they 'violate any freedom under the Constitution.'

#### What are the consequences of not following



#### the sports code by the Court?

- A federation that does not follow the guidelines should be suspended.
- Additionally, also suggested that grants given to the federations should be stopped.

#### What are the issues?

- There are in total **41 national federations**, which are found accused of not following the National sports code.
- There are three of the main points of dispute in the NCGGS 2017:
  - The ban on **politicians serving** as board members in national sport federations (NSFs);
  - The age limit of 70 years for board members in NSFs; and
  - The four-year cooling-off period to be served after two consecutive terms for board members in NSFs.

#### What can be the way ahead?

- Globalization of Sports governance: Sports should be made universalised for making it a Global issue for violations by the federations.
  - Global alliance should be allowed to make regulations regarding the issues with laws of several countries.

- Arbitration panel: By forming other means of arbitration panels can benefit the cause and save time of courts on matters related to sports.
- Involvement of more sport experts: the lack of sports related persons in law making and committees bring a challenge for stakeholders to get the benefit of provisions to the fullest.
  - Hence involvement of sports person in decision making is important.
- Sensitize the cause and educate people regarding sports: Many a times sportsperson are not even aware of their rights and privileges.

#### ONCLUSION

The issues plaguing the sports arena are numerous. If we don't get rid of these as soon as possible, sports would become devoid of the most important things which include fairness and safety of the players. This rampant commercialisation and selfishness is killing the spirit of sportsmanship. If we want to witness the sports in their true spirit, we need to protect our sportspersons from becoming the victims of selfishness of sponsors, coaches and clubs. It is important for the government to promote its national sports and culture and raise it to international standards. This will pave India's way forward into the exclusive league of developed countries across the world and open new avenues for our players.

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## PROJECT TO TRACK SMALL FISHING VESSELS PENDING SINCE 26/11

#### CONTEXT

A long plan to execute a satellite based vehicle monitoring system since 26/11 Mumbai attack; the process is still facing hurdles. The long unfulfilled journey is widening the threat over maritime security.

#### • BACKGROUND

- India with huge coastline is vulnerable to the threats emerging from maritime domain.
- After the Mumbai attack of 26/11 Indian government had increased the focused on the maritime security domain.
- Apart from the maritime terrorism, blue economy is a major part of the Indian economy requires security of fisherman community and their livelihood.
- Tokyo summit of the QUAD grouping has enhanced the focused on the maritime security concerns over Indo-Pacific region and announced an ambitious Indo-Pacific Maritime Domain Awareness (IPMDA) initiative.
- On the strategic front Indp-Pacific is gaining a significance to fulfill the interests of major powers of the world, providing a ground for power tussle of the countries.

#### • ANALYSIS

Why maritime security is important for India?

- **Water for trade:** India's major import and exports is carried out through the maritime water, thus enhancing the importance of securing coastlines is imperative of economic growth.
- Maritime threats: India's huge coastlines, around 7000km, increases the vulnerability to maritime threats as testified by 26/11 Mumbai attacks.
- Blue economy: One of the major economic activities of the coastal states of India, comprising around 4% of the Indian economy, with an immense future potential.
- Strategic Factor: Increasing Chinese influence and assertiveness in the Indian Ocean Region providing a potential threat to the India's regional interest.



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#### WEEK - 2 (JUNE, 2022)

- Security of the fisherman
- Ocean resource security

# What are the persistent issues in Maritime Security?

- **Piracy:** One of the major persistent threat in the martime security is, pirate attacks on ships and vessels.
- **Terrorism:** International waters provide a safe ground to the terrorist organisations to execute the plan of action.
- Illegal migration: International waters serve as a safe gateway to enter into another country's territory. A higher degree of illegal migration takes place through maritime water.
- Transnational Organised crimes: Maritime waters are also used for organized transnational crimes, impacting the global economy and security of the state like trafficking of drugs and narcotic substances, firearms and human.
- Environmental Corcern: Rising pollution and climate change have threatened the marine and aquatic lives along with creating a severe influence over natural calamities like floods and cyclones.

# Mechanism available for combating maritime security:

- United Nations Convention on the Law of the Sea (UNCLOS) provides a framework regarding rights and responsibility of the nations over international waters.
- SAGAR (Security and Growth for All in the Region) Doctrine: Indian initiative, aims to deepen the economic and security cooperation with its maritime neighbours, along with enhancing their security capabilities.
- Indo-Pacific Oceans' Initiative (IPOI)
- QUAD initiative to ensure safe, secure and free Indo-Pacific region
- National level mechanism:
  - ► The Customs Marine Organisation
  - ► The Indian Coast Guard
  - Operation Tasha
  - Operation Swan
  - Monitoring system

# What are the major challenges ahead of India's maritime security?

- No proper legislative structure: Implementation of legislative method regarding maritime security faces certain hurdles:
  - State List issue: Fisheries are defined under the state list barring the central government to legislate over the subject.

- Hindrances from fisherman: Vehicle monitoring system cannot be mandated due to agitation arising from fisherman community to prevent their privacy on good yield and illegal activities.
- Transnational Interest: Indiasharesits international waters with other countries as well, e.g., Sri Lanka., which hinders the process of stringent legislative actions on maritime security.
- Non obedience over international laws and arbitration process.
- Lack of Universal International laws over international waters.
- Geopolitical dominance over security interest.

#### What should be done?

- Five points agenda on maritime security by UNSC
  - Free maritime trade without barriers to establishing legitimate trade;
  - Settlement of maritime disputes should be peaceful and on the basis of international law only;
  - Responsible maritime connectivity should be encouraged;
  - Need to collectively combat maritime threats posed by non-state actors and natural calamities;
  - Preserve the maritime environment and maritime resources.
- Diplomatic channels: Diplomatic channels should be fostered for better collaboration with the maritime neighbor states.
- Coastal development plans should be executed
- Involvement of state police for securing maritime borders.
- Vehicle monitoring system for the fishing vessels
- Satellite monitoring of weather forecast and disaster resilient preparedness

#### ONCLUSION

 Coastal security involves multiple stakeholders with both, independent and shared responsibilities. Hence coordination amongst these agencies should be maintained through a cooperative approach that will focus on the key aspects described below, whilst remaining sensitive to any limitations and constraints of partner agencies. This should takes into consideration the specific needs of changing threat levels, including conditions wherein a coastal security operation may need to translate rapidly into a coastal defence operation, with joint deployment of forces from multiple maritime agencies.



## INDIA'S POSITION IN SUSTAINABLE DEVELOPMENT REPORT: A CAUSE OF CONCERN

#### CONTEXT

India's rank in the global Sustainable Development Report, 2022 has slipped for the third consecutive year.

• The country continues to face major challenges in achieving 11 of the 17 SDGs, which has pushed down its global ranking on SDG preparedness.

#### • BACKGROUND

- In September 2000, the United Nationsmandated that all of its members adhere to a Millennium Development Goal, which consisted of a set of eight time-bound goals that were to be met within a fifteen-year period.
- In 2015, the UN received a final report confirming the beneficial impact of the Millennium Development Goal.
- Once the MDG's 15-year target was met, the responsibility for development was transferred to the Sustainable Development Goal's 17 targets.
- The Sustainable Development Goals are a series of seventeen pointer targets that all UN members have pledged to work on in order to improve the country's future.
- **"Future We Want,"** a documentary played at the Rio+20 meeting, proposed a post-2015 development agenda.
- The Rio+20 summit (2012) in Rio de Janeiro produced the SDGs, which are non-binding document.
- The United Nations Sustainable Development Summit established a post-negotiation agenda named "Transforming Our World: the 2030 Agenda for Sustainable Development."

#### • ANALYSIS

#### What is Sustainable Development means?

- "Sustainable development is development that meets the needs of the present, without compromising the ability of future generations to meet their own needs."
- The main features of sustainable development include
  - ► Increase in per capita income
  - > Judicious use of natural resources
  - Preserving the resources for future generations

#### What are the key Highlights of the report?

- In the 2022 Global Index of SDGs, the country ranked 121 out of the 163 countries. It had ranked 117 in 2020 and 120 in 2021.
- The progress in around 10 of these goals is similar to those in 2021. These include SDG 2 on ending hunger, SDG 3 on good health and well-being and SDG 6 on clean water and sanitation.
- But ensuring **decent work (SDG 8)** has become more challenging.
- India is on track to achieving SDG 13 on climate action.
- The decline in India's overall performance is primarily due to eight states — Bihar, Telangana, Rajasthan, Uttar Pradesh, Karnataka, Andhra Pradesh, Punjab and Jharkhand, whose scores have dipped under SDG 13 in the two years.

#### How are states and UTs ranked?

- The SDG India Index scores range between 0–100, higher the score of a State/UT, the greater the distance to target achieved.
- States and UTs are classified in four categories based on Index score:
  - ► Aspirant: 0–49
  - ▶ **Performe**r: 50–64
  - ► Front-runner: 65–99
  - ► Achiever: 100

#### What are the challenges for India?

- Tackling Climate issues: In India, factors like rapid growth of population, urbanization, industrialization, and poverty, among others are responsible for harming the environment. Some of the severe environmental issues prevalent in India are;
  - ► Degrading Air Quality Index
  - Rampant Environmental Degradation
  - ► Loss of Biodiversity
    - Urbanization in the Himalayas



#### WEEK - 2 (JUNE, 2022)



- ▶ Loss of Resilience in Ecosystems
- ► Lack of Waste Management
- ► Depletion of Resources (land, air, water)
- ► Growing Water Scarcity
- Defining the Key Indicators: One of the major challenges for India is to devise suitable indicators to effectively assess the progress of SDGs.
  - The key definitions for areas, such as poverty, hunger, safe drinking water, education need to be revised in order to effectively implement the SDGs.
- **Financing Sustainable Development Goals**: Despite India's best efforts and making poverty alleviation a priority since the Fourth 5-year Plan, India has the highest number of people living below the poverty line.
  - At today's level of investment, there is a huge funding shortfall that hinders the progress of attaining SDGs.
- Monitoring & Ownership of Implementation Process: Although NITI Aayog is expected to play an important role in taking ownership of the implementation process, the members of the Aayog have expressed their concerns time and again about the limited manpower they have to handle such a tedious task.
- Measuring the Progress: The government of India has admitted the non-availability of data,

especially from the sub-national areas.

Incomplete coverage of administrative data is yet another factor that has hampered the measurement of progress for even the Millennial Development Goals (MDGs) that were the precursor to SDGs.

#### Measures taken by India to achieve SDG

- NITI Aayog is entrusted with the task of coordinating SDGs in India.
- States are also advised to undertake similar mapping, including visioning, planning, budgeting, and developing implementation & monitoring systems for the state-sponsored schemes that are being implemented to fulfill the SDGs.
- In addition to that, the Ministry of Statistics & Programme Implementation is engaged in the process of building key indicators to monitor the implementation of SDGs.
- Since 2015 (when the United Nations, along with other countries, adopted the SDGs) the Indian government has launched several flagship programs that are at the heart of SDGs. Some of these include Swachh Bharat Mission, Skill India, Make in India, Digital India, etc.

#### ONCLUSION

Sustainability is often thought of as a long-term goal



(i.e. a more sustainable world), while sustainable development has many processes and pathways to achieve it (e.g. sustainable agriculture and forestry, sustainable production and consumption, good government, research and technology transfer, education and training, etc.). Hence we should give efforts on building our states to achieve SDGs by proper governmental and community participation, which will be beneficial for country's development as a whole.

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### **HOW FPI DUMPING IMPACTS THE INDIAN MARKET?**

#### **CONTEXT:**

Foreign Portfolio Investors have been on a selling spree in India. May figures of about Rs. 44,000 crore forming the highest monthly quantum of sell-off since March 2020 when India announced nation-wide lockdown in the backdrop of covid pandemic.

#### • BACKGROUND:

- Capital account of India's Balance of Payment constitutes foreign both foreign direct investments and foreign portfolio investment.
- Foreign investments are one of the major sources of foreign capital inflow for India.
- COVID pandemic has given a severe stress in the process of foreign currency inflow through foreign investment route.
- Along with covid, other several factors such as, middle-east crisis and rise in oil prices in the international market and inflationary stress as contributed to the sell-off of FPIs in the Indian economy.

#### • ANALYSIS?

#### What are FPIs?

- Foreign Portfolio Investments are investments in the market outside of the home turf.
- FPIs typically includes equities, bonds and mutual funds, with having an administrative control over the company.
- FPI, being a passive mode of investment, providing a easy way for entry and exit from the market.

#### What are benefits of FPIs?

- Inflow of foreign currency: More FPIs increases the inflow of foreign currencies in the country, positively impacting the balance of Payment of the nation.
- Surplus Balance of Payment: More dollar in the forex reserve increase strengthens the balance of payment situation.
- Appreciation of currency: Supply of dollar in the economy limits the downfall of rupee and increases the value of rupee with respect to foreign currency.
- **Increase in Import cover:** Availability of forex reserve at surplus position makes the country's import cover stronger, essential for import dependent country like India.
- Reduction in Import Bill: Appreciated currency

or a stronger rupee reduces the burden of out shelling of funds on imports.

#### What are the risk associated with the FPI?

- Easy way of entry and exit: FPIs are volatile in nature, with a barrier free entry and exit method, creating a fluctuation in the Indian market.
- Short term investment: Due to negligible barrier for movement, there remains a scope for volatility in the investment.
- **Hot money:** Frequent inflow and out flow of dollar, increases the risk of currency volatility in the exchange rate market, further having a prolonged impact in the stock market and profitability of the domestic investors.
- **Forex stress:** Repayment of the investment money in dollar terms increases the burden on the forex reserve of the country.
- **Depreciation of rupee:** Sudden dumping of FPIs in the economy reduces the value of local currency with respect to dollars.
- **Increase in Import bills:** With a weaker rupee, India has to shell out more fund for the same amount of goods, widening the scope for imported inflation.
- Balance of Payment crisis: Increasing import bills and decline in foreign investment leads to outflow of dollars from the economy, creating a potential threat to the Balance of Payment.

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- **Depreciation of rupee:** Sudden dumping of FPIs in the economy reduces the value of local currency with respect to dollars.
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- Balance of Payment crisis: Increasing import bills and decline in foreign investment leads to outflow of dollars from the economy, creating a potential threat to the Balance of Payment.

# What are the available preventive measures?

- Tobin tax: Tax imposed on the frequent movement of foreign currency, i.e., Hot Money, is considered as Tobin Tax. This ensures stability in the exchange rate as well as stock market of the domestic economy.
- Convertibility of currency: Government of India has distinguished convertibility measure for capital and current account. A partial convertibility

is allowed for capital investment, reducing the risk of currency market volatility and stock market shocks.

- Fiscal and monetary policy: A stabilization policy measure from both fiscal and monetary side, to control various sources of inflation in the economy.
- Differential investment routes: Government of India follows a policy measure of differential investment routes, few type of investments require government approval where others don't.
- **Limit on several sectors:** Imposition of cap for foreign investment in several sectors is one of the preventive measures by the government.

#### • CONCLUSION:

Foreign Portfolio Investment has a significant share in the Balance of Payment of India, thus, becomes a deciding factor for India's share in world economy. Sudden decline in FPIs provides a severe stress in the exchange rate market further creating a domino effect in the stock market and inflation in the economy.

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### **USE OF CERAMICS IN MEDICAL PURPOSES**

#### CONTEXT

Ceramic implants can regenerate broken bones and will help to regrow the bones as well.

#### • BACKGROUND

- Prior to 1925, the materials used in implant surgery were primarily relatively pure metals.
- The success of ceramic materials was surprising considering the relatively primitive surgical techniques.
- The 1930s marked the beginning of the era of better surgical techniques as well as the first use of **alloys such as vitallium.**
- Ceramics are now commonly used in the medical fields as dental and bone implants.
- These are surgical cermet, used for Joint replacements are commonly coated with bioceramic materials to reduce wear and inflammatory response.
- Other examples of medical uses for bio-ceramics are in pacemakers, kidney dialysis machines, and respirators.

#### • ABOUT

- A **bone replacement** following a fracture, it is often **based on a metal part**.
- But metal parts are sometimes toxic over time, and will not help the original bone regrow.
- The Tokyo Medical and Dental University (TMDU) research found that, Calcium phosphate ceramics are in principle an ideal alternative to conventional metals because bone can eventually replace the ceramic and regrow.
- Calcium phosphate ceramics are **substitutes for the bone mineral hydroxyapatite**.
- The researchers have reported that most of the studied ceramics underwent chemical transformations into particulate or fibrous hydroxyapatite within a few days.

#### • ANALYSIS

#### What are Bioceramics?

- Bioceramics are typically used as rigid materials in surgical implants, though some bioceramics are flexible.
- The ceramic materials used are not the same as porcelain type ceramic materials. Rather, bioceramics are closely related to either the body's

own materials or are extremely durable metal oxides.

- Bioceramics are meant to be used in extracorporeal circulation systems (dialysis for example) or engineered bioreactors; however, they're most common as implants.
- Ceramics show numerous applications as biomaterials due to their physico-chemical properties.
- They have the advantage of being inert in the human body, and their hardness and resistance to abrasion makes them useful for bones and teeth replacement.
- Some ceramics also have excellent resistance to friction, making them useful as replacement materials for malfunctioning joints.
- Properties such as appearance and electrical insulation are also a concern for specific biomedical applications.

#### How does it work?

- Calcium phosphate-based ceramics constitute the preferred bone substitute material in orthopaedic and maxillofacial applications, as they are similar to the main mineral phase of bone in structure and chemical composition.
- Such synthetic bone substitutes are typically porous, which provides an increased surface area that encourages absorption, involving cell colonisation and revascularisation.
- However, such porous materials generally exhibit lower mechanical strength compared to bone, making highly porous implants very delicate.
- Since the elastic modulus values of ceramic materials are generally higher than that of the surrounding bone tissue, the implant can cause mechanical stresses at the bone interface.

#### Future prospects

- Bioceramics have been proposed as a possible treatment for cancer.
- Two methods of treatment are hyperthermia and radiotherapy.
- Hyperthermia treatment involves implanting a bioceramic material that contains a ferrite or other magnetic material. The area is then exposed to an alternating magnetic field, which causes the implant and surrounding area to heat up.

Alternatively, the bioceramic materials can be doped with  $\beta$ -emitting materials and implanted into the cancerous area.

- Other trends include engineering bioceramics for specific tasks.
- On-going research involves the chemistry, composition, and micro- and nanostructures of the materials to improve their biocompatibility.

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# INTERNATIONAL LIQUID-MIRROR TELESCOPE (ILMT)

#### CONTEXT

A new telescope facility has been launched in top of the Himalayan range that will keep a watch on the overhead sky.

• It can identify transient or variable objects such as supernovae, gravitational lenses, space debris, and asteroids.

#### Highlights of the event

- It is the first liquid mirror telescope in the country and the largest in Asia.
- The novel instrument employs a 4-meterdiameter rotating mirror made up of a thin film of liquid mercury to collect and focus light.
- It has been developed by the scientists of India, Belgium and Canada.
- It is located at an altitude of 2450 metres at the Devasthal Observatory campus of Aryabhatta Research Institute of Observational Sciences (ARIES).



#### What is liquid mirror telescope?

- **Liquid-mirror telescopes** are telescopes with mirrors made with a reflective liquid.
- The most common liquid used is mercury, but other liquids will work as well (for example, lowmelting alloys of gallium).
- The liquid and its container are rotated at a constant speed around a vertical axis, which causes the surface of the liquid to assume a paraboloidal shape.
- This parabolic reflector can serve as the primary mirror of a reflecting telescope.

- The rotating liquid assumes the same surface shape regardless of the container's shape; to reduce the amount of liquid metal needed, and thus weight, a rotating mercury mirror uses a container that is as close to the necessary parabolic shape as possible.
- Liquid mirrors can be a low-cost alternative to conventional large telescopes.
- Compared to a solid glass mirror that must be cast, ground, and polished, a rotating liquid-metal mirror is much less expensive to manufacture.

#### How does it work?

- It has spun a pool of mercury which is a reflective liquid, so that the surface curved into a parabolic shape which is ideal for focusing light.
- A thin transparent film of mylar protects the mercury from wind.
- The reflected light passes through a sophisticated multi-lens optical corrector that produces sharp images over a wide field of view.
- A large-format electronic camera located at the focus records the images.
- The rotation of the earth causes the images to drift across the camera, but this motion is compensated electronically by the camera itself.
- This mode of operation increases observing efficiency and makes the telescope particularly sensitive to faint and diffuse objects.

#### Different space telescopes

- This list of space telescopes (astronomical space observatories) is grouped by major frequency ranges:
  - ➤ Gamma ray: Gamma ray telescopes collect and measure individual, high energy gamma rays from astrophysical sources. These are absorbed by the atmosphere, requiring that observations are done by high-altitude balloons or space missions.



- ➤ X-ray: X-ray telescopes measure highenergy photons called X-rays. These cannot travel a long distance through the atmosphere, meaning that they can only be observed high in the atmosphere or in space.
- Ultraviolet: Ultraviolet telescopes make observations at ultraviolet wavelengths, i.e. between approximately 10 and 320 nm. Light at these wavelengths is absorbed by the Earth's atmosphere, so observations at these wavelengths must be performed from the upper atmosphere or from space.
- ► Objects emitting ultraviolet radiation include the Sun, other stars and galaxies.
- Visible: The oldest form of astronomy, optical or visible-light astronomy, observes wavelengths of light from approximately 400 to 700 nm.
- Positioning an optical telescope in space eliminates the distortions and limitations that hamper that ground-based optical telescope, providing higher resolution images.
- Infrared: Infrared light is of lower energy than visible light, hence is emitted by sources that are either cooler, or moving away from the observer (in present context: Earth) at high speed.
- ➤ Microwave: Microwave space telescopes have primarily been used to measure cosmological parameters from the Cosmic Microwave Background.
- ➤ Radio: As the atmosphere is transparent for radio waves, radio telescopes in space are most useful for Very Long Baseline Interferometry: doing simultaneous observations of a source with both a satellite and a ground-based telescope and by correlating their signals to simulate a radio telescope the size of the separation between the two telescopes.

#### Significance

- ILMT is the first liquid-mirror telescope designed exclusively for astronomical observations.
- Devasthal Observatory now hosts two four-meter class telescopes – the ILMT and the Devasthal Optical Telescope (DOT).
- Both are the **largest aperture telescopes** available in the country.
- It is based on the application of Big Data and Artificial Intelligence/Machine Learning (AI/ML) algorithms that will be implemented for classifying the objects observed.
- The data collected from ILMT will be ideally suited to perform a deep photometric and astrometric variability survey over a period of typically 5 years.

#### Consequences

- Cost: The greatest advantage of a liquid mirror is its small cost, about 1% of a conventional telescope mirror. This cuts down the cost of the entire telescope at least 95%.
- **Alignment problem**: But the greatest disadvantage is that the mirror can only be pointed straight up.
  - Research is underway to develop telescopes that can be tilted, but currently if a liquid mirror were to tilt out of the line and it can lose its shape.
- **Health:** Since mercury metal and its vapour are both toxic to humans and animals, there remains a problem for its use in any telescope where it may affect its users and others in its area.

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# SECTION: B (PRELIMS)

# **CURRENT AFFAIRS**

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www.iasscore.in

# WHO WAS SANT KABIR, THE EXTRAORDINARY POET-SAINT OF THE BHAKTI MOVEMENT?

#### • CONTEXT:

President Ram Nath Kovind inaugurated the Sant Kabir Academy and Research Centre Swadesh Darshan Yojana and paid tribute to the Bhakti saint, Kabir at Maghar (Uttar Pradesh) recently.

#### Saint Kabir Das:

- He was born in Varanasi and lived between the years 1398 and 1448.
- He was from a community of 'lower caste' weavers of the Julaha caste, a group that had
  recently converted to Islam.
- Kabir's beliefs were deeply radical, and he was known for his intense and outspoken voice which he used to attack the dominant religions and entrenched caste systems of the time.
- He composed his verses orally and is generally assumed to be illiterate.
- The Bijak contains works attributed to Kabir and is argued by historians to have been written in the 17th century.
- Kabir's compositions can be classified into three literary forms
  - dohas (short two liners),
  - ramanas (rhymed 4 liners),
  - sung compositions of varying length, known as padas (verses) and sabdas (words)
- Several of Kabir's verses and songs form a vital part of the Guru Granth Sahib.
  - Compiled in 1604, the text is the oldest written collection of Kabir's work.



- Kabir's teachings continue to shape various religious discourses in India today. In the Sikh tradition he is seen to have **influenced Guru Nanak**, for **Hindus he is a Vaishnavite** (devotees of Vishnu), and is revered by **Muslims as a Sufi saint**.
- In the Dabistan of Mohsin Fani and Ain-i-Akbari of Abul Fazl, he is mentioned as a muwahid or believer in one God.
- Kabir's ultimate goal was **one absolute God** who is formless, without attributes, who is beyond time and space, beyond causation.
  - Kabir's God is knowledge, bliss.

### PANEL TO HEAR APPEALS ON SOCIAL MEDIA POSTS

#### CONTEXT: The government has proposed a new panel that will have the power to overturn the decisions related to content moderation/takedown of social media platforms such as Facebook, Twitter and YouTube, following appeals by users.



• The Central Government shall constitute one or more Grievance Appellate Committees.

#### **Grievance Appellate Committees:**

- One or more 'Grievance Appellate Committees' will be constituted by the Central Government as per the draft of the proposed amendments to the IT Rules, 2021.
- The appellate committees will be dealing with appeals by users against the decision of the Grievance Officer appointed by the social media intermediary.
- The committee will comprise a chairperson and other members appointed by the Central government.

SOCIAL MEDIA	DIGITAL NEWS
Identify 'first originator' of	Follow Press Council of
content that authorities	India, Cable TV Networks
consider anti-national	(Regulation) Act norms.
<ul> <li>Appoint grievance officer,</li></ul>	<ul> <li>Self-regulatory bodies to</li></ul>
resolve complaints in 15 days <li>File monthly compliance</li>	oversee adherence to Code
report on complaints	of Ethics <li>I&amp;B Ministry to form</li>
received, action taken	panel, oversight mechanism
OTT PLATFORMS Self-classify content into five age-based categories: U (universal), U/A 7+ (years), U/A 13+, U/A 16+, and A.	<ul> <li>Parental locks for any content classified as U/A 13+ or above.</li> <li>Age verification mechanism for content classified as 'A' (adult)</li> </ul>

#### Issues:

- The rules may be going beyond the powers delegated under the IT Act, 2000 in certain cases like providing for the regulation of SSMIs and online publishers, and requiring certain intermediaries to identify the first originator of the information.
- Grounds for restricting online content are overbroad and may affect freedom of speech.
- There are no procedural safeguards for requests by law enforcement agencies for information under the possession of intermediaries.
- Requiring messaging services to enable the identification of the first originator of information on its platform may adversely affect the privacy of individuals.

#### What are IT Rules, 2021?

• The Rules aim to empower ordinary users of social media and OTT platforms with a mechanism for redressal and timely resolution of their grievance with the help of a Grievance Redressal Officer (GRO) who should be a resident in India.



• **Safety measures:** Special emphasis has been given on the protection of women and children from sexual offences, fake news and other misuse of the social media.

- Source identification: Identification of the "first originator of the information" would be required in case of an offence related to sovereignty and integrity of India.
- **Appointment of Chief Compliance Officer**: A Chief Compliance Officer, a resident of India, also needs to be appointed and that person shall be responsible for ensuring compliance with the Act and Rules.
- **Complaint monitoring:** A monthly compliance report mentioning the details of complaints received and action taken on the complaints would be necessary.
- **Code of Ethics:** The OTT platforms, online news and digital media entities, on the other hand, would need to follow a **Code of Ethics.**
- **Self-classification:** OTT platforms would be called as 'publishers of online curated content' under the new rules.
  - ➤ They would have to self-classify the content into five categories based on age and use parental locks for age above 13 or higher. They also need to include age verification mechanisms for content classified as 'Adult'.
- **Redressal mechanism:** A three-level grievance redressal mechanism has been mandated. This includes the appointment of a GRO, self-regulatory bodies registered with the Ministry of Information & Broadcasting (MIB) to look after the Code of Ethics and a Charter for the self-regulating bodies formulated by MIB.

## IRDAI EASES CAPITAL REQUIREMENT FOR PMJJBY TO BRING IN MORE INSURERS

#### • CONTEXT:

The Insurance Regulatory and Development Authority of India (IRDAI) recently relaxed capital requirement norms significantly for insurers to encourage their participation in the government's flagship programme Pradhan Mantri Jeevan Jyoti Bima Yojana (PMJJBY).

#### **Key Points:**

- The government has recently hiked the premium rates for the two flagship schemes PMJJBY and Pradhan Mantri Suraksha Bima Yojana (PMSBY) — to make these schemes economically viable.
- The premium for PMJJBY has been increased from Rs 330 to Rs 436 annually effective June 1.
- The premium for PMSBY has been increased from Rs. 12 to Rs. 20
- The premium rate of PMJJBY has been revised upward to Rs 1.25 per day.

#### Pradhan Mantri Jeevan Jyoti Bima Yojana (PMJJBY):

- The PMJJBY is available to people in the age group of 18 to 50 years having a bank account who give their consent to join / enable auto-debit. Aadhar would be the primary KYC for the bank account.
- Risk coverage under this scheme is for Rs. 2 Lakh in case of death of the insured, due to any reason.
- The premium is Rs. 330 per annum (Now revised to Rs. 436) which is to be auto-debited in one instalment from the subscriber's bank account as per the option given by him.



• The scheme is being offered by Life Insurance Corporation and all other life insurers who are willing to offer the product on similar terms with necessary approvals and tie up with banks for this purpose.

#### Performance:

- The number of active subscribers enrolled under the PMJJBY was 6.4 crore as of March 31, 2022.
- An amount of Rs 9,737 crore has been collected by the implementing insurers towards premium and claims of Rs 14,144 crore have been paid under the PMJJBY as of March 31, 2022.

#### Pradhan Mantri Suraksha BimaYojana (PMSBY):

- The Scheme is available to people in the age group 18 to 70 years with a bank account.
- Aadhar would be the primary KYC for the bank account.
- The risk coverage under the scheme is Rs. 2 lakh for accidental death and full disability and Rs. 1 lakh for partial disability.
- The premium of Rs. 12 per annum (Now revised to Rs. 20) is to be deducted from the account holder's bank account through 'auto-debit' facility in one instalment.
- The scheme is being offered by Public Sector General Insurance Companies or any other General Insurance Company who are willing to offer the product on similar terms with necessary approvals and tie up with banks for this purpose.

#### Insurance Regulatory and Development Authority of India (IRDAI)

- It is an autonomous, statutory body tasked with regulating and promoting the insurance and re-insurance industries in India.
- It was constituted by the Insurance Regulatory and Development Authority Act, 1999, an Act of Parliament passed by the Government of India.
- IRDAI is a 10-member body including the chairman, five full-time and four parttime members appointed by the government of India.
- It was created based on the recommendations of the Malhotra Committee.
- Its headquarters is in Hyderabad.

# FM NIRMALA SITHARAMAN REVIEWS PROGRESS IN SETTING UP OF NARCL

#### • CONTEXT:

Finance Minister Nirmala Sitharaman recently reviewed the progress in setting up of National Asset Reconstruction Company Ltd (NARCL).

#### National Asset Reconstruction Company (NARCL):

- The National Asset Reconstruction Company (NARCL) is a government-created entity to sort out the bad asset problem in India through asset reconstruction process.
- It was incorporated in July 2021 under the Companies Act (with Registrar of Companies) and is waiting for an Asset Reconstruction Company (ARC) license from the RBI.
- India Debt Resolution Company Ltd (IDRCL) is an operational entity of NARCL.
- It will manage the stressed assets acquired by NARCL and try to raise their value for final resolution.



# How is NARCL different from existing ARCs? How can it operate differently?

- The proposed bad bank will have a public sector character since the idea is mooted by the government and majority ownership is likely to rest with state-owned banks.
- At present, ARCs typically seek a steep discount on loans. With the proposed bad bank being set up, the valuation issue is unlikely to come up since this is a government initiative.
- The government-backed ARC will have deep pockets to buy out big accounts and thus free up banks from carrying these accounts on their books.

#### How will the NARCL-IDRCL work?

• The NARCL will first purchase bad loans from banks.

- It will pay 15% of the agreed price in cash and the remaining 85% will be in the form of "Security Receipts".
- When the assets are sold, with the help of IDRCL, the commercial banks will be paid back the rest.
- If the bad bank is unable to sell the bad loan, or has to sell it at a loss, then the government guarantee will be invoked.
- The difference between what the commercial bank was supposed to get and what the bad bank was able to raise will be paid from the Rs 30,600 crore that has been provided by the government.

#### How are banks benefited from NARCL?

- Incentivize quicker action on resolving stressed assets
- Help in better value realization
- Helps in freeing up bank personnel to focus on increasing business and credit growth
- Improve banks' valuation
- Enhance banks' abilities to raise market capital

# 75% OF RIVER MONITORING STATIONS REPORT HEAVY METAL POLLUTION

#### • CONTEXT:

According to Centre for Science and Environment (CSE), heavy toxic metals such as lead, iron, nickel, cadmium, arsenic, chromium and copper were present at alarming levels.

#### **Key Findings:**

- Heavy Metal Contamination:
  - In about a fourth of the monitoring stations, which are spread across 117 rivers and tributaries, high levels of two or more toxic metals were reported.
  - Of the 33 monitoring stations in Ganga, 10 had high levels of contaminants.
- **Coastline erosion:** Over a third of India's coastline that is spread across 6,907 km saw some degree of erosion between 1990 and 2018. West Bengal is the worst hit with over 60% of its shoreline under erosion.



#### Ocean Health:

- While the global average of the Ocean Health Index, a measure that looks at how sustainably humans are exploiting ocean resources, has improved between 2012 and 2021.
- India's score in the index has declined over the same period.

#### ■ India's Forest Cover:

- India has a forest cover of 77.53 million hectares. But recorded forests, the area under the forest department with forest cover are only 51.66 million.
- This gap of 25.87 million hectares —a size bigger than Uttar Pradesh— remains unaccounted.

Pollutants	Major sources	Effect on human health	Permissible level (mg/l)
Arsenic	Pesticides, fungicides, metal smelters	Bronchitis, dermatitis, poisoning	0.22
Cadmium	Welding. electroplating, pesticide fertirder, Cd a. Ni battedes, nuclear fission plant	Renal dysfunction, Lung disease, Lung cancer, Bone defects (Osteomalacia, Osteoporosis), increased bone narrow, cancer	0.06
Lead	Paird, pesticide, smoking, automobile emission, mining, buming of coal	Mental retardation in children, developmental delay, fatal infant encephalopaltry, congenital paralysis, sensor neural deafiness and, acute or chronic damage to the nervous system, epileptic., liver, kidney, gastrointestinal damage	0.1
Manganese	Welding, fuel adetion, ferromanganese production	Inhalation or contact causes damage to central nervous system	0.26
Mercury	Pesticides, battenes, paper industry	Tremors, gingivitis, minor psychological changes, acrodynia characterized by pink hands and feet, spontaneous abortion, damage to nervous system, protoplasm Poisoning	0.01
Zinc	Refineries, brass manufacture, metal Plating, plumbing	Zinc fumes have corrosive effect on skin, cause damage to nervous membrane	15

#### Heavy Metal Pollutants and its effects on Human health:

Chromium Cooper	Mines, mineral sources Mining, pesticide production, chemical industry, metal piping	Damage to the nervous system, fatigue, irritability Anemia, liver and kidney damage, stomach and intestinal irritation	0.05 0.1
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#### About Centre for Science and Environment (CSE):

- Centre for Science and Environment (CSE) is a **non-governmental**, **independent policy research institution based in Delhi**, which was started in 1980.
- For more than three decades, CSE has helped shape policies and build public awareness to bring change in areas of pollution mitigation and public health security, low-carbon development, natural resource management and livelihood security to make growth sustainable and inclusive.
- CSE researches into, lobbies for and communicates the urgency of development that is both sustainable and equitable.



# PM LAUNCHES GLOBAL INITIATIVE 'LIFESTYLE FOR THE ENVIRONMENT- LIFE MOVEMENT'

#### • CONTEXT:

Prime Minister Narendra Modi has launched the 'Lifestyle for the Environment (LiFE) Movement', a global initiative, and asserted that its vision is to live a lifestyle that is in tune with our planet

#### Key points:

• The idea of LiFE was introduced by the Prime Minister during the 26th United Nations Climate Change Conference of the Parties COP-26 in Glasgow last year.



• The idea promotes an environment conscious lifestyle that focuses on mindful and deliberate utilisation instead of mindless and destructive consumption.

• Mission LiFE borrows from the past, operates in the present and focuses on the future.

#### What is the aim of the LiFE movement?

- The LiFE Movement aims to bring positive change in the environment by collective action.
- It aims to persuade individuals across the world to undertake simple climate-friendly actions in their daily lives or adoption of environment-conscious lifestyle.
  - Global leaders have applauded India for focusing on individual behaviour change towards Climate Change
- It also seeks to make the best use of social networks to influence social norms surrounding climate.



#### What is P3 in LiFE movement?

- The Mission plans to create and nurture a global network of individuals, namely 'Pro-Planet People' (P3)
- P3 will have a shared commitment to adopt and promote environmentally friendly lifestyles.
- Through the P3 community, the Mission seeks to create an ecosystem that will reinforce and enable environmentally friendly behaviors to be self-sustainable.

#### What is one of the most important objectives of LiFE?

- The Mission envisions replacing the prevalent 'use-and-dispose' economy with a circular economy.
- 'Use and dispose' economy is governed by mindless and destructive consumption whereas circular economy is defined by mindful and deliberate utilization.



- The circular economy is a model of production and consumption, which involves sharing, leasing, reusing, repairing, refurbishing and recycling existing materials and products as long as possible.
  - In this way, the life cycle of products is extended. In practice, it implies reducing waste to a minimum.



# WORLD'S FIRST FISHING CAT CENSUS DONE IN CHILIKA

# • **CONTEXT:** The Chilika Development Authority (CDA) recently informed that there are 176 fishing cats in Odisha's Chilika Lake.

#### About the census:

- The Census was conducted in Collaboration with The Fishing Cat Project (TFCP).
- This is the **world's first population estimation** of the fishing cat, which has been conducted outside the protected area network.
- Spatially Explicit Capture Recapture (SECR) method was used to analyze the data.
- The census by The Fishing Cat project was conducted in two phases.
  - In 2021, for the first phase, surveyors focused on the 115 sq. km marshland in the north and north eastern section of Chilika Lake.
  - The second phase of the fishing cat survey conducted in 2022 on the Parikud Side along the coastal part.

#### **About the Fishing Cat:**

- The fishing cat is a globally threatened species found in marshlands, mangroves, flooded forests and other wetlands.
- They are found in 10 Asian countries but have remained untraced in Vietnam and Java for more than a decade.



- Wetlands are the favorite habitats of the fishing cat.
- In India, fishing cats are mainly found in the mangrove forests of the Sundarbans, on the foothills of the Himalayas along the Ganga and Brahmaputra river valleys and in the Western Ghats.
- West Bengal declared the fishing cat to be its state animal in 2012.

- Authorities in Chilika also named the cat as the lake's ambassador in 2020.
- Protection Status:
  - IUCN Red List: Vulnerable. Despite multiple threats, the Fishing Cat was recently down listed to **"Vulnerable" from "Endangered"** in the IUCN Red List species assessment.
  - CITES: Appendix II
  - Indian Wildlife Protection Act, 1972: Schedule I
- The fishing cat is nocturnal and apart from fish also preys on frogs, crustaceans, snakes, birds, and scavenges on carcasses of larger animals.





#### Fishing Cat range Map:



#### Importance:

- The fishing cat, a Schedule I species according to the Wildlife (Protection) Act, 1972, generally indicates the health of wetland and coastal ecosystems, which are considered as one of the major safeguards against climate change.
- Fishing cats are the apex predator in coastal areas.
- If they survive, it means the area is climate-resistant.



# KEEP ECO-SENSITIVE ZONE OF 1 KM AROUND FORESTS: SC

#### • CONTEXT:

The Supreme Court recently directed that every protected forest, national park and wildlife sanctuary across the country should have a mandatory eco-sensitive zone (ESZ) of a minimum one km starting from their demarcated boundaries.

#### Key remarks of Supreme Court:

- The **role of the State** is **more relevant** today, than, possibly, at any point of time in history with the threat of climate catastrophe resulting from global warming looming large
- The **State has to act as a trustee** for the benefit of the general public in relation to the natural resources so that sustainable development could be achieved in the long term.
- The court directed that "mining within the national parks and wildlife sanctuaries shall not be permitted".
- The court held that in case any national park or protected forest already has a buffer zone extending beyond one km, which would prevail.
- The Principal Chief Conservator for each State and the Union Territory has also been directed to make a list of subsisting structures within the ESZs and submit reports to the apex court in three months.

#### **Eco-Sensitive Zone:**

- The Eco Sensitive Zones are envisaged as a cushion or **shock absorbers for protected areas**.
- They are supposed to act as the **transition zones from areas of high protection to less protection.**
- They are **notified by the Ministry of Environment, Forests and Climate Change**, Government of India around Protected Areas, National Parks and Wildlife Sanctuaries.
- They are **like an ecotone** the transition between two biological communities or ecosystems, and it is crucial for the protection of protected areas like wildlife sanctuaries and forests.
- Its aim is to reduce the impact of human intervention in the core protected area.

#### ESZ Guidelines classify activities under three categories:

- **Prohibited:** Commercial Mining, Setting of Saw Mill, Setting of industries causing pollution, establishment of major hydroelectric projects etc.
- **Regulated:** Felling of Trees, Establishment of hotels and resorts, erection of electrical cables, drastic change of agricultural systems etc.
- **Permitted:** Ongoing agriculture and horticulture practices by local communities, rain water harvesting, organic farming etc.

### GECKO FOUND IN ANDHRA, ODISHA TURNS OUT TO BE A NEW SPECIES

#### • CONTEXT:

A gecko found in Visakhapatnam in 2017, then thought to belong to a known species, has now been identified as a member of a new species.



#### About:

- Researchers had initially identified the specimen, which they had found dead in a water tank, as an **East Indian Leopard Gecko (Eublepharis hardwickii).**
- Now, a phylogenetic study and morphological comparisons have distinguished it as a new species.
- The gecko genus Eublepharis now has 7 species.

- The new species, Eublepharis pictus, also known as the Painted Leopard Gecko.
- The new species differs from all members of the genus Eublepharis except for E hardwickii.
  - Geographically the two species appear to be separated by the Brahmani River.
- E hardwickii has been recorded from several places in West Bengal, Jharkhand, Odisha and Andhra Pradesh.
  - While noting that the **new species is distributed across Odisha and Andhra Pradesh.**



### LARGEST KNOWN PLANT IN THE WORLD IS 4,500 YEARS OLD AND STRETCHES ACROSS 180KM

#### • CONTEXT:

Researchers have discovered what is now believed to be the largest plant in the world: an ancient specimen of an incredibly resilient seagrass that stretches across 180km and is estimated to be at least 4,500 years old.

#### About:

• The single plant of **Posidonia Australis** was discovered in the shallow waters of the **World Heritage Area** of **Shark Bay in Western Australia**.



- Posidonia Australis stretches **across 180km** and is estimated to be **at least 4,500 years old.**
- The plant is so large because it **clones itself**, creating genetically identical offshoots.

 This process is a way of reproducing that is rare in the animal kingdom although it happens in certain environmental conditions and occurs more often among some plants, fungi and bacteria.

#### How did they found the plant?

- Researchers from The University of Western Australia (UWA) and Flinders University were taking samples of seagrass shoots from Shark Bay to generate "fingerprints" that used over 18,000 genetic markers.
- But they were stunned by the results when they did so: what they thought were different plants more than 180km apart turned out to be the exact same plant with the same genetic fingerprint.



#### Unique features:

• The existing 200 square kilometres of ribbon weed meadows appear to have expanded from a single, colonising seedling.



• The plant also has twice as many chromosomes as its oceanic relatives; making it a "polyploid."

- Whole-genome duplication through polyploidy doubling the number of chromosomes – occurs when diploid 'parent' plants hybridise.
- The new seedling **contains 100 per cent of the genome from each parent**, rather than sharing the usual 50 per cent.
- The plant appears to be extremely resilient without successful flowering and seed production.
  - It experiences a wide range of temperatures and salinities and also extremely high light conditions.



#### Do you know?

• A Posidonia oceanica plant discovered in the western Mediterranean that spans up to 9.3 miles (15 kilometers) may be greater than 100,000 years old.

## CHINA TO NOT GIVE ADVANCED SAFETY TO EMPEROR PENGUINS

#### • CONTEXT:

China has blocked efforts to step up protection of emperor penguins that are increasingly threatened by the effects global warming is having on their natural habitat in Antarctica.



#### **Emperor Penguin Species:**

• The emperor is the largest living penguin species standing around 115cm tall.

- Penguins are brilliant swimmers.
- Emperor penguins have the **deepest and longest dives** for any bird, often reaching depths of over 200 metres.
- Emperor's are well adapted to thrive in the freezing conditions of the Antarctic.
- To preserve heat, they have a dense double layer of feathers about 70 feathers per square inch – large fat reserves and, proportionally, smaller beaks and flippers compared to other penguins. This all helps prevent heat loss.
- Habitat:
  - Of the 18 different species of penguin, only two (the emperor and Adélie) are actually true Antarctic residents.
  - Breeding colonies of emperor penguins are found around the coast of the entire Antarctic continent.
  - Emperor penguins may be the only bird never to set foot on land as their colonies are on the sea ice and they even breed on frozen sea.
  - The Antarctic ice is vulnerable from climate change making the future uncertain for emperors.

#### Importance:

- Emperor penguins are a vital part of the Antarctic food chain they eat creatures like squid and small fish, and are an important source of food for predators like leopard seals and large sharks.
- By protecting emperor penguins we're helping look after their ocean environment, which is good for all the wildlife that depends on it.





### **CLIMATE CHANGE VICTIM: KALAHARI BIRD**

# CONTEXT: The southern yellow-billed hornbill has not been able to breed properly and its numbers have declined subsequently.

#### About:

- Climate change has been wreaking havoc on a number of species for quite some time now. Some have even gone extinct.
- It is now threatening a resident of the Kalahari Desert of southern Africa: **The southern** yellow-billed hornbill (Tockus leucomelas).
- A recent study has found that an **increase in temperatures** could see the **hornbill disappear** from parts of the **Kalahari by 2027**.

#### **Key finding:**

- In the Kalahari, air temperatures have already risen more than 2°C in a few decades. At this rate, by 2027, these birds will not breed at all at this site.
- Above a daily maximum temperature of 35.7 degrees Celsius (96.3 Fahrenheit), there were no successful breeding attempts among the hornbills.
- Comparing the first three seasons (2008-2011) of monitoring to the last three (2016-2019), the mean percentage of nest boxes occupied declined from 52% to 12%.
- Nest success, a breeding attempt successfully raising at least one chick fell from 58% to 17%.
- Fledglings produced per breeding attempt declined from 1.1 to 0.4.

#### About

- The bird is best known for its unusual breeding and nesting habits where the female seals herself in a cavity and stays there for about 50 days to brood and care for chicks.
- They feed on insects, spiders, and scorpions as well as seeds that they find on the ground.
- In appearance, the southern yellow-billed hornbill looks a lot like its sister species, the red-billed hornbill, Tockus erythrorhynchus.



#### **Distribution:**

- Continents: Africa
- Countries: South
- Africa, Angola, Botswana, Malawi, Mozambique, Namibia, Zambia, Zimbabwe
- Regions: Eswatini
- Biogeographical realms: Afrotropical





#### **Kalahari Desert:**

- The Kalahari Desert is a **large semi-arid sandy savannah** in Southern Africa which covers much of Botswana, and parts of Namibia and South Africa.
- The Kalahari Desert is a featureless, gently undulating, sand-covered plain.
- Bedrock is exposed only in the low but vertical-walled hills, called **kopjes that** rarely but conspicuously rise above the general surface.
- **People:** The Kalahari Desert is inhabited primarily by **Bantu speakers** and **Khoisan-speaking San**, with a small number of Europeans.

### WHAT IS NOROVIRUS, THE STOMACH BUG THAT INFECTED TWO STUDENTS IN KERALA?

• CONTEXT:

# At least two cases of norovirus have been found in Thiruvananthapuram among lower primary school students.

#### **Norovirus:**

- Norovirus is a **highly contagious virus** that is also sometimes referred to as the **'stomach flu' or the 'winter vomiting bug'.**
- It can be transmitted through contaminated food, water, and surfaces.
- The primary route is **oral-faecal**.
- It is similar to diarrhoea-inducing rotavirus and infects people across age groups.
- Disease outbreaks typically occur aboard cruise ships, in nursing homes, dormitories, and other closed spaces.
- According to the WHO, emerging evidence suggests that "norovirus infection is associated with intestinal inflammation, malnutrition and may cause long-term morbidity".
- An estimated 685 million cases of norovirus are seen annually, including 200 million cases amongst children under 5.
- Norovirus, an RNA virus of the family Caliciviridae, is a human enteric pathogen that causes substantial morbidity across both health care and community settings.





#### **Norovirus symptoms**

• Diarrhoea, vomiting, nausea, and stomach discomfort are the most common norovirus symptoms. Fever, headaches, and body aches are possible side effects.

#### Norovirus transmission prevention

- One may get infected multiple times as the virus has different strains.
  - Norovirus is resistant to many disinfectants and can withstand heat up to 60°C.
    - Therefore, merely steaming food or chlorinating water does not kill the virus.
    - The virus can also survive many common hand sanitisers.
- Protect yourself and others from norovirus by washing your hands often, rinsing fruits and vegetables, cooking shellfish thoroughly, staying at home when sick and for two days after symptoms stop and avoid preparing food for others when sick and for two days after symptoms stop.



#### Treatment:

• The disease is self-limiting. The infection normally lasts only two or three days and one can ride it out with sufficient rest and hydration.

- It is important to maintain hydration in the acute phase. In extreme cases, patients have to be administered rehydration fluids intravenously.
- Diagnosis is done by real-time reverse transcription-polymerase chain reaction. No vaccines are available for the disease.

# HOW BARCODES DIFFER FROM RADIO-FREQUENCY IDENTIFICATION TAGS

#### • CONTEXT:

Baggage tags equipped with radio-frequency identification (RFID) will soon be available at Delhi's Indira Gandhi International Airport, marking a first of its kind for the country.

#### Radio-frequency identification (RFID) technology:

- Radio Frequency Identification (RFID) is a technology that **uses radio waves** to passively identify a tagged object.
- It is used in several commercial and industrial applications, from **tracking items along** a supply chain to keeping track of items checked out of a library.
- Radio Frequency Identification (RFID) is a type of passive wireless technology that allows for tracking or matching of an item or individual.
- The three components of an RFID system are:
  - Transponder,
  - receiver, and
  - transmitter
- The system has two basic parts: tags and readers.
  - The reader gives off radio waves and gets signals back from the RFID tag, while the tag uses radio waves to communicate its identity and other information.





#### **Different kinds of RFID:**

Passive tags, semi-passive tags, and active tags are the three types of RFID tags that are commercially available.

- **Passive Tags:** There is no power supply for passive tags. They acquire their power from the readers' incoming radio waves.
- **Semi-passive tags** comprise an internal circuit with a power source, but rely on the radio waves received from the reader to transmit the response.
- Active Tags: The internal circuit of active tags is powered by a power source.

Type of Tag	Power source	Range	Description
Passive	Rely on radio signal that was transmitted to them	10 cm – a few meters	Can only reflect signals back
Semi Passive	Internal battery	10-100 meters	Power source activates chip, does not emit signal
Active	Internal battery	Hundreds of meters	Generate powerful responses – reliable and effective

#### Barcode:

- A barcode is a printed series of parallel bars or lines of varying width used for entering data into a computer system.
- The **bars are black on a white background** and vary in width and quantity depending on the application.
- The bars represent the binary digits zero and one, which represent the digits zero to nine processed by a digital computer.
- These barcodes are scanned using special **optical scanners** known as barcode readers, which come in a variety of shapes and sizes.
- The majority of these codes use only two different widths of bars, however some use four.
- The numbers that make up a barcode are also printed at the bottom. One of the most well-known examples of a barcode is the QR code.

Radio-frequency identification (RFID) technology Vs barcodes

### **D2M TECHNOLOGY**

 CONTEXT: The Department of Telecommunications (DoT) and India's public service broadcaster Prasar Bharati are exploring the feasibility of a technology that allows broadcasting video and other forms of multimedia content directly to mobile phones, without needing an active internet connection.



#### Direct-to-Mobile (D2M) broadcasting:

- The technology is based on the convergence of broadband and broadcast, using which mobile phones can receive terrestrial digital TV.
- It would be similar to how people listen to FM radio on their phones, where a receiver within the phone can tap into radio frequencies.
- Using D2M, multimedia content can also be beamed to phones directly.



#### **Possible benefits:**

- It can possibly be used to directly broadcast content related to citizen-centric information.
- It can be further used to counter fake news, issue emergency alerts and offer assistance in disaster management.
- It can be used to broadcast live news, sports etc. on mobile phones.
- The content should stream without any buffering whatsoever while not consuming any internet data.

#### Impact:

- For consumers:
  - A technology like this would mean that they would be able to access multimedia content from Video on Demand (VoD) or Over The Top (OTT) content platforms without having to exhaust their mobile data and at a nominal rate.
  - The technology will also allow people from rural areas, with limited or no internet access, to watch video content.

#### For businesses:

• It can enable telecom service providers to **offload video traffic** from their mobile network onto the broadcast network.



- > It will help them to decongest valuable mobile spectrum.
- This will also improve usage of mobile spectrum and free up bandwidth which will help reduce call drops, increase data speeds etc.

# JAMES WEBB SPACE TELESCOPE WILL CLOSELY OBSERVE TWO EXTREMELY HOT 'SUPER-EARTHS'

# • **CONTEXT:** The James Webb Space Telescope will observe two giant Earth-like planets as part of its initial observations: 55 Cancri e and LHS 3844 b.

#### About:

- Among the investigations that are planned for the telescope's first year are two exoplanets classified as "super-Earths": the lava covered 55 Cancri e and the atmosphere-less LHS 3844 b.
- They are classified as super-Earths due to their size and rocky composition.
- 55 Cancri e: Super-hot super-Earth
  - 55 Cancri e is an exoplanet that orbits less than 1.5 million miles from its star, which is 4 per cent of the distance between Mercury and the sun.
  - This means that the planet completes an entire revolution around its star in less than 18 hours.
  - Basically, a year on 55 Cancri e is equivalent to 18 Earth hours.

#### LHS 3844 b: Literally cooler

- Unlike 55 Cancri e, LHS 3844 b will offer a unique opportunity to analyse solid rock on an exoplanet surface.
- LHS 3844 b orbits extremely close to its star; completing a full orbit in 11 hours.
- But since its star is relatively small and cool, the exoplanet's surface is not hot enough for the surface to be molten.



Earth (Rocky) Radius: 6,370 kilometers (3,960 miles) Average Temperature: 15°C (80°F) Distance from Star: 1 AU (150 million kilometers, 93 million miles) Orbital Period: 386.25 days



LHS 3844 b (Hot Rocky) Radius: 1.3 × Earth Average Temperature: >525°C (~1000°F) on the day side Distance from Star: 0.005 AU Orbital Period: 11 hours



55 Cancri e (Super-Hot Rocky) Radius: 1.9 × Earth Average Temperature: >1700°C (~3100°F) on the day side Distance from Star: 0.015 AU Orbital Period: 18 hours



Neptune (Ice Giant) Radius: 3.88 × Earth Average Temperature: -195°C (-320°F) Distance from Star: 30 AU Orbital Period: 165 Earth-years



#### About James Webb Space Telescope:

• The James Webb Space Telescope is the **largest, most powerful space telescope** ever built. It will allow scientists to look at what our universe was like about 200 million years after the Big Bang.

- The telescope will be able to capture images of some of the first galaxies ever formed.
- It will also be able to observe objects in our solar system from Mars outward, look inside dust clouds to see where new stars and planets are forming and examine the atmospheres of planets orbiting other stars.
- The James Webb Space Telescope will use its infrared cameras to see through dust in our universe.
- Stars and planets form inside those dust clouds, so peeking inside could lead to exciting new discoveries.
- It will also be able to see objects (like the first galaxies) that are so far away that the expansion of the universe has made their light shift from visible to infrared.
- Webb has a sunshield to protect its instruments and mirrors as the Webb telescope's cameras are sensitive to heat from the Sun.
- Webb telescope has 18 smaller mirrors that fit together like a puzzle. The mirrors fold up inside the rocket, then unfold to form one large mirror in orbit.
- The James Webb Space Telescope will help to study the atmospheres of exoplanets.

### VIETNAM DEVELOPS NEW VACCINE FOR AFRICAN SWINE FEVER: OFFICIAL

#### • CONTEXT:

Vietnam has developed an African swine fever vaccine for pigs in partnership with the United States, and is aiming to become the first global commercial exporter.

#### African swine fever:

- African Swine Fever (ASF) is a highly contagious viral disease of pigs.
- In its acute form the disease generally results in **high mortality**.
- ASF is a different disease to swine flu. African swine fever is harmless to humans.
- It originated in Africa before spreading to Europe and Asia and has killed hundreds of millions of pigs globally.
- It is caused by a large DNA virus of the Asfarviridae family, which also infects ticks of the genus.
- **Transmission:** Its routes of transmission include direct contact with an infected or wild pig (alive or dead), indirect contact through ingestion of contaminated material such as food waste, feed or garbage, or through biological vectors such as ticks.
- Symptoms:
  - The disease is characterised by sudden deaths in pigs. Its symptoms include:
  - vomiting
  - diarrhoea (sometimes bloody)
  - reddening or darkening of the skin, particularly ears and snout
  - gummed up eyes



• laboured breathing and coughing

- abortion, still births and weak litters
- weakness and unwillingness to stand

#### African Swine Fever (ASF) Vaccine:

- African swine fever, one of the most devastating livestock diseases, was first detected in Vietnam in February 2019 and forced the country to cull around 20% of its hog herd.
- With immunity lasting six months, the vaccine will be a shield for hog-raising industry and pig production globally.



# INDIA SUCCESSFULLY CARRIES OUT TRAINING LAUNCH OF INTERMEDIATE RANGE AGNI 4 BALLISTIC MISSILE

#### • CONTEXT:

India successfully carried out a "training launch" of the Agni-4 intermediaterange ballistic missile from the APJ Abdul Kalam Island in Odisha, marking a significant boost to the country's military capabilities.

#### **Ballistic Missile:**

 A ballistic missile is a missile that has a ballistic trajectory over most of its flight path, regardless of whether or not it is a weapon-delivery vehicle.



# INDIA'S MISSILES

A. C. India has developed a series of tactical, medium and long-range missiles to deal with the threat posed by ۲ two nuclear adversaries - China in the north and Pakistan on its west. A3 A4 A5 Mongolia A2 PII Δ D N Liby Egypt Nige Yemen irbhay (Cruise Missile) | 800+km 2. Brahmos (Cruise Missile) | 300 k 1 ND -NA N N gni-2 | 2,000+ km Agni-3 | 3,200+ km D Agni-4 | 3,500+ km 9. Agni-5 | 5,000+ km D 3. Prithvi II | 350 km gni-1 | 700+ km Prahaar | 150 km I L A A A ŵ PII B A1 N A3 A4 A5 P A2



- Ballistic missiles are categorised according to their range, maximum distance measured along the surface of earth's ellipsoid from the point of launch to the point of impact of the last element of their payload.
- The missile carries a huge payload. The carriage of a deadly warhead is justified by the distance the missile travels.
- Ballistic missiles can be launched from ships and land based facilities.

• For example, **Prithvi I, Prithvi II, Agni I, Agni II** and **Dhanush ballistic missiles** are currently operational in the Indian defence forces.

#### Advantages:

- The course taken by ballistic missiles has two significant desirable properties. First, ballistic missiles that fly above the atmosphere have a much longer range than would be possible for cruise missiles of the same size.
- Powered rocket flight through thousands of kilometers of air would require vastly greater amounts of fuel, making the launch vehicles larger and easier to detect and intercept.
- Ballistic missiles can travel extremely quickly along their flight path. An ICBM can strike a target within a 10,000 km range in about 30 to 35 minutes.
- With terminal speeds of over 5,000 m/s, ballistic missiles are much harder to intercept than cruise missiles, due to the much shorter time available.
- Therefore ballistic missiles are some of the most feared weapons available, despite the fact that cruise missiles are cheaper, more mobile, and more versatile.

#### **Nuclear Triad:**

- A nuclear triad comprises land-based ICBM (inter-continental ballistic missile), SLBM (INS Arihant) and strategic bomber aircraft (sukhoi-30 and Mirage-2000).
- These tests are a strong reminder to the adversaries about our capabilities.
- Agni Missile Family:
  - The name Agni originates from the Sanskrit word for fi re and is taken in the context of Agni being one of the fi ve primary elements of Panch Mahabhutas.
  - Agni I: Range of 700-800 km
  - Agni II: Range more than 2000 km
  - > Agni III: Range of more than 2,500 Km
  - Agni IV: Range is more than 3,500 km and can fire from a road mobile launcher
  - Agni-V: The longest of the Agni series, an Inter-Continental Ballistic Missile (ICBM) with a range of over 5,000 km
- **No-first use policy** India maintains the 'Non-use of nuclear weapons against nonnuclear-weapon states', the doctrine states that 'in the event of a major attack against India, or Indian forces anywhere, by biological or chemical weapons, India will retain the option of retaliating with nuclear weapons.'

## IISC SCIENTISTS DEVELOP MINIPROTEINS THAT MAY PREVENT COVID INFECTION

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• CONTEXT:
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Researchers at the Indian Institute of Science (IISc) Bangalore have designed a new class of artificial peptides or miniproteins that they say can render viruses like SARS-CoV-2 inactive.



#### Mini-protein:

• The miniproteins can not only block virus entry into our cells but also clump virus particles together, reducing their ability to infect.

- The researchers noted that a protein-protein interaction is often like that of a lock and a key.
- This interaction can be hampered by a lab-made miniprotein that mimics, competes with, and prevents the 'key' from binding to the 'lock', or vice versa.

#### Characteristics of a mini-protein:

- These miniproteins are helical, hairpin-shaped peptides, each capable of pairing up with another of its kind, forming what is known as a dimer.
- Each dimeric 'bundle' presents two 'faces' to interact with two target molecules.

#### About the research:

- The team designed miniproteins that can bind to, and block the spike protein on the surface of the SARS-CoV-2 virus, which helps it to enter and infect the human cells.
- Using one of the miniproteins called SIH-5 to target the interaction between the spike protein of SARS-CoV-2 and ACE2 protein in human cells.
- The spike protein is a complex of three identical polypeptides, each of which contains a Receptor Binding Domain (RBD) that binds to the ACE2 receptor on the host cell surface, facilitating viral entry into the cell.
- The SIH-5 miniprotein was designed to block the binding of the RBD to human ACE2.
- When a SIH-5 dimer encountered an S protein, one of its faces bound tightly to one of the three RBDs on the S protein trimer, and the other face bound to an RBD from a different S protein.
- This 'cross-linking' allowed the miniprotein to block both S proteins at the same time.

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# SECTION: C (QUICK FACTS)

# **INDIA BANGLADESH JOINT MILITARY EXERCISE: EX** SAMPRITI-X

#### • CONTEXT:

As part of the ongoing India Bangladesh bilateral defence cooperation, a joint military training exercise Ex SAMPRITI-X is being conducted at Jashore Military Station in Bangladesh.

#### **Exercise SAMPRITI:**

- Exercise SAMPRITI is an important bilateral defence cooperation endeavour conducted alternately by both countries which aims to strengthen and widen the aspects of interoperability and cooperation between both the armies.
- The aim of the exercise is to strengthen interoperability between the two armies and to understand each other's tactical drills and operational techniques.
- Exercise Sampriti IX was help at Umroi, Meghalaya in 2020.

#### **Exercise SAMPRITI-X:**

- The Indian contingent of company strength is being represented by a Battalion of the **DOGRA** Regiment.
- During the joint military exercise Ex SAMPRITI-X, armies of both the Nations will share expertise in multiple simulated scenarios of Counter Terrorism, Humanitarian Assistance & Disaster Relief and UN Peacekeeping Force under UN mandate.
- In addition to sharing best practices and understanding each other at the tactical level, this exercise is an opportunity for greater cultural understanding to strengthen trust and cooperation between armies of both the Nations.
- The exercise will benefit both the armies by gaining from each other's vast experience which will further contribute to peace and stability in the region.

### PANDIT BHAJAN SOPORI PASSES AWAY

#### • CONTEXT:

#### Pandit Bhajan Sopori, saint of santoor, succumbed to cancer recently.

#### About Pandit Bhajan Sopori:

- The santoor player was born in Sopore in Kashmir Valley in 1948 and belonged to the Sufiana Gharana of Indian classical music.
- He was the great-grandson of Pandit Shankar Pandit, who had developed the style popularly known as the 'Sufi Baaj' (style), based on Sufiana Qalam and Hindustani Classical music.
- Hailed as 'Saint of the Santoor' and the 'King of Strings', Sopori won the Sangeet Natak Akademi Award in 1992 and the Padma Shri in 2004.
- In 2009 he was honoured with the Baba Allaudin Khan Award and M N Mathur award in 2011 for his contribution to Indian classical music.

#### SANTOOR:

- Type: TAT VADYA
- Santoor is a stringed instrument made of wood, steel, and bamboo.
- This is a traditional instrument, foud in Jammu and Kashmir.
- Majorly used in the traditional music of Kashmir called Sufiana Qalam.



- It has now acquired an important place as a classical music instrument.
- A trapezoid wooden box, 120 steel strings, stretched on 30 wooden bridges in sets of four on each bridge.
- Bridges are arranged in a set of fifteen on each side.

- Struck by bamboo mallets.
- It is placed on a triangular wooden stand while playing.



# MULTINATIONAL PEACEKEEPING EXERCISE 'EX KHAAN QUEST 2022' COMMENCES IN MONGOLIA

#### • CONTEXT:

A multinational peacekeeping exercise-Ex Khaan Quest 2022 featuring participation from military contingents from 16 countries including India commenced in Mongolia.

#### About:

- Khaan Quest 2022 is a multinational peacekeeping operations exercise conducted in Mongolia.
- It consists of a United Nations Peacekeeping Mission command post exercise, a UN PKO (PeaceKeeping Operation) Mission field training exercise, at the Mongolian Armed Forces' Five Hills Training Area.
- 16 countries are taking part in this exercise including India.
- This exercise has been inaugurated by the President of Mongolia.
- Indian Army is represented by a contingent from the Ladakh Scouts.
- Aim: Enhance interoperability, building military to military relationships, developing peace support operations and military readiness among participating nations.
- The military exercise will enhance the level of defence co-operation between Indian Army and participating countries especially with the Mongolian Armed Forces which will enhance bilateral relations between the two countries.









# **SUCCESS IS A PRACTICE WE DO!**



