



## Classical Dances of India

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⇒ The first well-known source to address classical dances is **Bharat Muni's work Natya Shastra**.

## Two basic aspects

### Lasya

- Signifies **bhava, rasa, abhinaya**, and **grace**.
- Symbolic to the **feminine** features of dance.

### Tandava

- More focus on **movement** and **rhythm**.
- Symbolic to the **male aspects** of dance.

## Three main elements (Nandikeshwara's Abhinaya Darpan)

### Nritta

- Basic dance moves.
- Rhythmically performed.
- No emotion or expression at all.

### Natya

- Dramatic representations.
- The dance performance elaborates on the story.

### Nritya

- Sentiment and the emotions evoked through dance.
- Different methods of expression or mudras in the dance.

⇒ There are **108 primary mudras**, each of which is used to express a different emotion.

⇒ According to the **Sangeet Natak Akademi**, there are **eight classical dance forms** in India.



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## ASEAN-India Economic Ministers' Meeting

**For Prelims:** ASEAN, Act East Policy

**For Mains:** Significance of ASEAN for India, India-ASEAN Areas of Cooperation

### Why in News?

Recently, India and Cambodia co-chaired the **19<sup>th</sup> ASEAN-India Economic Ministers' meeting** in Cambodia.

- The Economic Ministers or their representatives from all the **10 ASEAN countries** attended the meeting.

### What are the Highlights of the Meeting?

- **Noted Economic Relations:**
  - The Ministers noted that trade and economic relations between ASEAN and India are starting to recover **from the impact of the Covid-19 pandemic** and the two-way trade between ASEAN and India reached USD 91.5 billion in 2021 increasing by 39.2% year-on-year.
- **ASEAN India Business Council:**
  - The Ministers also took note of the recommendations made by **ASEAN India Business Council (AIBC)** to enhance the ASEAN India economic partnership and the activities undertaken by AIBC in 2022.
    - ASEAN India-Business Council (AIBC) was set up in March 2003 as a forum **to bring key private sector players from India and the ASEAN countries** on a single platform for business networking and sharing of ideas.
- **Post Covid-19 Recovery:**
  - Ministers reaffirmed their commitment to take collective actions to mitigate the economic impact of the pandemic and work towards a sustainable post-Covid-19 recovery.
- **Supply Chain Connectivity:**
  - The Ministers welcomed ASEAN and India to forge collective actions in securing a robust supply chain connectivity to **maintain the flow of essential goods** and services through ASEAN-India Trade in Goods Agreement (AITIGA) Upgrade Negotiations, mutual recognition of Covid-19 vaccination, vaccines production, public health surveillance, and medical technologies.
- **ASEAN India Trade in Goods Agreement:**
  - The Ministers endorsed the Scope of the Review of the AITIGA to make it **more user-friendly, simple, and trade facilitative for businesses**, as well as responsive to the current global and regional challenges including supply chain disruptions.
  - The Ministers also activated the **AITIGA Joint Committee** to undertake the review of AITIGA expeditiously.

### What is the Association of Southeast Asian Nations?

▪ **About:**

- It is a **regional grouping** that promotes economic, political, and security cooperation.
- It was established in **August 1967 in Bangkok**, Thailand with the signing of the ASEAN Declaration (Bangkok Declaration) by the founding fathers of ASEAN, namely **Indonesia, Malaysia, Philippines, Singapore and Thailand**.
- Its chairmanship **rotates annually, based on the alphabetical order** of the English names of Member States.
- ASEAN countries have a total population of 650 million people and a combined **Gross Domestic Product (GDP)** of USD 2.8 trillion.
- Commodity trade between India and ASEAN region has reached **98.39 billion** in the period April 2021- February 2022. India's main trading ties are with Indonesia, Singapore, Malaysia, Vietnam and Thailand.

▪ **Members:**

- ASEAN brings together ten Southeast Asian states – Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, the Philippines, Singapore, Thailand and Vietnam – into one organisation.



**UPSC Civil Services Examination Previous Year Question (PYQ)**

**Prelims**

**Q1. Consider the following countries: (2018)**

1. Australia
2. Canada
3. China
4. India
5. Japan
6. USA

**Which of the above are among the 'free-trade partners' of ASEAN?**

**(a) 1, 2, 4 and 5**

- (b) 3, 4, 5 and 6
- (c) 1, 3, 4 and 5
- (d) 2, 3, 4 and 6

**Ans: (c)**

**Exp:**

- Association of Southeast Asian Nations (ASEAN) has free trade agreements with six partners, namely the People's Republic of China, Republic of Korea, Japan, India as well as Australia and New Zealand. **Hence, 1, 3, 4 and 5 are correct.**
- **Therefore, option (c) is the correct answer.**

**Q2. The term 'Regional Comprehensive Economic Partnership' often appears in the news in the context of the affairs of a group of countries known as (2016)**

- (a) G20
- (b) ASEAN
- (c) SCO
- (d) SAARC

**Ans: (b)**

**Exp:**

- **Regional Comprehensive Economic Partnership (RCEP)** is a Free Trade Agreement (FTA) between the ten member states of the Association of Southeast Asian Nations (**ASEAN**) and the **five countries** (Australia, China, Japan, South Korea and New Zealand) with which ASEAN has existing FTAs.
- **Therefore, option (b) is the correct answer.**

**Q3. In the Mekong-Ganga Cooperation, an initiative of six countries, which of the following is/are not a participant/ participants? (2015)**

1. Bangladesh
2. Cambodia
3. China
4. Myanmar
5. Thailand

**Select the correct answer using the code given below:**

- (a) 1 only
- (b) 2, 3 and 4
- (c) 1 and 3
- (d) 1, 2 and 5

**Ans: (c)**

**Exp:**

- The **Mekong-Ganga Cooperation (MGC)** is an initiative by six countries – **India and five ASEAN countries**, namely, Cambodia, Lao PDR, Myanmar, Thailand and Vietnam for cooperation in tourism, culture, education, as well as transport and communications. It was launched in 2000 in Vientiane, Lao PDR.
- Both the Ganga and the Mekong are civilizational rivers and the MGC initiative aims to facilitate closer contacts among the people inhabiting these two major river basins.
- The MGC is also indicative of the cultural and commercial linkages among the member countries of the MGC down the centuries.

- Therefore, option (c) is the correct answer.

## **Mains**

**Q.** Evaluate the economic and strategic dimensions of India's Look East Policy in the context of the post Cold War international scenario. **(2016)**

**Source:** [PRINT](#)

## **India Observed 28th World Ozone Day**

**For Prelims:** World Ozone Day, Montreal Protocol, India Cooling Action Plan (ICAP), Kigali Amendment, Ozone Depletion, Lifestyle for the Environment (LiFE), COP26, Make In India, Skills India Mission, Australia Forest Fires, Intergovernmental Panel on Climate Change (IPCC), United Nations Environmental Programme (UNEP).

**For Mains:** Effects of ozone layer depletion, Related Initiatives.

### **Why in News?**

Recently, **India observed 28<sup>th</sup> World Ozone Day.**

- Every year, **16<sup>th</sup> September** is observed as the **International Day for the Preservation of the Ozone layer (World Ozone Day) to commemorate the signing of the [Montreal Protocol](#).**
  - The theme of World Ozone Day 2022 is **"Montreal Protocol@35: global cooperation protecting life on earth"**.

### **What were the Key Highlights of World Ozone Day?**

- **The 23<sup>rd</sup> edition of "The Montreal Protocol: India's Success Story" was released.**
- The other publications of the Ozone Cell of the Ministry of Environment, Forests and Climate Change released on the occasion include:
  - **Action Plan** for implementing the recommendations of the [India Cooling Action Plan \(ICAP\)](#) for the thematic area space cooling in buildings.
  - **iStudy Report** on Public Procurement Policies for **Refrigeration and Air-Conditioning (RAC) Equipment** using [non-Ozone Depleting Substance \(ODS\)](#) based refrigerants.
  - **Study Report on Cold Chain sector in India** for promoting **non-ODS and Low-Global Warming Potential (GWP) Refrigerants.**
  - Booklet on **Good Servicing Practices for Energy Efficient operation of Room Air conditioners.**
- The winning entries for a **national level poster making and slogan writing competition for school children on 'Save Our Ozone Layer'** were announced.
- **Call for adoption for [Lifestyle for the Environment \(LiFE\)](#)** that's in line with the concept of sustainable lifestyle, encouraging us to adopt mindful and not mindless consumption and utilization of resources.
- **Collaboration with eight Indian Institutes of Technology** (Bombay, Roorkee, Hyderabad, Kanpur, Guwahati, Banaras, Madras and Delhi) to promote research and development of chemicals

with low global warming potential, including blends. These can be used as **alternatives to substances controlled under the Montreal Protocol.**

- It will also help promote the [Make in India](#) initiative of the Government.

## What is India Cooling Action Plan (ICAP)?

### ▪ About:

- The **Indian Cooling Action Plan (ICAP)** was launched in March 2019 by the **Ministry of Environment, Forests and Climate Change.**
- The ICAP provides a **20-year perspective and outlines actions** needed to provide access to sustainable cooling.
- The plan seeks to:
  - **Reduce cooling demand** across sectors by 20% to 25% by 2037-38
  - **Reduce refrigerant demand** by 25% to 30% by 2037-38
  - **Reduce cooling energy requirements** by 25% to 40% by 2037-38
  - **Recognise “cooling and related areas”** as a thrust area of research under National Science and Technology Programme
  - **Training and certification of 100,000 servicing sector technicians** by 2022-23, synergizing with [Skill India Mission.](#)

### ▪ Significance:

- Implementation of actions emerging from ICAP will supplement efforts in **adopting climate-friendly alternatives and promotion of energy efficiency** during the implementation of Hydrofluorocarbon (HFC) phase-out under the [Kigali Amendment.](#)
  - This will significantly contribute to **India’s climate action in achieving the net zero emissions by 2070, through the ‘Panchamrits’,** committed by the Prime Minister of India, at the [26<sup>th</sup> Climate Change Conference of Parties \(CoP26\) in 2021.](#)

## What is Montreal Protocol?

- **The Montreal Protocol** is a worldwide **agreement to stop the production of substances causing ozone-depletion.**
- Adopted on 16 September 1987, the Protocol is to date the **only UN treaty ever that has been ratified by every country on Earth - all UN Member States.**
- It has led to the **phase-out of 99% of ozone-depleting chemicals** in refrigerators, air-conditioners and many other products.
- **India** is a party to the Montreal Protocol since **June 1992.**

## What are India’s Achievements in Implementation of the Montreal Protocol?

- India **phased out Chlorofluorocarbons (CFCs),** Carbon tetrachloride, Halons, Methyl Bromide and Methyl Chloroform **for controlled uses** as on 1 January 2010, **in line with the Montreal Protocol schedule.**
- Currently, **Hydrochlorofluorocarbons (HCFCs) are being phased out** as per the accelerated schedule of the Montreal Protocol.
  - **Hydrochlorofluorocarbons Phase-out Management Plan (HPMP) Stage-I** has been successfully implemented from 2012 to 2016.
  - **HPMP Stage-II** is under implementation since 2017 and will be completed by 2023.
  - **HPMP Stage-III,** the last of the HPMPs to phase out remaining HCFCs, will be implemented from 2023 - 2030.
    - The **phase-out of HCFCs in all manufacturing sectors,** comprising refrigeration and air-conditioning manufacturing sectors, **will be completed by 1<sup>st</sup> January 2025 and the activities relating to the servicing sector will be continued till 2030.**

## What is Ozone Layer?

- **Ozone is a special form of oxygen** with the chemical formula **O<sub>3</sub>.** The oxygen we breathe and

that is so vital to life on earth is O<sub>2</sub>.

- About **90% of ozone occurs naturally** in the Earth's upper atmosphere (Stratosphere) **between 10 and 40km above Earth's surface**, where it forms a protective layer that **shields us from the sun's harmful ultraviolet rays**.
- This **“good” ozone is gradually being destroyed** by man-made chemicals referred to as **Ozone-Depleting Substances (ODS)**, including CFCs, HCFCs, halons, methyl bromide, carbon tetrachloride, and methyl chloroform.
  - When **chlorine and bromine atoms come into contact with ozone** in the stratosphere, **they destroy ozone molecules**.
  - One chlorine atom can destroy over 100,000 ozone molecules before it is removed from the stratosphere.
  - Ozone can be destroyed more quickly than it is naturally created.
- **Ozone layer depletion** leads to an **uptick in the incidence of skin cancer and cataracts in humans**.



## How Wildfires are Affecting the Ozone Layer?

- **Rising global temperatures and drier conditions** are leading to **frequent, massive wildfires** around the world, according to the UN [Intergovernmental Panel on Climate Change \(IPCC\)](#).
- The frequency of extreme wildfires will **likely rise by 30% by 2050**, according to the [United Nations Environment Programme \(UNEP\)](#).
  - Such events **could undo 35 years of efforts under the Montreal Protocol**.
- Wildfires could also trigger **a vicious cycle**. They have found that **depletion of the ozone layer strengthens the southern polar vortex**, a pocket of low pressure and cool air over the South Pole.
  - It **creates a feedback loop: the stronger the polar vortex, the more it depletes the surrounding ozone** and the longer it keeps the hole open.
- **Forest fires in Australia** continued from June 2019 to March 2020, and released over 1 million tonnes of smoke that reached to the stratosphere and affected the ozone layer by **triggering the widening of the Ozone Hole**.
  - They burned over 33 million hectares, killed or displaced 3 billion animals and caused damage to property, becoming the **worst natural disaster in the country**.



## UPSC Civil Services Examination, Previous Year Question (PYQ)

**Q. Which one of the following is associated with the issue of control and phasing out of the use of ozone depleting substances? (2015)**

- (a) Bretton Woods Conference
- (b) Montreal Protocol
- (c) Kyoto Protocol
- (d) Nagoya Protocol

**Ans: (b)**

**Exp:**

- The Bretton Woods Conference, officially known as the United Nations Monetary and Financial Conference was a gathering of delegates from 44 nations that met in Bretton Woods (USA) to agree upon a series of new rules for the post-World War-II international monetary system.
  - The two major accomplishments of the conference were the creation of the International Monetary Fund (IMF) and the International Bank for Reconstruction and Development (IBRD).
- The Montreal Protocol is an international environmental agreement to protect the earth's ozone layer by eliminating the use of ozone depleting substances. Adopted on 15th September 1987, the protocol is to date the only UN treaty that ever has been ratified by every country on Earth - all 197 UN member states.
- The Kyoto Protocol is an international agreement linked to the UNFCCC, which commits its Parties by setting internationally binding GHGs (Greenhouse Gases) emission reduction targets.
  - The Kyoto Protocol was adopted in Kyoto, Japan on 11<sup>th</sup> December 1997 and entered into force on 16<sup>th</sup> February 2005.
  - The detailed rules for the implementation of the protocol were adopted as CoP7 in Marrakesh, Morocco in 2001 and referred as the Marrakesh Accord.
  - India has ratified the second commitment period (2008-2012) of the Kyoto protocol, that commits countries to contain emissions of greenhouse gases, reaffirming its stand on climate action.
- The Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization provides a transparent legal framework for the effective implementation of one of the three objectives of the Convention on Biological Diversity: the fair and equitable sharing of benefits arising out of the utilization of genetic resources, to promote sustainable use of biological diversity. India signed the protocol in 2011.
- Therefore, option B is the correct answer.

**Source: PIB**

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## National Technical Textiles Mission (NTTM)

**For Prelims:** Ministry of Textiles, National Technical Textiles Mission, Make in India, Production Linked Incentive (PLI) Scheme for Textiles Sector

**For Mains:** Significance of Technical Textile in the Indian Economy

## Why in News?

The **Ministry of Textiles** recently cleared 23 strategic research projects worth around Rs 60 crores in **Specialty fibres, Sustainable Textiles, Geotextiles, Mobiltech and Sports textiles** under the **National Technical Textiles Mission**.

## What are Technical Textiles?

- Technical textiles **are functional fabrics** that have applications across various industries including automobiles, civil engineering and construction, agriculture, healthcare, industrial safety, personal protection etc.
  - Technical Textile products derive their demand from the development and industrialization in a country.
- Based on usage, there are **12 technical textile segments**: Agrotech, Meditech, Buildtech, Mobiltech, Clothtech, Oekotech, Geotech, Packtech, Hometech, Protech, Indutech and Sportech.
  - **For example**, 'mobiltech' refers to products in vehicles such as seat belts and airbags, airplane seats; geotech, which is incidentally the fastest growing sub-segment, used to hold back soil, etc.

## What do we know about the National Technical Textiles Mission (NTTM)?

- **About:**
  - It was **approved in 2020 by the [Cabinet Committee on Economic Affairs \(CCEA\)](#)** with total outlay of Rs.1480 Crore.
  - The implementation period is four years, from FY 2020-21 to FY 2023-24.
- **Aim:**
  - The aim of the mission is to position **India as a global leader in Technical Textiles** by taking the domestic market size from USD 40 billion to USD 50 billion by 2024.
  - It also supports the '**Make in India**' Initiative promoting domestic manufacturing of related machinery and equipment.
- **Components:**
  - **First component:** It will **focus on research, development and innovation** with an outlay of Rs. 1,000 crores.
    - The research will be at both fiber level and application-based in geo, agro, medical, sports and mobile textiles and the development of biodegradable technical textiles.
    - Research activities will also focus on the development of indigenous machinery and process equipment.
  - **Second component:** It will be for the **promotion and development of the market for technical textiles**.
    - The **penetration level of technical textiles is low** in India varying between 5-10% against the level of 30-70% in developed countries.
    - The Mission will aim at an average growth rate of 15-20% per annum by 2024.
  - **Third component:** It will **focus on export promotion** so that technical textile exports from the country reach from Rs 14,000 crores to Rs 20,000 crores by 2021-2022 and ensure 10% average growth every year till the Mission ends.
    - An **export promotion council** for technical textiles will be set up.
  - **Fourth component:** It will **focus on education, training and skill development**.
    - The Mission will promote technical education at higher engineering and technology levels related to technical textiles and its application areas.
- **Scenario of Textile sector:**
  - The growth of technical textiles in India has **gained momentum in the past five years**, currently growing at an **8% per annum rate**.
    - It aims **to hasten this growth to the 15-20% range** during the next five years.

- Indian Technical Textiles segment is estimated at USD 16 Billion which is approximately 6% of the 250 billion USD global technical textiles market.

- The **biggest players are the USA**, western Europe, China and Japan (20-40% share).

▪ **Implementation & Governance:**

- The mission will be implemented via a **three-tier institutional mechanism which will consist of the following:**
  - **Mission Steering Group:** The group will be authorized to approve all financial norms with respect to schemes, components and programme of the mission.
    - The group will also be entrusted with the **responsibility of approving all scientific and technological research projects under the mission.**
  - **Empowered Programme Committee:** The committee will be required to approve all projects (except research projects) within the financial limits of various programs as approved by the Mission Steering Group.
    - The committee will also be entrusted with the **responsibility of monitoring the implementation** of various components of the mission.
  - **Committee on Technical Textiles on Research, Development & Innovation:** This committee will be responsible for the identification and recommendation of research projects to the Mission Steering Group for approval.
    - These projects will be related to strategic sectors such as space, security, defence, para-military, and atomic energy.

## What are the Other Initiatives Related to Technical Textile?

- **Production Linked Incentive (PLI) Scheme for Textiles Sector:** It aims to promote the production of high-value Man-Made Fiber (MMF) fabrics, garments and technical textiles.
- **Harmonized System of Nomenclature (HSN) Codes for Technical Textile:** In 2019, the Government of India dedicated 207 HSN codes to technical textiles to help in monitoring the data of import and export, in providing financial support and other incentives to manufacturers.
- **100% FDI under Automatic Route:** The Government of India allows 100% **Foreign Direct Investment (FDI)** under the automatic route. International technical textile manufacturers such as Ahlstrom, Johnson & Johnson etc have already initiated operations in India.
- **Technotex India:** It is a flagship event organized by the Ministry of Textiles, in collaboration with **Federation of Indian Chambers of Commerce & Industry (FICCI)** and comprises exhibitions, conferences and seminars with the participation of stakeholders from across the global technical textile value chain.
- **Amended Technology Upgradation Fund Scheme:** To improve exports and indirectly promote investments in textile machinery.

## UPSC Civil Services Examination Previous Year Question (PYQ)

### Prelims

**Q. Consider the following pairs: (2018)**

	<b>Craft</b>	<b>Heritage of</b>
1.	Puthukkuli shawls	Tamil Nadu
2.	Sujni embroidery	Maharashtra
3.	Uppada Jamdani	Karnataka saris

**Which of the pairs given above is/are correct?**

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

**Ans: (a)**

**Exp:**

- **Puthukkuli Shawls: The embroidered textile of the Todas is used as a mantle/shawl or cloak and is called Putkuli in the Toda native language.** It is made by Todas of Nilgiri Hills in Tamil Nadu. Locally called Pugur, meaning flower, the fine and intricate Toda embroidery is done by tribal men and women on shawls. **Hence, pair 1 is correctly matched.**
- **Sujni Embroidery:** Also known as Sujani, it is a form of embroidery originating from the Bhusura village of Bihar in India. In ancient times, it was considered as a form of quilting wherein old saris and dhotis were used as a creative canvas, the cloth was folded twice or thrice and then simple stitches were done on these used clothing to add newness to them. **Hence, pair 2 is not correctly matched.**
- **Uppada Jamdani Saris:** These are diaphanous silk saris that trace their origin to Uppada in Andhra Pradesh. Jamdani itself is a hand-woven fabric that is also known as muslin. The word Jamdani roughly translates to flower vase (where 'Jam' means flower and 'Dani' means vase). It is also said that this technique of weaving has Bengali roots. **Hence, pair 3 is not correctly matched. Therefore, option (a) is the correct answer.**

**Mains**

**Q.** Analyse the factors for highly decentralized cotton textile industry in India. **(2013)**

**Source: PIB**

## **Role of Philanthropy in Accelerating Economic Growth**

**For Mains:** Philanthropy and major challenges inhibited Indian Philanthropy

### **Why in News?**

Through philanthropy, India can reach a per capita income of USD15,000 by India@100 by 2047, accelerating inclusive and sustainable economic growth.

### **What is Philanthropy?**

- Philanthropy refers to **charitable acts or other good works** that help others or society as a whole.
- Philanthropy can **include donating money to a worthy cause** or volunteering time, effort, or other forms of altruism.

### **What do we Know about Philanthropy in India?**

- **Pre-Industrial India:**
  - **Philanthropy has long been embedded in the fabric of Indian society** and contributed heavily to the creation of modern-day India.

- Pre-industrial India saw **business families giving away a proportion of their income to local charities.**
- Industrialization **enabled rapid wealth creation**, business leaders like Sir Jamsetji Tata voiced their opinions on using wealth for social good, donating vast amounts to create exemplary institutions.
- **During Freedom Struggle:**
  - **Mahatma Gandhi** encouraged businessmen to contribute their wealth to society as India's Independence movement began.
  - Industrialists like **Jamnalal Bajaj and G.D. Birla supported Mahatma Gandhi's initiatives** during the **freedom movement** while pursuing their own philanthropic interests.

## What is the Philanthropic Model in the United States?

- With prominent leaders at the forefront, **Indian philanthropy was thriving**, simultaneously, **America was witnessing the Carnegie-Rockefeller era of philanthropy.**
- Andrew Carnegie **built impressive institutions** (like Carnegie Library and Carnegie Mellon University), but also **inspired (and instigated) the rich.**
- The last line of his book reads: **"The man who dies rich, dies disgraced."**
- John D. Rockefeller, a hard-nosed monopolist, eventually donated large amounts of money to systemic reforms, especially to improve the education system.
- The Rockefeller Foundation also **developed the vaccine to eradicate yellow fever.**

## What are the Major Challenges inhibited Indian Philanthropy?

- **A Trust Deficit:**
  - Budding philanthropists **haven't yet come to fully appreciate the good work** being done in the impact sector.
- **Parochial Nature of Giving:**
  - The parochial nature of giving risks some of the poorest parts of the country being ignored.
- **Programmatic Nature of Giving:**
  - The results of **programmatic giving are unsatisfactory.**
  - **Example:** a number of foundations and NGOs work on school education, yet learning outcomes have not improved.

## What should be the Way Forward?

- **Build Institutions:**
  - In order to build new universities in India, collective philanthropy is needed.
  - To improve their rankings, **IIT and IIM alumni could fund research centers.**
  - **Donors can fund think-tanks and build area-specific** (say, on energy transition) or geography-specific (such as eastern Uttar Pradesh) institutions.
  - **Example:**
    - The **Tata family continued Jamsetji Tata's tradition of philanthropy** and has been a pioneer in building institutions like the Indian Institute of Science in Bengaluru, **The Energy and Resources Institute (TERI)**, Tata Memorial Hospital, etc.
- **Fund Risky R&D for the Government:**
  - Governments are the **principal actors in the social sector** and spend crores on education, health, etc.
    - However, the **government is a behemoth and can't experiment or innovate** on a continuous basis, state capacity is also limited.
  - Philanthropists can **fund innovative models and test new ideas through non-profits** by building evidence, advocating for policy change and supporting government implementation.
  - **Example:**
    - Nandan Nilekani built an innovation ecosystem which supports the government in developing a best-in-class digital architecture for India (think of **Aadhaar**, **Unified**

[Payments Interface](#) and eKYC).

▪ **Support Governments to Improve Delivery:**

- Partnering with the government as a philanthropic entity is the most effective way to make a scalable and sustainable impact.
- For this, **philanthropists need to change their orientation** from funding programme delivery through [NGOs](#) (like funding [mid-day meals](#) in schools) to initiatives which improve the government's system of delivery.
- **Example:**
  - The **Piramal Foundation is supporting the Aspirational Districts collective**, Veddis Foundation is funding initiatives to improve the evidence base and outcome orientation of governments.

▪ **Enable Economic Growth:**

- Philanthropists can **use their wealth and experience to advocate policies**, support the improvement of enabling conditions for investment, exports and job creation, and help transform India's economy.

[Source: Livemint](#)

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## Impact of Climate Change on Indian Monsoon

**For Prelims:** Climate Change, Flooding, Droughts, Indian Ocean Dipole, Monsoon depression.

**For Mains:** Impact of Climate Change on Indian Monsoon.

### Why in News?

Recently, Research has shown that global warming, triggered by [Climate Change](#), increases the fluctuations in the [monsoon](#), resulting in **both long dry periods and short spells of heavy rains**.

- The Year 2022 has seen the **second highest extreme events since 1902**. An alarming case as incidents of [floods](#) and [droughts](#) have increased.

### What are the Impacts of Climate Change on Indian Monsoon?

▪ **Contrasting Rainfall Patterns:**

- A shift in the track of monsoon systems has been seen such as low pressure and **depression travelling south of their position and flash floods**.
  - Monsoon depression originally refers to a low-pressure **system affecting the North Indian Ocean and the Bay of Bengal** in summer. It encompasses a **relatively large area and the diameter of closed isobar** can be as wide as 1000 km.
- Madhya Pradesh, Gujarat, Rajasthan and parts of Maharashtra have recorded excess rainfall in 2022, in contrast, **West Bengal, Jharkhand and Bihar did not receive normal rains**.
- August 2022 too saw two back-to-back depressions forming in the Bay of Bengal and traveling across Central India.
- While summer monsoon rainfall each year is unique, there has been a **large regional and temporal variability in rainfall in 2022**.

▪ **Causes:**

- Persistence of intense [La Nina conditions](#), the abnormal warming of East Indian Ocean, negative [Indian Ocean Dipole \(IOD\)](#), southward movement of most of the monsoon

depressions and lows and pre-monsoon heating over the [Himalayan region](#) and melting glaciers.

- IOD is defined by the difference in sea surface temperature between two areas (or poles, hence a dipole) – a western pole in the Arabian Sea (western Indian Ocean) and an eastern pole in the eastern Indian Ocean south of Indonesia.
- The IOD affects the climate of Australia and other countries that surround the **Indian Ocean Basin, and is a significant contributor to rainfall variability in this region.**

▪ **Impacts:**

◦ **Kharif Crops:**

- One of the major impacts of changes in track of monsoon systems can be seen on kharif crops, particularly rice production. They form a significant share of more than 50% of total food grain production during this period.
- The fall in Kharif output **may keep rice prices at elevated levels.**
- Bihar, West Bengal and Uttar Pradesh, which account for a third of the country's total rice production, have been **highly deficit despite an active monsoon current in July and August.**

◦ **Quality of Grains:**

- These uneven distribution rains may impact the quality of the grain as well **as the nutrition value may vary.**
  - According to a study, 'Climate change, the monsoon, and rice yield in India', very high temperatures (> 35°C) induce heat stress and affect plant physiological processes, leading to **spikelet sterility, non-viable pollen and reduced grain quality.**

◦ **Food security:**

- Monsoon rainfall became **less frequent but more intense in India** during the latter half of the 20<sup>th</sup> century.
- Scientists and food experts believe that a better rainfall scenario could have helped increase the harvest.
- However, India's hundreds of millions of rice producers and consumers are being affected negatively with these unprecedented changes which are also raising concerns over [food security](#).

## Way Forward

- India needs **to invest more resources in better prediction of Monsoon forecast** in order to achieve reliability and sustainability.
- With a warming climate, more moisture will be held in the atmosphere, leading to heavier rainfall, consequently, inter-annual variability of the monsoon will increase in future. **The country needs to prepare for this change.**
- Thus, to secure and bring sustainability to the climate pattern of India we need to **take effective and timely steps not just at the domestic front** (National Action Plan on Climate Change) but **also at the international front** (UN Framework Convention on Climate Change), as we live in a shared world with a shared future.

## UPSC Civil Services Examination Previous Year Question (PYQ)

### Prelims

**Q. With reference to 'Indian Ocean Dipole (IOD)' sometimes mentioned in the news while forecasting Indian monsoon, which of the following statements is/are correct? (2017)**

1. IOD phenomenon is characterised by a difference in sea surface temperature between tropical Western Indian Ocean and tropical Eastern Pacific Ocean.
2. An IOD phenomenon can influence an El Nino's impact on the monsoon.

**Select the correct answer using the code given below:**

**(a)** 1 only

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

**Ans: (b)**

**Exp:**

- The Indian Ocean Dipole (IOD) is an atmosphere ocean coupled phenomenon in the tropical Indian Ocean (like the El Nino is in the tropical Pacific), characterised by a difference in Sea-Surface Temperatures (**SST**).
- A '**positive IOD**' is associated with **cooler than normal sea-surface temperatures** in the eastern equatorial Indian Ocean and warmer than normal sea-surface temperatures in the western tropical Indian Ocean.
- The opposite phenomenon is called a '**negative IOD**', and is characterised by **warmer than normal SSTs in the eastern equatorial Indian Ocean** and **cooler than normal SSTs in the western tropical Indian Ocean**.
- Also known as the Indian Nino, it is an irregular oscillation of sea-surface temperatures in the Indian Ocean in which the western Indian Ocean becomes alternately warmer and colder than the eastern part of the Indian Ocean. **Hence, statement 1 is not correct.**
- The IOD is one aspect of the general cycle of global climate, interacting with similar phenomena like the El Nino-Southern Oscillation (ENSO) in the Pacific Ocean. An IOD can either aggravate or weaken the impact of El Nino on Indian monsoon. If there is a positive IOD, it can bring good rains to India despite of an El Nino year. **Hence, statement 2 is correct.**
- **Therefore, option (b) is the correct answer.**

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## **Mains**

**Q1.** 'Climate change' is a global problem. How India will be affected by climate change? How Himalayan and coastal states of India will be affected by climate change? **(2017)**

**Q2.** What characteristics can be assigned to monsoon climate that succeeds in feeding more than 50 percent of the world population residing in Monsoon Asia? **(2017)**

**Q3.** How far do you agree that the behaviour of the Indian monsoon has been changing due to humanizing landscape? Discuss. **(2015)**

[Source: TH](#)

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## **Future of the Commonwealth**

**For Prelims:** Commonwealth Nations, British Monarchy, Republic

**For mains:** Relevance of Commonwealth today and its Future

**Why in News?**



The death of [Queen Elizabeth II](#) of the United Kingdom, marks not only the end of an era for the British monarchy but also a turning point for the 14 Commonwealth realms of which she was the Head of State.

## What is the Background?

- There has been a significant transformation of the socio-economic environment in the 14 realms countries since the death of Queen Elizabeth II.
- Several countries out of these 14 called to **establish a [republic](#) and break free of historical ties to the British monarchy.**
  - A republic is a form of government in which "**supreme power is held by the people and their elected representatives**".
- Thus, it is likely that during the reign of the **incumbent King Charles III**, the Queen's successor, more nations will follow in the **footsteps of Barbados.**
  - **In 2021**, Barbados became the **18<sup>th</sup> country to remove the British monarch from the role of head of state** and substitute them with a national government functionary.

## What is the Commonwealth?

- **About:**
  - The Commonwealth of Nations is a group of **56 countries composed mostly of former British colonies.**
  - It was established by the **London Declaration in 1949.**
  - While members of the Commonwealth are predominantly located in Africa, the Americas, Asia, and the Pacific, with many of them emerging economies, the three European members of the group are Cyprus, Malta, and the U.K.
  - The developed nations of the Commonwealth are Australia, Canada, and New Zealand.
- **Republics and Realms:**
  - The Commonwealth **consists of both Republics and Realms.**
  - The British monarch is the **Head of State for the realms, whereas the republics are ruled by elected governments** except in the case of five countries — **Brunei Darussalam, Eswatini, Lesotho, Malaysia, and Tonga** — each a self-governed monarchy.
    - The **realms** are Antigua and Barbuda, Australia, the Bahamas, Belize, Canada, Grenada, Jamaica, New Zealand, Papua New Guinea, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, the Solomon Islands, and Tuvalu.

## What is the Commonwealth's Relevance in Today's World?

- Although the Commonwealth may seem like an outdated forum after the death of the queen, yet it retains a **suitable relevance which has sustained it over time even after the decolonization of the British Empire.**
- In the age of multilateral diplomacy, where states want a forum to express their views, advance their interests and shape global norms, the **Commonwealth provides precisely such a forum.**
- The monarch is **only the symbolic head**, the leaders of the free world make the Commonwealth work.
- Throughout her reign, Queen Elizabeth played a critical role in championing the organisation and maintaining the group's relevance, regularly travelling to meet with leaders of Commonwealth nations across the world.

## What is the Future of Commonwealth?

- Australia, Newzealand, and the Bahamas are likely to become Republics in future.
- Governments in five other Caribbean nations — Antigua and Barbuda, Belize, Grenada, Jamaica and Saint Kitts and Nevis — have **signalled their intention to act similarly.**
- Thus, it is not beyond imagination that following the death of Queen Elizabeth, **the Commonwealth realms might fade into being a relic of the past**, and nations that suffered a history of colonialism — along with its attendant violence and resource extraction — will move **forward to establish themselves as republics.**

## UPSC Civil Services Examination Previous Year Question (PYQ)

### Q. The plan of Sir Stafford Cripps envisaged that after the Second World War (2016)

- (a) India should be granted complete independence
- (b) India should be partitioned into two before granting independence
- (c) India should be made a republic with the condition that she will join the Commonwealth
- (d) India should be given Dominion status

**Ans: (d)**

**Exp:**

- Cripps Mission headed by Stafford Cripps was sent by the British Government in 1942 to secure the cooperation of India in the Second World War.
- The proposal of the Cripps Mission was that India would be given a Dominion status associated with the United Kingdom. Further, it also suggested for setting up of a Constituent Assembly for framing the Constitution for Dominion of India post-World War II.
- Maulana Abul Kalam Azad and Jawaharlal Nehru were the official negotiators of the Indian National Congress. The talks at the Cripps proposal failed ultimately leading to the launch of the Quit India Movement.
- **Therefore, option (d) is the correct answer.**

### Q. Consider the following statements: (2010)

1. The Commonwealth has no charter, treaty or constitution.
2. All the territories/countries once under the British empire (jurisdiction/rule/mandate) automatically joined the Commonwealth as its members.

**Which of the statements given above is/are correct?**

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

**Ans: (a)**

**Exp:**

- Commonwealth, also called the Commonwealth of Nations, is an association of Sovereign States comprising the United Kingdom and 53 of its former dependencies who have chosen to maintain ties of friendship and practical cooperation.
- The Commonwealth is a voluntary association of member States and has no charter, treaty or constitution. **Hence, statement 1 is correct.**
- For becoming a member of the Commonwealth, a country needs to apply for its membership. Further, not all the former British colonies are the member of Commonwealth like the USA. **Hence, statement 2 is not correct.**
- **Therefore, option (a) is the correct answer.**

**Source: TH**

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# PM PRANAM (Promotion of Alternate Nutrients for Agriculture Management Yojana)

**For Prelims:** PM PRANAM (Promotion of Alternate Nutrients for Agriculture Management Yojana), iFMS (Integrated Fertilizers Management System), Urea, DAP (Di-ammonium Phosphate), MOP (Muriate of potash), NPKS (Nitrogen, Phosphorus and Potassium), Neem Coating of Urea, New Urea Policy (NUP) 2015.

**For Mains:** Impacts of Subsidy on Fertilizers on Indian Economy.

## Why in News?

To reduce the use of chemical fertilisers the Government is Planning to Launch the **PM PRANAM (Promotion of Alternate Nutrients for Agriculture Management Yojana)** Scheme.

## What do we Know About PRANAM Scheme?

### ▪ Objectives:

- To encourage the balanced use of fertilisers in conjunction with biofertilisers and organic fertilisers.

### ▪ Aim:

- To bring down the subsidy burden on chemical fertilisers, which is estimated to reach Rs 2.25 lakh crore in 2022-23 — 39% higher than 2021 figure of Rs 1.62 lakh crore.

### ▪ Features of the Proposed Scheme:

- The scheme will have no separate budget and will be financed through the “savings of existing fertiliser subsidy” under schemes run by the Department of Fertilizers.
- 50% of subsidy savings will be passed on as a grant to the state that saves the money.
  - 70% of the grant provided under the scheme can be used for asset creation related to the **technological adoption of alternate fertilisers** and alternate fertiliser production units at the village, block and district levels.
  - The remaining 30% grant money can be used for **rewarding and encouraging farmers, panchayats, farmer producer organisations** and self-help groups that are **involved in the reduction of fertiliser use and awareness generation.**
- The calculation of reducing chemical fertiliser use of urea in a year will be **compared to the average consumption of urea during the last three years.**
  - For this purpose, data available on a Fertilizer Ministry dashboard, **IFMS (Integrated Fertilizers Management System)** will be used.

## What was the Need for this Scheme?

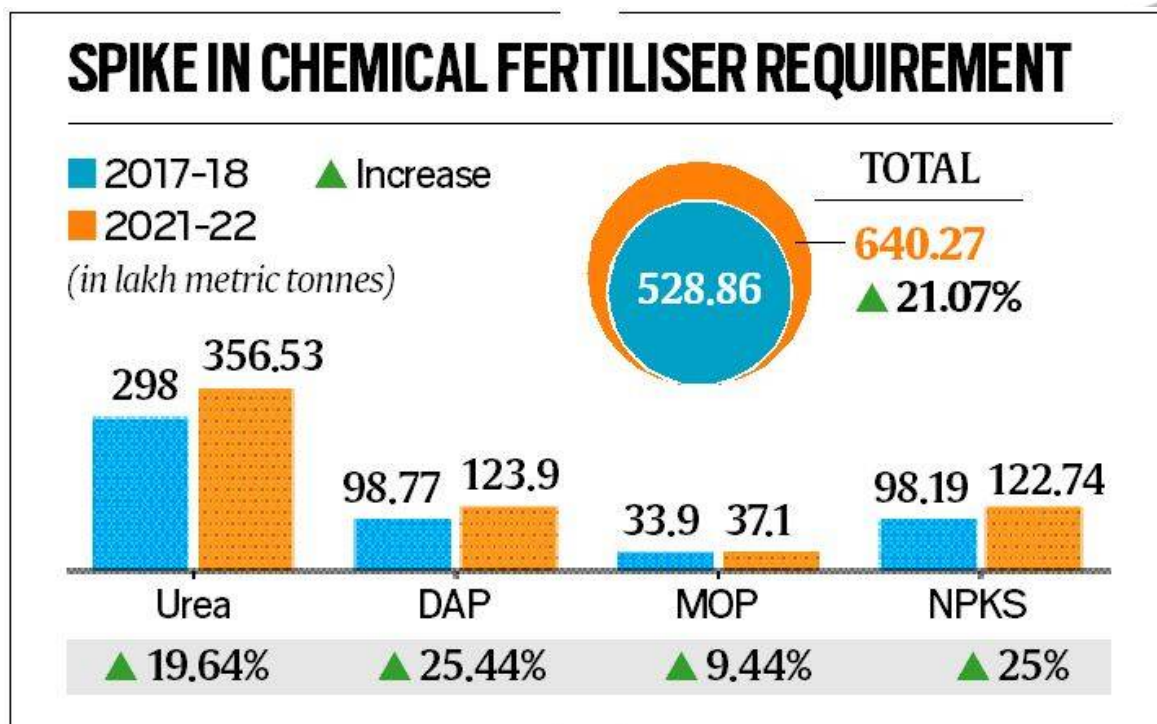
### ▪ Subsidy Burden on Government:

- Farmers **buy fertilisers at Maximum Retail Prices (MRP) below their normal supply-and-demand-based market rates** or what it costs to produce/import them.
  - For example, the MRP of neem-coated urea is fixed by the government at Rs. 5,922.22 per tonne, whereas its average cost-plus price payable to domestic manufacturers and importers comes to around Rs. 17,000 and Rs. 23,000 per tonne, respectively.
- The **difference**, which varies according to plant-wise production cost and import price, is **footed by the Centre as a subsidy**, which goes to the companies.
- The **MRPs of non-urea fertilisers are decontrolled or fixed by the companies.** However, the **Centre pays a flat per-tonne subsidy on these nutrients** to ensure reasonable prices.
  - The per-tonne subsidy ranges from Rs. 10,231 to Rs. 24,000 for different types of fertilisers.
- The Centre **pays subsidy on urea to fertiliser manufacturers on the basis of cost of**

**production** at each plant and the units are required to sell the fertiliser at the government-set Maximum Retail Price (MRP).

## What is the Present Status of Fertilizer Usage in India?

- The expenditure on fertiliser subsidy was 1.62 lakh crore in 2020-21 and could cross Rs 2.25 lakh crore during 2022.
- The total requirement of four fertilisers — **Urea, DAP (Di-ammonium Phosphate), MOP (Muriate of potash), NPKS (Nitrogen, Phosphorus and Potassium)** — in the country **increased by 21%** to 640.27 lakh metric tonnes (LMT) in 2021-22 from 528.86 lakh metric tonnes in 2017-18.
  - **The maximum increase** — 25.44% — has been recorded in the **requirement of DAP**. It went up from 98.77 LMT in 2017-18 to 123.9 LMT in 2021-22.
  - **Urea, the most used chemical fertiliser in the country**, recorded an increase of 19.64 per cent — from 298 LMT in 2017-18 to 356.53 in 2021-22 — in the last five years.



## What are the Other Related Initiatives taken by the government?

- **Direct Benefit Transfer:** The Centre introduced a Direct Benefit Transfer system **in fertilizers** with effect from October 2016 under which a **100% subsidy on various fertiliser grades is released to the fertiliser companies on the basis of actual sales** made by the retailers to the beneficiaries.
- **Incorporation of new Nutrients:** The government had incorporated new nutrients like **Nano urea** and **“bio-stimulants” in the Fertilizer Control Order-1985 (FCO)**.
- **Neem Coating of Urea:** The **Department of Fertilizers (DoF)** has made it mandatory for all the domestic producers to produce **100% urea as Neem Coated Urea (NCU)**.
  - The benefits of use of NCU are as under:-
    - Improvement in soil health.
    - Reduction in usage of plant protection chemicals.
    - Reduction in pest and disease attack.
    - An increase in yield of paddy, sugarcane, maize, soybean, Tur/Red Gram.
- **New Urea Policy (NUP) 2015:** Objectives of the policy are-
  - To maximize **indigenous urea production**.

- To promote energy efficiency in the urea units.
- To rationalize the subsidy burden on the Government of India.
- **Use of Space Technology in Fertilizer Sector:** DoF commissioned a three-year Pilot Study on “Resource Mapping of Rock Phosphate using Reflectance Spectroscopy and Earth Observations Data” by National Remote Sensing Centre under ISRO, in collaboration with Geological.

## UPSC Civil Services Examination Previous Year Question (PYQ)

### Prelims

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

- (a) Release of Neem oil in the soil increases nitrogen fixation by the soil microorganisms.
- (b) Neem coating slows down the rate of dissolution of urea in the soil.
- (c) Nitrous oxide, which is a greenhouse gas, is not at all released into atmosphere by crop fields.
- (d) It is a combination of a weedicide and a fertilizer for particular crops.

**Ans: (b)**

**Exp:**

- **Ordinary Urea:** It is a fertiliser used to provide Nitrogen to the soil, which is necessary for the development of plants. Only 30-40% of Nitrogen present in the urea is utilised by crops. The rest gets degraded. Ordinary urea gets converted to Ammonium Carbamate. Some of this gets converted to Ammonia Gas in a process called ammonia volatilisation, while the rest of the Ammonium Carbamate undergoes a chemical transformation and Nitrates are formed. Some of these are absorbed by the plants. The rest is either leached into the underground water or are denitrified to gaseous Nitrogen and Nitrous Oxide under anaerobic conditions (absence of Oxygen).
- **Neem Coated Urea: Neem has properties that check nitrogen loss at each stage.** It slows down the process of nitrate formation and hence excess nitrate is not available for denitrification. Thus, it helps in countering the degradation of soil and underground water and also any subsequent air pollution by slowing down the rate of dissolution of urea in the soil. **Therefore, option (b) is the correct answer.**

[Source: IE](#)

## INSPIRE Awards

### Why in News?

Recently, the 9<sup>th</sup> **National Level Exhibition and Project Competition (NLEPC)** for the **INSPIRE Awards - MANAK** (Million Minds Augmenting National Aspiration and Knowledge), has commenced.

### What is the INSPIRE (Innovation in Science Pursuit for Inspired Research) Award?

- **About:**
  - It is aligned with the [‘Start-up India’](#) initiative and is being executed by [DST](#) (Department

of Science and Technology) with [National Innovation Foundation](#) - India (NIF), an autonomous body of DST.

- Under this, the **students are invited from all government or private schools throughout the country**, irrespective of their educational boards (national and state).
- Financial support of Rs 10,000 each would be provided so that they could develop prototypes of the ideas which they submitted for the scheme.
- As a next step, they competed at respective **District Level Exhibition and Project Competition (DLEPC)** and **State Level Exhibition and Project Competition (SLEPC)** and finally **National Level Exhibition and Project Competition (NLEPC)**.

▪ **Aim:**

- To **motivate students** to become future **innovators and critical thinkers**.

▪ **Objectives:**

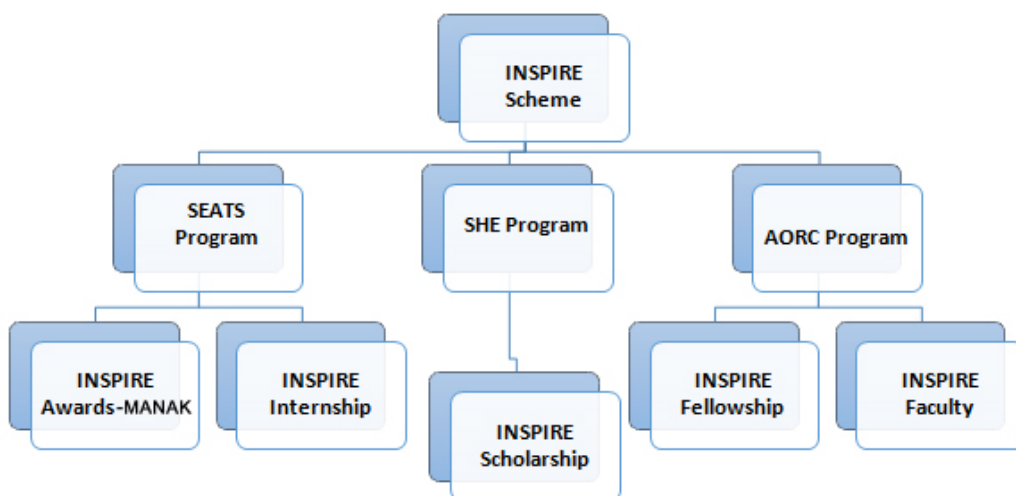
- To target one million original ideas/innovations rooted in science and societal applications **to foster a culture of creativity and innovative thinking** among school children.
- To address the **societal needs through science and technology and nurture them to become sensitive and responsible citizens** and innovation leaders of tomorrow.

▪ **INSPIRE Awards 2022:**

- The INSPIRE Awards were presented to 60 Start-Ups and financial support was provided to 53,021 students.
- It touched an **unparalleled level of inclusivity by representing ideas and innovations** of 702 districts of the country (96%) including 123 out of 124 aspirational districts, **with 51% representation from girls, 84% participation from schools located in rural areas of the country** and 71% of the schools run by the State / UT Governments.

## What do we Know about INSPIRE Scheme?

- The INSPIRE (Innovation in Science Pursuit for Inspired Research) scheme is **one of the flagship programmes** of the **Ministry of Science and Technology**.
- Its **objective is to communicate to the youth population** of the country the creative pursuit of science and attract talent to the **study of science at an early stage** and build the **required critical human resource pool** for strengthening and expanding the Science & Technology system and Research & Development base.
- The Government of India has successfully implemented the INSPIRE scheme **since 2010**. The scheme **covers students in the age group of 10-32 years** and has five components.
  - The **INSPIRE Awards- MANAK** is one of its components.



## What are the Other Related Initiatives?

- [Draft National Science Technology and Innovation Policy, 2020:](#)

- Its aim is to identify and **address strengths and weaknesses of the Indian Science Technology and Innovation (STI)** ecosystem to catalyse socio-economic development of the country and also make the Indian STI ecosystem globally competitive.
- **SERB-POWER Scheme:**
  - It is a scheme designed **exclusively for women scientists** to mitigate gender disparity in science and engineering research in various science and technology (S&T) programmes in Indian academic institutions and [Research and Development](#) (R&D) laboratories.
- **Swarna Jayanti Fellowship:**
  - It provides **special assistance** and support to a selected number of **young scientists** with a proven track record to enable them to pursue basic research in frontier areas of science and technology.

## UPSC Civil Services Examination Previous Year Question (PYQ)

### Prelims

**Q. Which of the following statements is/are correct regarding Smart India Hackathon 2017? (2017)**

1. It is a centrally sponsored scheme for developing every city of our country into Smart Cities in a decade.
2. It is an initiative to identify new digital technology innovations for solving the many problems faced by our country.
3. It is a programme aimed at making all the financial transactions in our country completely digital in a decade.

**Select the correct answer using the code given below:**

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

**Ans: (b)**

**Exp:**

- Smart India Hackathon, 2017 was a 36 hour non-stop digital product development competition during which teams of thousands of technology **students tried to build innovative digital solutions for the problems identified by 29 different Ministries/ Departments of Govt. Hence, statement 2 is correct and 1, 3 are not correct.**
- For the first time, government departments directly engaged with students, challenging them to build digital solutions to improve their efficiency, plug revenue leakages and corruption.
- The 'Grand Finale' of Smart India Hackathon, 2017 was organized, simultaneously across 26 different cities and the winners got support for converting their ideas into startups apart from cash prizes. **Therefore, option (b) is the correct answer.**

**Source: PIB**

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**Swachhta Pakhwara**

## Why in News?

Recently, the Ministry of Railways has launched **“Swachhta Pakhwara”** across Indian Railways.

- The Ministry also released the **Annual Report on Environment Sustainability**.

## What are the Key Highlights?

- The Ministry of Railways is observing Swachhta Pakdwara from 16th September 2022 to 30<sup>th</sup> September 2022.
- Special focus will be given **on cleanliness of tracks at stations, approach to major stations and elimination of plastic waste** in Railway premises.
- During the Pakhwara, intensive cleaning and sanitization of stations, trains, tracks, colonies and other railway establishments **is being carried out with special focus on [plastic waste management](#)**.
- Extensive awareness campaigns are planned to be carried out **through digital media/public announcement through Public Address systems** to educate people about the use of bio-toilets, avoiding single-use plastic, and observing cleanliness habits.

## What is Swachhta Pakhwara?

- It was started in April 2016.
- It aims **to bring a fortnight of intense focus on the issues and practices of Swachhta by engaging** GOI Ministries/Departments in their jurisdictions.
- The Ministries observing Swachhata Pakhwada are **monitored closely using the online monitoring system of Swachhata Samiksha** where action plans, images, videos related to Swachhata activities are uploaded and shared.

## What are the Initiatives related to Cleanliness?

- [World Environment Day \(5<sup>th</sup> June\)](#)
- [Plastic Waste Management Rules, 2016](#)
- [India Plastics Pact](#)
- [Swachh Bharat Mission-Urban 2.0](#).
- [National Mission for Clean Ganga](#)

## What is the Annual Environment Sustainability Report?

- **About:**
  - It is a comprehensive referral document highlighting **steps taken by Indian Railways to promote green environment and clean energy**.
  - This report brings out **Railways’ effort towards [net zero emission](#)** such as energy conservation measures, alternate fuel, harnessing renewable energy, water conservation, afforestation, green certification of stations and establishments, bio toilets, solid waste management etc.
- **Vision:**
  - To promote **green environment and clean energy** while making the Indian Railways a global leader in **sustainable mass transport solutions**.

[Source: PIB](#)

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