TRANSFORM IAS
Transforming Lives with Education

CURRENT AFFAIRS MAGAZINE

August-2022

- International Relations
- Environment & Ecology
- Polity and Governance
- Science & Technology
- Internal Security
- Art and Culture
- Miscellaneous
- Social Issues
- Economy

PHONE NO : 9986526271 , 9739804283
Website : www.transformiasacademy.com
-: ADDRESS :-
17, Kammanahalli Main Rd, above liberty showroom, near Nandana Hotel,
St Thomas Town, Inasappa Layout, Kalyan Nagar, Bengaluru, Karnataka 560084

TRANSFORM IAS

Transforming Lives with Education

August , 2022

Current Affairs

Contents

Contents	Page No.
ART AND CULTURE	1-3
• Birth Anniversary of Pingali Venkayya	
• World Sanskrit Day	
POLITY	4-13
• 14th Vice-President of India	
• Power of the Speaker	
• Provisions of the 10th Schedule: Grounds for Defection	
• Registration of Political Parties	
• 49th Chief Justice of India	
• New India Literacy Programme	
• Independence Day Celebration	
ENVIRONMENT AND ECOLOGY	14-36
• The Indian Antarctic Bill, 2022	
• Indian Oil signs MoU with National Tiger Conservation Authority	
• India's Updated Nationally Determined Contribution	
• Impact of Climate Change on Oceans	
• India adds 10 more wetlands designated as Ramsar site	
• New Ramsar site in Detail	
• Flood Forecasting and Early Warning System	
• World Elephant Day	
• 75 Ramsar Sites in 75th Year of Independence	
ECONOMY	37-55
• Mandatory Procurement from MSMEs	
• 75000 Start-ups Recognised	

- Fair and Remunerative Price
- Lok Sabha passes Bill to set up Gati Shakti University
- Number of employees in IT
- Digital transaction
- Consumption of Petroleum Products and Natural Gas
- Production of Petroleum and Natural Gas
- REC sanctions 22,000 crore to Discoms
- Supply and Demand of Coal
- Guidelines for the scheme 'Strengthening of Pharmaceutical Industry (SPI)'
- National Rail Plan (NRP) for India – 2030
- EASE OF DOING BUSINESS 2.0
- Nano Urea production and sales

SCIENCE AND TECHNOLOGY **56-66**

- Enhancement of Capabilities of AI Technology
- Steps taken for AI Technology Growth
- Import and domestic production of APIs
- 5G spectrum auction
- Biodegradable Biopolymer Nanocomposite
- ITU Regional Standardization Forum (RSF)
- Government offers use of Indigenous 5G Test Bed
- Type Ibn Supernovae (SNe)
- Preservation of Quality of Native Indian Seeds
- Indigenous Vaccine for Lumpy Skin disease

SOCIAL ISSUES **67-82**

- School Innovation Council
- Alternatives for Tobacco Farmers
- Udyam Portal of Ministry of MSME
- NIESBUD and HUL sign MoU
- Swatch Sagar, Surakshit Sagar Campaign
- Microsoft and Meta for Training Tribal Youth
- Distribution of Fortified Rice
- Skill India launches Recognition of Prior Learning (RPL)
- Krishi Udan 2.0
- Centre of Excellence for Khadi

- On boarding of Cooperatives on GeM portal
- PMAY-U up to 31st December 2024

INTERNATIONAL RELATION 83-88

- RIMPAC – 2022
- India-Mauritius High-Powered Joint Trade Committee
- Ex Vajra Prahar 2022
- India's G20 Presidency
- Bilateral Exercise 'Udarashakti'
- EXERCISE AL NAJAF IV

INTERNAL SECURITY 89

- INDIAN ARMY LAUNCHES "HIM- DRONE-A-THON"

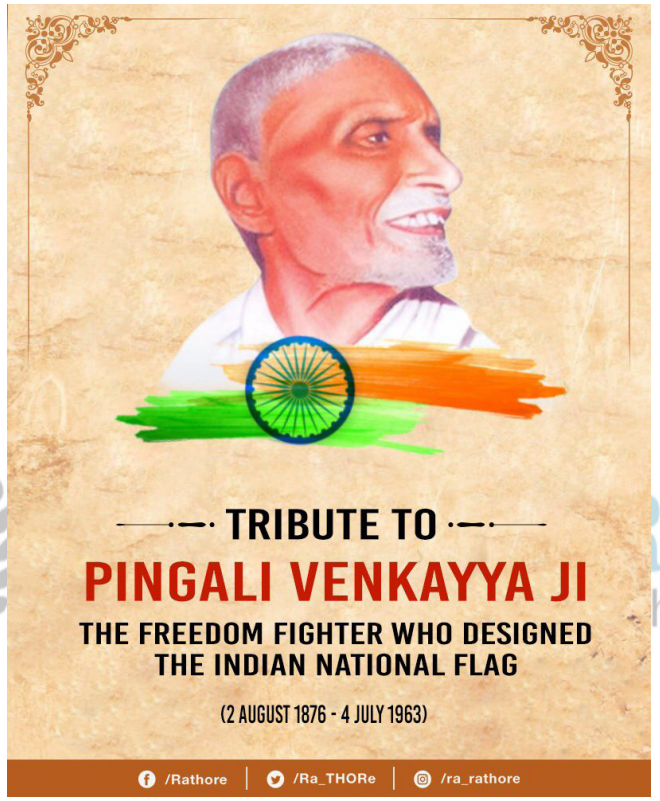
MISCELLANEOUS 90-92

- Repair of a US Navy Ship in India
- India's first Saline Water Lantern
- Pharmacopoeia Commission for Indian Medicine
- Grand Onion Challenge
- Akasa Air commences

Birth Anniversary of Pingali Venkayya

The Prime Minister, Shri Narendra Modi has paid homage to Pingali Venkayya on his birth anniversary.

About Pingali Venkayya



- Venkayya was born in Machilipatnam, Andhra Pradesh on August 2, 1876.
- He joined the British Indian Army and was in South Africa where he met Mahatma Gandhi, became his disciple and plunged into the freedom movement.
- After returning to India, he published a book of flags containing 30 different designs in 1916.
- He wrote letters to freedom fighters including Mahatma Gandhi informing them about his idea of having a national flag and he spoke about it at Congress meetings.
- In 1921, at a meeting in Vijayawada, Mahatma Gandhi and other leaders approved Venkayya's design.
- The first design comprised only two bands—red and green—and a charkha but on the insistence of Mahatma Gandhi, Venkayya added a white band.
- Subsequently, the red colour band was changed to saffron and the Ashok Chakra replaced the charkha.
- On July 4, 1963, Venkayya passed away in poverty.
- In 2009, a stamp was issued in his memory and the Andhra Pradesh Government recommended him for Bharat Ratna in 2014.

World Sanskrit Day

World Sanskrit Day, also called as Viswa Samskrita Dinam, is observed on the full moon day of Hindu month Shraavan.

- This year, the language day falls on August 12.

Key Points

- It is an annual event aimed to promote revival and maintenance of Sanskrit Language.
- The Day was celebrated for the first time in the year 1969 after the Union ministry of education issued notification.
- The Sanskrit organisation Samskrita Bharati (NGO) is involved in promoting the day.

TRANSFORM IAS
Transforming Lives with Education

About Sanskrit

- Sanskrit is an ancient and classical language of India in which ever first book of the world Rigveda was compiled.
- The Vedas are dated by different scholars from 6500 B.C. to 1500 B.C.
- Sanskrit language must have evolved to its expressive capability prior to that.
- Panini (500 B.C.) was a great landmark in the development of Sanskrit language.

- He wrote the master book of grammar named Ashtadhyayi which served as beacon for the later period.
    - Literary Sanskrit and spoken Sanskrit both followed Panini's system of language.
- Sanskrit is said to belong to Indo – Aryan or Indo Germanic family of languages which includes Greek, Latin and other alike languages.
- William Jones, who was already familiar with Greek and Latin, when came in contact with Sanskrit, remarked that Sanskrit is more perfect than Greek, more copious than Latin and more refined than either.
- Sanskrit is included in the list of modern Indian Languages in the eighth schedule of the constitution of India.
- Sanskrit has been the source of later languages and literature in India.
    - Pali and Prakrit were first to develop from Sanskrit.
- Sanskrit has been written both in Devanāgarī script and in various regional scripts, such as:
    - Sarada from the north (Kashmir),
    - Bangla (Bengali) in the east,
    - Gujarati in the west, and
    - various southern scripts, including the Grantha alphabet, which was especially devised for Sanskrit texts.

TRANSFORM IAS
Transforming Lives with Education

14th Vice-President of India

Jagdeep Dhankhar was sworn in as the 14th Vice-President of India at a brief oath taking ceremony at the Rashtrapati Bhavan.

- President Droupadi Murmu administered the oath of office to Mr Dhankhar.

About the Office of Vice President

- The Vice-President occupies the second highest office in the country.
- He is accorded a rank next to the President in the official warrant of precedence.
- The Vice-President, like the president, is elected not directly by the people but by the method of indirect election.
    - He is elected by the members of an electoral college consisting of the members of both Houses of Parliament.
- Qualifications: To be eligible for election as Vice-President, a person should fulfil the following qualifications:
    - He should be a citizen of India.
    - He should have completed 35 years of age.
    - He should be qualified for election as a member of the Rajya Sabha.
    - He should not hold any office of profit under the Union government or any state government or any local authority or any other public authority.
- The presiding officer of the Rajya Sabha is known as the Chairman.
- The vice-president of India is the ex-officio Chairman of the Rajya Sabha.
- During any period when the Vice-President acts as President or discharges the functions of the President, he does not perform the duties of the office of the Chairman of Rajya Sabha.
- The Vice-President holds office for a term of five years from the date on which he enters upon his office.
    - However, he can resign from his office at any time by addressing the resignation letter to the President.
    - He can also be removed from the office before completion of his term.
- The Chairman of the Rajya Sabha can be removed from his office only if he is removed from the office of the Vice-President.
- As a presiding officer, the powers and functions of the Chairman in the Rajya Sabha are similar to those of the Speaker in the Lok Sabha.
- Unlike the Speaker (who is a member of the House), the Chairman is not a member of the House.
- But like the Speaker, the Chairman also cannot vote in the first instance.
    - He too can cast a vote in the case of an equality of votes.
- As in case of the Speaker, the salaries and allowances of the Chairman are also fixed by the Parliament.
    - They are charged on the Consolidated Fund of India and thus are not subject to the annual

TRANSFORM IAS
Transforming Lives with Education

vote of Parliament.

- During any period when the Vice-President acts as President or discharges the functions of the President, he is not entitled to any salary or allowance payable to the Chairman of the Rajya Sabha.
    - But he is paid the salary and allowance of the President during such a time.

Articles Related to Vice President

- Article 63: The Vice-President of India
- Article 64: The Vice-President to be ex-officio Chairman of the Council of States
- Article 65: The Vice-President to act as President or to discharge his functions during casual vacancies in the office, or during the absence, of President
- Article 66: Election of Vice-President
- Article 67: Term of office of Vice-President
- Article 69: Oath or affirmation by the Vice-President

Power of the Speaker

Recently, the role of the Speaker of the House was in debate with respect to its power regarding the disqualifications of the members of the house

- C.P. Joshi committee was also formed in 2019 to examine the role of the Speaker in cases of disqualification on grounds of defection under the Tenth Schedule of the Constitution.
- The committee recommended that political party should also have power to disqualify the members under anti-defection.
    - Currently, the power to disqualify under anti-defection law lies with the Speaker only.

TRANSFORM IAS
Transforming Lives with Education

What is Anti-Defection Law?

- The anti-defection law punishes individual MPs/MLAs for leaving one party for another.
- Parliament added it to the Constitution as the Tenth Schedule in 1985.
- It was a response to the toppling of multiple state governments by party-hopping MLAs after the general elections of 1967.

Provisions of the 10th Schedule: Grounds for Defection

- If an elected member gives up his membership of a political party voluntarily.
- In case the member of the party votes or abstains from voting in the House, contrary to any direction issued by his political party.
- In case any independently elected member joins any other party.
- In case any nominated member joins any political party after the end of 6 months.
- The decision on disqualification questions on the ground of defection is referred to the Speaker or the Chairman of the House, and his/her decision is final.
- Proceedings related to disqualification under the 10th Schedule are considered to be proceedings in Parliament or the Legislature of a state depending on the case.

Judicial review

- Initially, the law had stated that the Presiding officer is not subject to any judicial review.
- This was struck down by the Supreme Court in 1992.
- It was also stated that there would be no intervention until the Presiding officer gave his order.

Registration of Political Parties

With the upcoming elections in certain state legislative assemblies, the registration of political parties was in news.

Key Points

- Any party seeking registration has to submit an application to the Election Commission within a period of 30 days following the date of its formation.
- This is as per guidelines prescribed by the Commission in exercise of its powers conferred by Article 324 of the Constitution of India.
- The registration of all political parties is governed by the provisions of Section 29A of the Representation of the People Act, 1951.

Why registering with the EC is important?

- It is not mandatory to register with the Election Commission but registering as a political party with the EC has its advantage.
- This is in terms of intending to avail itself of the provisions of the Representation of the People Act, 1951, (relating to registration of political parties).
- The candidates set up by a political party registered with the EC will get preference in the matter of allotment of free symbols vis-à-vis purely independent candidates.
- These registered political parties, over course of time, can get recognition as a 'state party' or a 'national party'.
    - This is subject to the fulfilment of the conditions prescribed by the Commission in the Election Symbols (Reservation and Allotment) Order, 1968.

TRANSFORM IAS
Transforming Lives with Education

How EC recognizes a political party as a state or national party?

A party would be recognized as a state party only if:

- It has won 3 per cent of seats in the Legislative Assembly of the state (subject to a minimum of 3 seats) during general elections or Legislative Assembly elections.
- It has won 1 Lok Sabha seat for every 25 Lok Sabha seats allotted for the state during Lok Sabha general elections.
- It has polled a minimum of 6 per cent of votes in a state in addition to winning 1 Lok Sabha or 2 Legislative Assembly seats at a general election to Lok Sabha or Legislative Assembly.
- It has polled 8 per cent of votes in a state at a general election to Lok Sabha or Legislative Assembly.

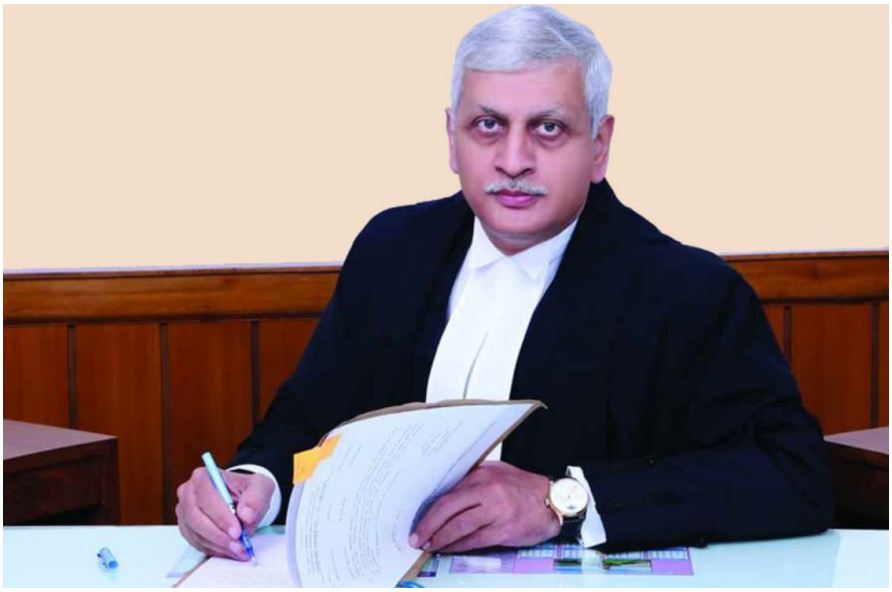
Conditions for National Party

- It has won 2 per cent of seats in the Lok Sabha (11 seats) from at least 3 different states.
- It has polled 6 per cent of votes in four states in addition to winning 4 Lok Sabha seats.
- It has been recognized as a state party in four or more states.

49th Chief Justice of India

In exercise of the power conferred by Article 124 of the Constitution of India, the President has appointed Shri Justice Uday Umesh Lalit, as the Chief Justice of India.

- Justice Uday Umesh Lalit who was earlier a judge of Supreme Court will take over as the 49th Chief Justice of India on 27th August 2022.



Key Points

- Justice Uday Umesh Lalit was appointed as Judge of the Supreme Court of India on August 2014 from the Bar.
- Justice Lalit will become the second Chief Justice of India to be directly elevated to the Supreme Court from the Bar.
    - This is after Justice S.M. Sikri, who served as the 13th CJI in 1971.
- Justice Lalit has served as a Member of Supreme Court Legal Services Committee for two terms.

About Supreme Court and its Judges

- The Indian Constitution has established an integrated judicial system with the Supreme Court at the top and the high courts below it.
- The Supreme Court of India was inaugurated on January 28, 1950.
- It succeeded the Federal Court of India, established under the Government of India Act of 1935.
- However, the jurisdiction of the Supreme Court is greater than that of its predecessor.
- This is because, the Supreme Court has replaced the British Privy Council as the highest court of appeal.
- Articles 124 to 147 in Part V of the Constitution deal with the organisation, independence, jurisdiction, powers, procedures and so on of the Supreme Court.

Appointment of Judges

- The judges of the Supreme Court are appointed by the president.
- The chief justice is appointed by the president after consultation with such judges of the Supreme Court and high courts as he deems necessary.
- The other judges are appointed by president after consultation with the chief justice and such other judges of the Supreme Court and the high courts as he deems necessary.
- The consultation with the chief justice is obligatory in the case of appointment of a judge other than Chief justice.

Controversy over Consultation

- The Supreme Court has given different interpretation of the word ‘consultation’ in the above provision.
- In the First Judges case (1982), the Court held that consultation does not mean concurrence and it

TRANSFORM IAS
Transforming Lives with Education

only implies exchange of views.

- But, in the Second Judges case (1993), the Court reversed its earlier ruling and changed the meaning of the word consultation to concurrence.
- Hence, it ruled that the advice tendered by the Chief Justice of India is binding on the President in the matters of appointment of the judges of the Supreme Court.
- But, the Chief Justice would tender his advice on the matter after consulting two of his seniormost colleagues.
- Similarly, in the third judges case2 (1998), the Court opined that the consultation process to be adopted by the Chief justice of India requires 'consultation of plurality judges'.
- The sole opinion of the chief justice of India does not constitute the consultation process.
- He should consult a collegium of four seniormost judges of the Supreme Court.
    - And even if two judges give an adverse opinion, he should not send the recommendation to the government.
- The court held that the recommendation made by the chief justice of India without complying with the norms and requirements of the consultation process are not binding on the government.

Appointment of Chief Justice

- From 1950 to 1973, the practice has been to appoint the seniormost judge of the Supreme Court as the chief justice of India.
- This established convention was violated in 1973 when A N Ray was appointed as the Chief Justice of India by superseding three senior judges.
- Again in 1977, M U Beg was appointed as the chief justice of India by superseding the then seniormost judge.
- This discretion of the government was curtailed by the Supreme Court in the Second Judges Case (1993).
    - The Supreme Court ruled that the seniormost judge of the Supreme Court should alone be appointed to the office of the chief justice of India.

TRANSFORM IAS
Transforming Lives with Education

Qualifications of Judges

A person to be appointed as a judge of the Supreme Court should have the following qualifications:

- He should be a citizen of India.
- He should have been a judge of a High Court (or high courts in succession) for five years; or
- He should have been an advocate of a High Court (or High Courts in succession) for ten years;
- He should be a distinguished jurist in the opinion of the president.

From the above, it is clear that the Constitution has not prescribed a minimum age for appointment as a judge of the Supreme Court.

Tenure of Judges

- The Constitution has not fixed the tenure of a judge of the Supreme Court.
- However, it makes the following three provisions in this regard:
    - He holds office until he attains the age of 65 years.
        - Any question regarding his age is to be determined by such authority and in such manner as provided by Parliament.
    - He can resign his office by writing to the president.
    - He can be removed from his office by the President on the recommendation of the Parliament.

Removal of Judges

- A judge of the Supreme Court can be removed from his Office by an order of the president.
- The President can issue the removal order only after an address by Parliament has been presented to him in the same session for such removal.
- The address must be supported by a special majority of each House of Parliament (ie, a majority of the total membership of that House and a majority of not less than two-thirds of the members of that House present and voting).
- The grounds of removal are two—proved misbehaviour or incapacity.
- The Judges Enquiry Act (1968) regulates the procedure relating to the removal of a judge of the Supreme Court by the process of impeachment:
    - A removal motion signed by 100 members (in the case of Lok Sabha) or 50 members (in the case of Rajya Sabha) is to be given to the Speaker/Chairman.
    - The Speaker/Chairman may admit the motion or refuse to admit it.
    - If it is admitted, then the Speaker/Chairman is to constitute a three-member committee to investigate into the charges.
    - The committee should consist of (a) the chief justice or a judge of the Supreme Court, (b) a chief justice of a high court, and (c) a distinguished jurist.
    - If the committee finds the judge to be guilty of misbehaviour or suffering from an incapacity, the House can take up the consideration of the motion.
    - After the motion is passed by each House of Parliament by special majority, an address is presented to the president for removal of the judge.
    - Finally, the president passes an order removing the judge.
- It is interesting to know that no judge of the Supreme Court has been impeached so far.
- The first and the only case of impeachment is that of Justice V Ramaswami of the Supreme Court (1991–1993).
- Though the enquiry Committee found him guilty of misbehaviour, he could not be removed as the impeachment motion was defeated in the Lok Sabha.
    - The Congress Party abstained from voting.

New India Literacy Programme

Government had recently approved a new scheme "New India Literacy Programme for the period FYs 2022-2027.

- It will cover all the aspects of Adult Education to align with National Education Policy 2020 and Budget Announcements 2021-22.

Key Points

The National Education Policy 2020 has recommendations for Adult Education and Lifelong Learning.

- The objectives of the scheme is to impart not only foundational literacy and numeracy but also to cover other components which are necessary for a citizen of 21st century such as:
    - critical life skills (including financial literacy, digital literacy, commercial skills, health care and awareness, child care and education, and family welfare);
    - vocational skills development (with a view towards obtaining local employment);
    - basic education (including preparatory, middle, and secondary stage equivalency); and
    - continuing education including engaging holistic adult education courses in arts, sciences,

TRANSFORM IAS Transforming Lives with Education

technology, culture, sports, and recreation, as well as other topics of interest.

- The scheme will be implemented through volunteerism through online mode.
- The training, orientation, workshops of volunteers, may be organized through face-to-face mode.
- All material and resources shall be provided digitally for easy access to registered volunteers through easily accessible digital modes, viz, TV, radio, cell phone-based free/open-source Apps/portals, etc.
- The scheme will cover non-literates of the age of 15 years and above in all state/UTs in the country.
- The target for Foundational Literacy and Numeracy for FYs 2022-27 is 5 (five) crore learners @ 1.00 crore per year.
- This can be done by using "Online Teaching, Learning and Assessment System (OTLAS)" in collaboration with National Informatics Centre, NCERT and NIOS.
- A learner may register him/herself on the platform with essential information like name, date of birth, gender, Aadhaar number, mobile number etc.
- The estimated total outlay of "New India Literacy Programme" is Rs.1037.90 crore which includes:
    - Central share of Rs.700 crore and State share of Rs.337.90 crore respectively for the FYs 2022 -27.
- Salient Features of the scheme:
    - School will be Unit for implementation of the scheme.
    - Schools to be used for conducting survey of beneficiaries and Voluntary Teachers (VTs).
    - Flexibility for States/UTs will be provided to undertake innovative activities.
    - Use of Technologies to impart Adult Education for wider coverage of the scheme.
    - Performance Grading Index (PGI) for State/UT and district level will show the performance of States and UTs.
    - CSR/Philanthropic Support may be received.
    - Priority and Saturation in Literacy- The age cohort of 15-35 will be saturated first followed by ages 35 and above.
    - Priority will be given in terms of categories to the Girls and women, SC/ST/OBC/Minorities, Persons with Special Needs (Divyangjans), Marginalized/ Nomadic/ construction workers/ laborers/etc. who can substantially and immediately benefit from adult education.
- In terms of location/area, the focus shall be on:
    - all aspirational districts of NITI Aayog,
    - districts with literacy rates less than the National/State average,
    - districts with female literacy rates less than 60% as per the 2011 Census,
    - Districts/ Blocks with large SC/ST/ Minority population, Educationally Backward Blocks, Left Wing Extremism Affected districts.
- New India Literacy Programme will be used as Janandolan to spread literacy.
    - The three crores students/children of around 7 lakh schools registered under UDISE along with about 50 lakh teachers of Government, Aided and Private schools will participate as volunteer.
    - An estimated 20 lakh students from Teacher Education and Higher Education Institutions will be actively involved as volunteer.
    - Support will be garnered from PRIs, Anganwadi workers, ASHA workers.
    - There will be involvement of community, participation of philanthropic/CSR organizations through volunteerism and through Vidyanjali portal.
- Assessment of Literacy will be conducted using scientific format to capture the real-life learnings and skills for functional literacy.

TRANSFORM IAS
Transforming Lives with Education

- Assessment on demand will also be made through OTLAS and e-certificate jointly e-signed by NIOS and NLMA will be issued to the learner.

Other Changes:

Adult Education is now 'Education for All' in the country.

- As a progressive step, it has also been decided that from now onwards that the term "Education for All" will be used in place of "Adult Education" by the Ministry.

About UDISE+

Unified District Information System for Education Plus" (UDISE+) is an application under the Ministry of Education.

- UDISE+ has a mandate of collecting information from all recognized and unrecognized schools imparting formal education from Pre-primary to XII.
- Information collected through the digital platform of UDISE+, is utilized for the planning, optimized resource allocation and implementation of various education-related programs and assessments of progress made.

Independence Day Celebration

The Independence Day of India, which is celebrated religiously throughout the Country on the 15th of August every year, holds tremendous ground in the list of national days.

- It reminds every Indian about the dawn of a new beginning, the beginning of an era of deliverance from the clutches of British colonialism of more than 200 years.

TRANSFORM IAS
Transforming Lives with Education

Key Points

- It was on 15th August 1947 that India was declared independent from British colonialism, and the reins of control were handed over to the leaders of the Country.
- India's gaining of independence was a tryst with destiny, as the struggle for freedom was a long and tiresome one.
- The struggle witnessed the sacrifices of many freedom fighters, who laid down their lives on the line.
- On 15th August 1947, the Prime Minister of India, Jawaharlal Nehru lifted the Indian flag above the Lahori Gate in Delhi.
- In some ways this became a custom and on each subsequent Independence Day, the sitting Prime Minister raises the country's flag and gives an address to the nation.

A Glance at Indian Independence Act of 1947

- On February 20, 1947, the British Prime Minister Clement Atlee declared that the British rule in India would end by June 30, 1948;
    - After which the power would be transferred to responsible Indian hands.
- This announcement was followed by the agitation by the Muslim League demanding partition of the country.
- Again on June 3, 1947, the British Government made it clear that any Constitution framed by the Constituent Assembly of India (formed in 1946) cannot apply to those parts of the country which were unwilling to accept it.
- On the same day (June 3, 1947), Lord Mountbatten, the viceroy of India, put forth the partition plan, known as the Mountbatten Plan.
- The plan was accepted by the Congress and the Muslim League.
- Immediate effect was given to the plan by enacting the Indian Independence Act (1947).
- Features of the Act:
    - It ended the British rule in India and declared India as an independent and sovereign state from August 15, 1947.
    - It provided for the partition of India and creation of two independent dominions of India and Pakistan with the right to secede from the British Commonwealth.
    - It abolished the office of viceroy and provided, for each dominion, a governor-general, who was to be appointed by the British King on the advice of the dominion cabinet.
    - His Majesty's Government in Britain was to have no responsibility with respect to the Government of India or Pakistan.
    - It empowered the Constituent Assemblies of the two dominions to frame and adopt any constitution for their respective nations.
    - The Constituent Assemblies could repeal any act of the British Parliament, including the Independence act itself.
    - It empowered the Constituent Assemblies of both the dominions to legislate for their respective territories till the new constitutions were drafted and enforced.
    - No Act of the British Parliament passed after August 15, 1947 was to extend to either of the new dominions unless it was extended thereto by a law of the legislature of the dominion.
    - It abolished the office of the secretary of state for India and transferred his functions to the secretary of state for Commonwealth Affairs.
    - It proclaimed the lapse of British paramountcy over the Indian princely states and treaty relations with tribal areas from August 15, 1947.
    - It granted freedom to the Indian princely states either to join the Dominion of India or Dominion of Pakistan or to remain independent.
    - It provided for the governance of each of the dominions and the provinces by the Government of India Act of 1935, till the new Constitutions were framed.
    - The dominions were however authorised to make modifications in the Act.
    - It deprived the British Monarch of his right to veto bills or ask for reservation of certain bills for his approval.
    - But, this right was reserved for the Governor-General.
    - The Governor General would have full power to assent to any bill in the name of His Majesty.

TRANSFORM IAS
Transforming Lives with Education

- It designated the Governor-General of India and the provincial governors as constitutional (nominal) heads of the states.
- They were made to act on the advice of the respective council of ministers in all matters.
- It dropped the title of Emperor of India from the royal titles of the king of England.
- It discontinued the appointment to civil services and reservation of posts by the secretary of state for India.
- The members of the civil services appointed before August 15, 1947 would continue to enjoy all benefits that they were entitled to till that time.

- At the stroke of midnight of 14–15 August, 1947, the British rule came to an end and power was transferred to the two new independent Dominions of India and Pakistan.
- Lord Mountbatten became the first governor-general of the new Dominion of India.
- He swore in Jawaharlal Nehru as the first prime minister of independent India.
- The Constituent Assembly of India formed in 1946 became the Parliament of the Indian Dominion.

About First Cabinet of Free India (1947)

Members	Portfolios Held
Jawaharlal Nehru	Prime Minister; External Affairs & Commonwealth Relations; Scientific Research
Sardar Vallabhbhai Patel	Home, Information & Broadcasting; States
Dr. Rajendra Prasad	Food & Agriculture
Maulana Abul Kalam Azad	Education
Dr. John Mathai	Railways & Transport
R.K. Shanmugham Chetty	Finance
Dr. B.R. Ambedkar	Law
Jagjivan Ram	Labour
Sardar Baldev Singh	Defence
Raj Kumari Amrit Kaur	Health
C.H. Bhabha	Commerce
Rafi Ahmed Kidwai	Communication
Dr. Shyam Prasad Mukherji	Industries & Supplies
V.N. Gadgil	Works, Mines & Power

The Indian Antarctic Bill, 2022

Parliament passed the Indian Antarctic Bill, 2022, which aims at having India's own national measures for protecting the Antarctic environment.

- The bill seeks to protect the Antarctic environment and regulate activities in the region.

Key Points

- The Bill seeks to give effect to the following:
  - Antarctic Treaty,
  - the Convention on the Conservation of Antarctic Marine Living Resources, and
  - the Protocol on Environmental Protection to the Antarctic Treaty.
- The bill aims to ensure de-militarization of the region along with getting it rid of mining or illegal activities.
- It also aims that there should not be any nuclear test / explosion in the region.
- The Bill provides a harmonious policy and regulatory framework for India's Antarctic activities through well-established legal mechanisms.
  - It will help in efficient and elective operations of Indian Antarctic Programme.
- It will also facilitate India's interest and pro-active involvement in the management of growing Antarctic tourism, and
  - Sustainable development of fisheries resources in Antarctic waters.
- It will also help in increased international visibility, credibility of India in Polar governance.
  - This in turn will lead to international collaboration and cooperation in scientific and logistics fields.
- The enforcement of such laws will confer Jurisdiction on the courts of India to deal with any dispute or crimes committed in parts of Antarctica.
  - Legislation of such a kind will bind the citizens to the policies of the Antarctic treaty system.
  - This will also be useful in building credibility and enhancing the status of the Country globally.
- The Bill also proposed to set-up the Indian Antarctic Authority (IAA) under the Ministry of Earth Sciences, which shall be the apex decision making authority.
- Secretary, Ministry of Earth Sciences will be the Chairperson of the IAA.
  - The IAA will have official members from the concerned India Ministries and decisions will be by consensus.

Key features of the Bill

- Applicability:
  - The provisions of the Bill will apply to any person, vessel or aircraft that is a part of an Indian expedition to Antarctica under a permit issued under the Bill.
- Central committee:
  - The central government will establish a Committee on Antarctic Governance and Environmental Protection.

TRANSFORM IAS
Transforming Lives with Education

  - The Committee will be chaired by the Secretary of the Ministry of Earth Sciences.
  - 10 members, not below the rank of joint secretary, will be nominated from various Ministries and organisations.
  - In addition, two experts from Antarctic environment and geo-political fields will be nominated by the central government.
- The functions of the Committee include:
  - Granting permits for various activities,
  - Implementing and ensuring compliance of relevant international laws for protection of Antarctic environment,
  - Obtaining and reviewing relevant information provided by parties to the Treaty, Convention, and Protocol, and
  - Negotiating fees/charges with other parties for activities in Antarctica.
- Before a permit is granted by the Committee, the applicant has to carry out an environmental impact assessment of the proposed activities.
- Moreover, a permit must not be granted unless a waste management plan has been prepared for the expedition by the Committee.
- Prohibited activities: The Bill prohibits certain activities in Antarctica including:
  - Nuclear explosion or disposal of radioactive wastes,
  - Introduction of non-sterile soil, and
  - Discharge of garbage, plastic or other substance into the sea which is harmful to the marine environment.
- Offences and penalties:
  - The Bill specifies penalties for contravention of its provisions.
- The central government may notify one or more Sessions Courts to be the Designated Court under the Bill and specify its territorial jurisdiction to try offences punishable under the Bill.

TRANSFORM IAS
Transforming Lives with Education

Other Important Facts

- India today has two operational research stations in Antarctica named Maitri (Commissioned in 1989) and Bharati (Commissioned in 2012).
- India has successfully launched 40 annual scientific expeditions to Antarctica till date.
- With Himadri station in Ny-Alesund, Svalbard, Arctic, India now belongs to the elite group of nations that have multiple research stations within the Polar Regions.
- The Convention on the Conservation of Antarctic Marine Living Resources was signed at Canberra in May, 1980.
  - This was aimed at the protection and preservation of the Antarctic environment and, in particular, for the preservation and conservation of marine living resources in Antarctica.
- India ratified the Convention in June, 1985 and is a member of the Commission for Conservation of Antarctic Marine Living Resources under that Convention.
- The Protocol on Environmental Protection to the Antarctic Treaty was signed at Madrid in October, 1991.
  - The objective was to strengthen the Antarctic Treaty system and
  - For the development of a comprehensive regime for the protection of the Antarctic environment and dependent and associated ecosystems.
  - India signed the Protocol on Environmental Protection to the Antarctic Treaty in January, 1998.

About Antarctica

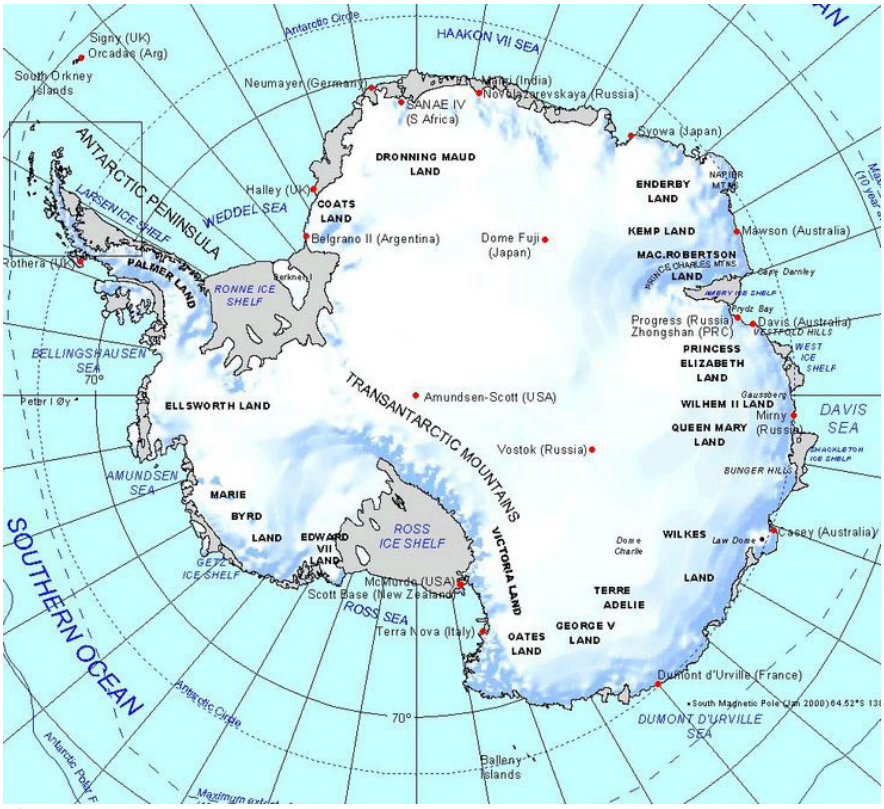
- The continent of Antarctica makes up most of the Antarctic region.
- The Antarctic is a cold, remote area in the Southern Hemisphere encompassed by the Antarctic Convergence.
- The Antarctic covers approximately 20 percent of the Southern Hemisphere.
- Antarctica is the fifth-largest continent in terms of total area.
    - It is larger than both Oceania and Europe.
- Antarctica is a unique continent in that it does not have a native population.
- There are no countries in Antarctica, although seven nations claim different parts of it: New Zealand, Australia, France, Norway, the United Kingdom, Chile, and Argentina.

TRANSFORM IAS Transforming Lives with Education

Antarctica: Physical Geography

- The Antarctic Ice Sheet dominates the region.
- It is the largest single piece of ice on Earth.
- This ice sheet even extends beyond the continent when snow and ice are at their most extreme.
- The ice surface dramatically grows in size from about 3 million square kilometres at the end of summer to about 19 million square kilometres by winter.
- Ice sheet growth mainly occurs at the coastal ice shelves, primarily the Ross Ice Shelf and the Ronne Ice Shelf.
- Antarctica has a number of mountain summits, including the Transantarctic Mountains, which divide the continent into eastern and western regions.
- A few of these summits reach altitudes of more than 4,500 meters (14,764 feet).
- The elevation of the Antarctic Ice Sheet itself is about 2,000 meters and reaches 4,000 meters above sea level near the centre of the continent.
- Without any ice, Antarctica would emerge as a giant peninsula along with archipelago of mountainous islands, known as Lesser Antarctica, and
    - A single large landmass about the size of Australia, known as Greater Antarctica. These regions have different geologies.
- Greater Antarctica, or East Antarctica, is composed of older, igneous and metamorphic rocks.
    - Lesser Antarctica, or West Antarctica, is made up of younger, volcanic and sedimentary rock.
    - Lesser Antarctica, in fact, is part of the “Ring of Fire”.
- Mount Erebus, located on Antarctica’s Ross Island, is the southernmost active volcano on Earth.
- The oceans surrounding Antarctica provide an important physical component of the Antarctic region.

- The waters surrounding Antarctica are relatively deep, reaching 4,000 to 5,000 meters.



Climate: Antarctica

- Antarctica has an extremely cold, dry climate.
- Winter temperatures along Antarctica's coast generally range from -10° Celsius to -30° Celsius.
- During the summer, coastal areas hover around 0°C but can reach temperatures as high as 9°C.
- In the mountainous, interior regions, temperatures are much colder, dropping below -60°C in winter and -20°C in summer.
- In 1983, Russia's Vostok Research Station measured the coldest temperature ever recorded on Earth: -89.2°C (-128.6°F).
- An even lower temperature was measured using satellite data taken in 2010: -93.2°C (-135.8°F)
- Precipitation in the Antarctic is hard to measure.
  - It always falls as snow.
  - Antarctica's interior is believed to receive only 50 to 100 millimeters (2-4 inches) of water (in the form of snow) every year.
  - The Antarctic desert is one of the driest deserts in the world.
- The Antarctic region has an important role in global climate processes.
  - It is an integral part of the Earth's heat balance.

Flora and Fauna: Antarctica

- Lichens, mosses, and terrestrial algae are among the few species of vegetation that grow in Antarctica.
- More of this vegetation grows in the northern and coastal regions of Antarctica, while the interior has little if any vegetation.
- The ocean, however, teems with fish and other marine life.
  - In fact, the waters surrounding Antarctica are among the most diverse on the planet.
  - Upwelling allows phytoplankton and algae to flourish.
  - Thousands of species, such as krill, feed on the plankton.
  - Fish and a large variety of marine mammals thrive in the cold Antarctic waters.

TRANSFORM IAS
Transforming Lives with Education

- Blue, fin, humpback, right, minke, sei, and sperm whales have healthy populations in Antarctica.
- The most familiar animal of Antarctica is probably the penguin. They have adapted to the cold, coastal waters.

Note: Antarctica is the only continent with no permanent human habitation. There are, however, permanent human settlements, where scientists and support staff live for part of the year on a rotating basis.

Indian Oil signs MoU with National Tiger Conservation Authority

Indian Oil signed a MoU with National Tiger Conservation Authority (NTCA) for transcontinental relocation of 'Cheetah' in its historical range in India.

- Indian Oil is the first corporate which has come forward to support the "Project Cheetah" under CSR.

Key Points

- This MoU is in continuation with the MoU signed in July 2022 between Government of India and Government of the Republic of Namibia.
- It was on wildlife conservation and sustainable biodiversity utilization, for establishing the cheetah into the historical range in India.
- Indian Oil will be contributing Rs.50.22 crore in 4 years for the project components viz. Cheetah Introduction.
- The project will include Habitat Management & Protection, Eco Development, Staff Training and Veterinary Healthcare.
- This project is in sync with Indian Oil's strong environmental conscience and aligns with the company's focus on conserving India's natural habitat and heritage.
- It may be noted that Indian Oil adopted Indian Single Horned Rhino as its mascot last year and, since then, has been at the forefront of India's Rhino conservation endeavours.
- Under Cheetah introduction project, a source population of 8-10 Cheetahs will be flown in from Namibia and South Africa.
- They will be introduced at Kuno National Park, Madhya Pradesh.
- It is a national project involving National Tiger Conservation Authority (NTCA), Govt. of India and the State Govt. of Madhya Pradesh.

Cheetah in India: A brief History

TRANSFORM IAS
Transforming Lives with Education

- The cheetah is the only large carnivore to have gone extinct in India, primarily due to hunting and habitat loss.
- Maharaja Ramanuj Pratap Singh Deo of Korea, Madhya Pradesh, is widely believed to have killed the last three recorded cheetahs in India in 1947.
- In 1952, the Indian government officially declared the Cheetah extinct in the country.
- The earliest available record for cheetahs being used for hunts in India, comes from the 12th century Sanskrit text Manasollasa.
- While it had been suggested that this would be the first trans-continental shifting of a large carnivorous animal to India, it can be argued that this is not the first time.
- Purchases of cheetahs from Africa took place in the 20th century also.
- The princely states of Bhavnagar and Kolhapur were the leading importers of cheetahs between 1918-1939.
- Cheetahs continued to be imported to independent India in small numbers, especially for exhibitions in zoos.

The Demand for Reintroduction

- If the re-introduction of cheetahs into the wild is successful, it would mark the culmination of a decades-long process.
- The State Wildlife Board of Andhra Pradesh was the first to suggest the policy in 1955, on an experimental basis in two districts of the state.
- In the 1970s, the Department of Environment formally requested Iran, which had 300 Asiatic cheetahs at the time, for some cheetahs.
    - The Shah of Iran was deposed before any deal could be reached.
- Attempts to bring cheetahs to India were revived once more in 2009.
- The Wildlife Trust of India conducted a meeting to discuss the feasibility of cheetah reintroduction.
- Several sites were chosen, of which Kuno-Palpur National Park was seen as the most suitable.
- The Supreme Court in 2010 stayed the order to reintroduce cheetah to Kuno- Palpur because the National Board for Wildlife had not been privy to the matter.
- In 2020, while responding to a plea by the government, the Supreme Court announced that African cheetahs could be introduced in a “carefully chosen location” on an experimental basis.

TRANSFORM IAS
Transforming Lives with Education

About Cheetah

- IUCN Red List Status: Vulnerable
- Scientific Name: Acinonyx jubatus
- Average Life Span In The Wild: Up to 14 years
- Body: 3.7 to 4.6 feet; tail: two to 2.7 feet
- Weight: 77 to 143 pounds
- The cheetah is the world’s fastest land mammal.
- A cheetah can go from zero to 60 miles an hour in only three seconds.
- Wild cheetahs are thought to be able to reach speeds of nearly 70 miles an hour—although they can only sustain that speed for about 30 seconds.
- Cheetahs are famous for their tawny coats covered in black spots, each arranged in a unique pattern to help the animals identify one another.
- Unlike lions, cheetahs don’t live in groups.
    - Female cheetahs live on their own, each with a large home range.
- Meanwhile, males are either solitary or form small coalitions with one or two other males, typically their littermates.

- They've been protected from international commercial trade since 1975, under the Convention on Trade in International Species of Wild Fauna and Flora (CITES).

About Kuno-Palpur National Park

In Image: Kuno river flowing through the Kuno Natioonal Park.

- Kuno is a national park in Madhya Pradesh, India. It is a part of the Central Indian Vindhyan Hills.
- It was established in 1981 as a wildlife sanctuary with an area of 344.686 km2 in the Sheopur and Morena districts.
    - It was also known as Kuno-Palpur and Palpur-Kuno Wildlife Sanctuary.
- Kuno was upgraded to National Park status from a Wildlife Sanctuary in the year 2018.
- The main area is in shape of a leaf with Kuno river forming the main centre spine.
- This river not only helps in keeping a constant water supply in the area and irrigating the forest from inside out but also gave this protected area its name.
- Kuno National Park which is mainly dominated by Kardhai, Salai, Khair trees.
- Main Faunal Species: Spotted deer or Chital, Sambar, Chousingha or Four-horned antelope, Indian Gazelle or Chinkar, Gaur or Indian Bison, among others.

India's Updated Nationally Determined Contribution

The Union Cabinet chaired by the Prime Minister has recently approved India's updated Nationally Determined Contribution (NDC).

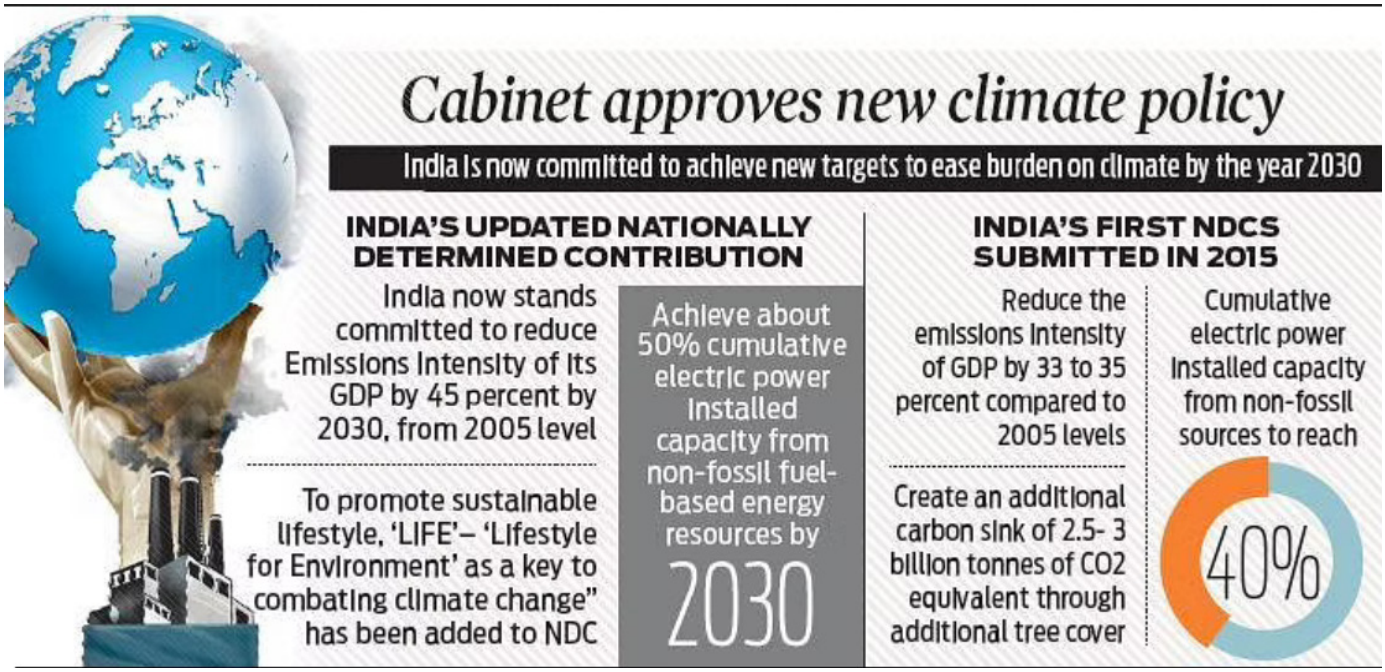
- The updated NDC seeks to enhance India's contributions towards achievement of the strengthening of global response to the threat of climate change, as agreed under the Paris Agreement.

Key Points

- India had submitted its Intended Nationally Determined Contribution (INDC) to the United Nations Framework Convention on Climate Change during October 2015.
- It has been revised and approved by the Cabinet during August 2022.
- India at the 26th session of the Conference of the Parties (COP26) to the UNFCCC held in Glasgow, United Kingdom in 2021, expressed to intensify its climate action.
- This was by presenting to the world five nectar elements (Panchamrit) of India's climate action.
- This update to India's existing NDC translates the 'Panchamrit' announced at COP 26 into enhanced

climate targets.

- The update is also a step towards achieving India's long term goal of reaching net-zero by 2070.
- Changes:
    - India now stands committed to reduce Emissions Intensity of its GDP by 45 percent by 2030, from 2005 level.
    - To achieve about 50 percent cumulative electric power installed capacity from non-fossil fuel-based energy resources by 2030.
    - The updated NDC also represents the framework for India's transition to cleaner energy for the period 2021-2030.
    - This also includes a mass movement for 'LIFE'– 'Lifestyle for Environment' as a key to combating climate change".



India's INDC at COP 21

- To reduce the emissions intensity of its GDP by 33 to 35 per cent by 2030 from 2005 level.
- To achieve about 40 per cent cumulative electric power installed capacity from non-fossil fuel based energy resources by 2030.
- To create an additional carbon sink of 2.5 to 3 billion tonnes of CO2 equivalent through additional forest and tree cover by 2030.

Impact of Climate Change on Oceans

The Ministry of Earth Sciences recently published an assessment report on the climate change impact on the Indian region, which includes impact of climate change on oceans.

Key Findings

- The tropical Indian Ocean is warming rapidly over the recent decades.
- The average basin-wide sea surface temperature (SST) is warming at a rate of 0.15 degree Celsius/ decade during 1951-2015.
- During the same period, globally averaged SST warmed at a rate of 0.11 degree Celsius.
- Owing to this rapid warming, the sea level in the Indian Ocean was observed to be rising at a rate of 1.06-1.75 mm/year during the last century (1874–2004).
- The rise was 3.3 mm/year in the recent decades (1993-2015), which is in a similar range of the global mean sea level rise.

- National Centre for Coastal Research (NCCR), an attached office of MoES, is also collecting the real-time information on coastal water quality.
- NCCR is also undertaking research activities in quantifying litter (mainly meso, macro and micro-plastics) in the beach, in the water column and sediment on the sea floor.
- An increase in the abundance of microplastics is observed along the east coast during the monsoon.
- The stations nearer to the river mouth had higher numbers of microplastics concentrations.
- The Beach litter survey revealed that the maximum accumulation occurs in the backshore than in the intertidal zone.
- Moreover, urban beaches have higher accumulation rates than rural beaches.
- Under Beach Clean-up program/activity, it was found that the majority of the waste composition was contributed by single use plastics.

India adds 10 more wetlands designated as Ramsar site

India adds 10 more wetlands designated as Ramsar sites to make total 64 sites covering an area of 12, 50,361 ha in the country.

- The 10 new sites include: Six (6) sites in Tamil Nadu and One (1) each in Goa, Karnataka, Madhya Pradesh and Odisha.

Key Points

- Ramsar wetlands now comprise around 10% of the total wetland area in the country.
- Until 2012, India had 26 Ramsar sites, with the last decade witnessing a meteoric rise.
- The National Wetland Inventory and Assessment is compiled by the Indian Space Research Organisation (ISRO).
    - It estimates India's wetlands to span around 1, 52,600 square kilometres, which is 4.63% of the total geographical area of the country.
- A little over two-fifths are inland natural wetlands and about a quarter are coastal wetlands. India has 19 types of wetlands.
- Gujarat has the maximum area followed by Andhra Pradesh, Uttar Pradesh and West Bengal.

TRANSFORM IAS
Transforming Lives with Education

New Ramsar site in Detail

1. Koonthankulam Bird Sanctuary (Tamilnadu):

- Koonthankulam Bird Sanctuary is a significant man-made wetland which covers an area of 72.04 ha.
- It is situated in Nanguneri Taluk of Tirunelveli district of Tamil Nadu.
- This is the largest reserve for breeding resident and migratory water birds in South India.
- It is an Important Bird and Biodiversity Area forming part of the Central Asian Flyway.
- It irrigates about 190 acres of paddy.

KOONTHANKULAM BIRD SANCTUARY- FLAMINGOS FEEDING IN THE TANK AREA

2. Satkosia Gorge (Odisha):

- Satkosia spreads along the magnificent gorge over the mighty river Mahanadi in Odisha.
- Established in 1976 as a wildlife sanctuary, Satkosia supports a rich ecosystem, representing a diverse population of floral and faunal species.
- Satkosia is the meeting point of two biogeographic regions of India; the Deccan Peninsula and the Eastern Ghats, contributing immense biodiversity.
- Satkosia Gorge wetland is a mosaic of marshes and evergreen forests.
- The forests of these catchments play a vital role in the prevention of the gorge siltation.
- It also helps in maintaining a specific desirable depth of water crucial for the endangered gharial population and spawning of commercially important carp's species.

3. Nanda Lake (Goa)

- Nanda Lake is considered to be critically significant for its ecosystem services and biodiversity values for the local communities and society at large.
- The majority of the area is intermittent freshwater marshes that lie adjacent to one of the major rivulets of the Zuari River.
- This enables the locals to store the water during the off-monsoon season.
- The stored water is also utilized to cultivate paddy downstream of the lake and supports fishing and recreation.
- While during the monsoons the sluice gate is opened and the water is released which changes the character of the lake into a marshland.
- During this time the marshland is also utilized to grow paddy.
- This lake is habitat for notable faunal.

4. Gulf of Mannar Marine Biosphere Reserve (Tamil Nadu)

- Gulf of Mannar Biosphere Reserve (GoMBR), is located in the southeastern coastline of India, and is a unique marine environment rich in biodiversity.
- This is the first Marine Biosphere Reserve in South & South -East Asia.
- GoMBR is one of the most biologically diverse regions in India.
- The Reserve is also home to several globally important and highly threatened species like the Dugong, whale shark, sea horses, Balanoglossus, etc.

5. Ranganathittu Bird Sanctuary (Karnataka)

- Ranganthittu bird sanctuary is located in Mandya district, of the state of Karnataka, India.
- The site has been enlisted as one of the Important Bird Areas (IBA) in Karnataka and India by Bombay Natural History Society.
- It is an ecologically important riverine wetland of India, rich in biodiversity.
- The site supports several threatened taxa which include two critically endangered species of fishes, six endangered species (bird: 1, fishes: 4, frog 1), and nine species of vulnerable species (mammal:1., reptile: 1, birds 5, fishes: 2).
- Besides, it also supports one species each of endangered, vulnerable, and endemic plant species, and about 98 medicinal plant species.
- This proposed site supports healthy populations of mugger crocodiles, smooth-coated otter and the river waters harbour the endangered hump-backed masher.

6. Vembannur Wetland Complex (Tamil Nadu)

TRANSFORM IAS
Transforming Lives with Education

- Vembannur wetland in Tamil Nadu is a human-made inland tank.
- Vembannur wetland forms the southernmost tip of peninsular India.
- This wetland forms part of the Important Bird and Biodiversity Area (IBA) and hence part of BirdLife International Data Zone.
- About 250 species of birds have been recorded in the district.
- The site hosts around 12% of the total non-breeding population of garganey.
    - Around 5 rare, endemic &threatened flora are present within the Site.
- The tank is believed to have been constructed in the regime of Pandyan king Veeranarayana.
- The tank and the Therrakal canal were designed to take water from River Pazhayar for irrigation purposes.
- The River Pazhayar and Vembannur wetland collects the entire drainage of the valley and irrigates a substantial part of Nanchilwadu.

7. Vellode Bird Sanctuary (Tamil Nadu)

- Vellode Bird Sanctuary is located in the Vadamugam Vellode Village of the Perundurai Taluk, located in the Erode District, Tamil Nadu, India.
- Vellode Bird Sanctuary provincially known as Periyakulam Yeri is one of the 141 Prioritized wetlands in Tamil Nadu.
- The wetlands have been evaluated and prioritized considering factors like the ecology of the wetland, earlier bird counts, records of breeding, and roosting colonies.
- Spread over an area of 77.185 ha, this site forms part of the Central Asian Flyway.

8. Sirpur Wetland (Madhya Pradesh)

- Sirpur wetland is a significant historical wetland situated in Indore, Madhya Pradesh.
- It is not only important for its aesthetic value but it provides immense ecological services such as being an important source of water and helping groundwater recharge in the downstream areas.
- Sirpur wetland is also culturally important to the local communities of the city.
- The wetland supports a wide variety of flora and fauna.

- It is an important nesting place for terrestrial and aquatic migratory & residential birds.
- The diverse flora & fauna provides ideal habitat in the form of food and shelter for a large number of migratory birds during the winter season.
- Presently, the wetland is being developed as a bird sanctuary and ecological learning centre.

9. Vedanthangal Bird Sanctuary (Tamil Nadu)

- Vedanthangal wetland is one of the oldest bird-protected areas located in Maduranthagam Taluk of Chengalpattu District of Tamil Nadu.
- This freshwater wetland is a people-protected water bird area, the history of which goes back to centuries.
- Local people have been protecting this heronry and in return, have been benefited by the manure-rich water from the lake that increases the agriculture.
- This site is also recognized internationally, as an Important Bird and Biodiversity Area (IBA). It belongs to the Coromandel Coast biotic province.

M IAS
Transforming Lives with Education

10. Udhayamarthandapuram Bird Sanctuary (Tamil Nadu)

- Udhayamarthandapuram Bird Sanctuary is located in the Tiruthuraipoondi Taluk of Tiruvarur district of Tamil Nadu.
- This is one of the important bird sanctuaries in Tamil Nadu.
- The site is an important staging and breeding ground for several species of waterbirds.
- The notable species observed at the site are oriental darter, glossy ibis, grey Heron &Eurasian spoonbill.
- It is one of the important breeding sites for the darter & Eurasian spoonbill.
- Udhayamarthandapuram stores floodwaters during monsoon overflows and maintains surface water flow during drier periods.

Flood Forecasting and Early Warning System

Forecasting system is essential to predict likely increase in water level in rivers.

- Central Water Commission (CWC) provides statistical methodology (gauge to gauge correlation) based short range flood forecast.

Key Points

- Presently, flood forecasts are issued by CWC at 332 stations (133 Inflow Forecast Stations and 199 Level Forecast Stations).
- Annually, about 10,000 flood forecasts are issued by CWC.
- CWC is currently providing near real time five-day advisory flood forecast on its web portal for 20 major river basins of the country.
- The five day advance forecast is generated using various available rainfall data products like:
    - forecast rainfall data GFS (Global Forecast System) and
    - WRF (Weather Research and Forecasting)
    - These data are provided by IMD (Indian Meteorological Department).
- Rainfall estimates namely GsMaP (Global Satellite Mapping of Precipitation) & GPM (Global Precipitation Measurement) act as a major input into the model system.
- The system is developed in-house using modelling software for flood forecasting which is updated every three hours.
    - This three hourly update is for all the stations simultaneously in automatic mode during monsoon season.
- CWC has also taken up the work of development of 'Near Real time Inundation Forecast' for Ganga Basin.
    - It is being done through consultancy under National Hydrology Project (NHP) using High Resolution Digital Elevation Model (DEM) Survey of India / State Govt.
- The data collected from field stations is transmitted from the site to the concerned Flood Forecasting Centre of CWC.
    - The data transmission is done through wireless and/or telephone/mobile and satellite based telemetry system & VSAT.
- Central Water Commission maintains Wireless Stations for near real–time data communication.
- Now under modernization program, satellite based Telemetry System has been installed at various stations for sensor based automatic data collection and satellite based communication.
- The data is transmitted to the Earth Receiving Station through Satellite and then to various Modelling Centres through VSAT Systems.
- The nodal officer of the dam/reservoir share reservoir related data with CWC through uploading on Water Information Management System (WIMS) or sending through e-mail/SMS/Phone/Wireless etc.
- These wireless sets work on pre-fixed schedules for receiving the vital hydro-meteorological data immediately after its observation.

About Central Water Commission (CWC)

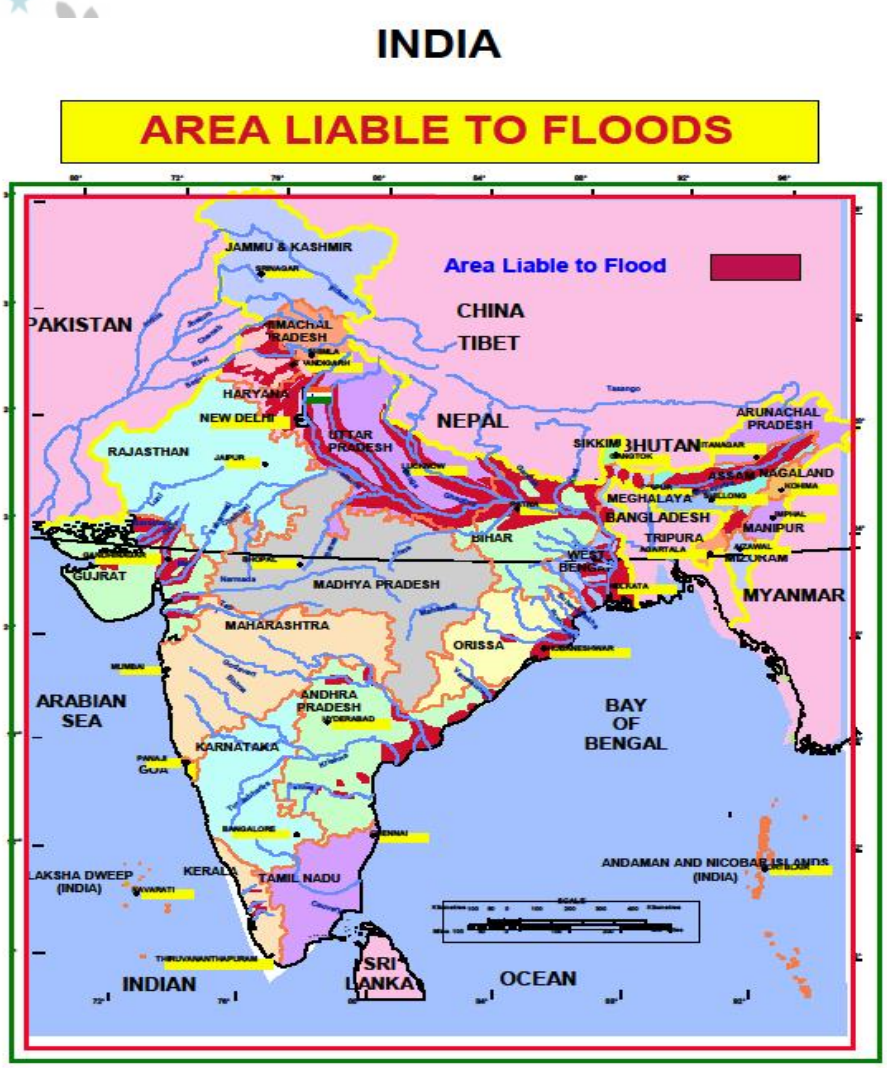
Central Water Commission
(Serving the nation since 1945)

TRANSFORM IAS
Transforming Lives with Education

- Central Water Commission is a premier Technical Organization of India in the field of Water Resources.
- It is presently functioning as an attached office of the Ministry of Jal Shakti, Department of Water Resources, River Development and Ganga Rejuvenation, Government of India.
- The Commission is entrusted with the general responsibilities of initiating, coordinating and furthering in consultation of the State Governments concerned,
    - schemes for control, conservation and utilization of water resources throughout the country,
    - for purpose of Flood Control, Irrigation, Navigation, Drinking Water Supply and Water Power Development.
- It also undertakes the investigations, construction and execution of any such schemes as required.
- Central Water Commission CWC is headed by a Chairman, with the status of Ex-Officio Secretary to the Government of India.

Flood in India

- India is highly vulnerable to floods. Out of the total geographical area of 329 million hectares (mha), more than 40 mha is flood prone.
- Floods are a recurrent phenomenon, which cause huge loss of lives and damage to livelihood systems, property, infrastructure and public utilities.
- Floods have also occurred in areas, which were earlier not considered flood prone.



In image: Map showing flood prone areas in India.

World Elephant Day

On August 12, 2012, the inaugural World Elephant Day was launched to bring attention to the urgent plight of Asian and African elephants.

- It is an international annual event, dedicated to the preservation and protection of the world's elephants.
- Theme: Bringing the world together to help elephants.

About Elephants

- Elephant (Elephas maximus) is the largest terrestrial mammal of India.
- Elephant being wide ranging animal requires large areas.
- The requirement of food and water for elephants are very high and therefore their population can be supported only by forests that are under optimal conditions.
- The status of elephant can be the best indicator of the status of the forests.
- Facts about Indian Elephants:
    - Status: Endangered
    - Population: 20,000 – 25,000
    - Scientific Name: Elephas maximus indicus
    - Height: 6-11 feet at the shoulder
    - Weight: 5 tons
    - Length: 21 feet
    - Habitats: Subtropical broadleaf forest, tropical broadleaf moist forest, dry forest, grassland
- Elephants are not only a cultural icon in India and throughout Asia, they also help to maintain the integrity of their forest and grassland habitats.

TRANSFORM IAS
Transforming Lives with Education

Distribution of Elephants

- Asian elephants were believed to be widely distributed.
    - They were seen from Tigris - Euphrates in West Asia eastward through Persia into the Indian sub-continent,
    - And South and Southeast Asia including Sri Lanka, Java, Sumatra, Borneo and up to North China.
- However currently they are confined to Indian Subcontinent, South East Asia and some Asian Islands - Sri Lanka, Indonesia and Malaysia.
- About 60% of the Asian elephant population is in India.

Measures taken for protection of Elephants

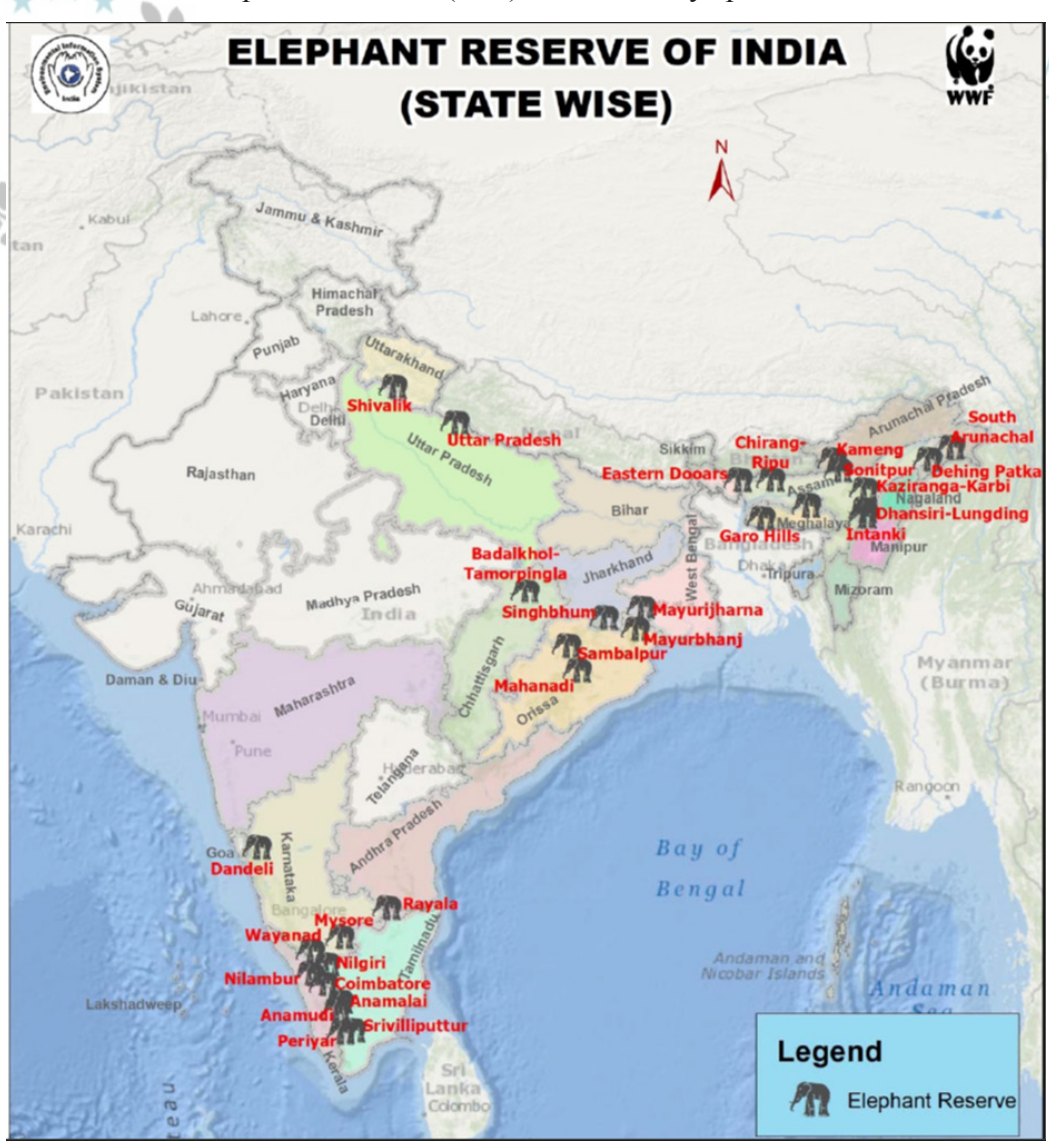
- Project Elephant:
    - Project Elephant was launched in 1991-92 as a Centrally Sponsored Scheme of the Ministry of Environment and Forests.
- Estimation of wild elephant population in the year 2007, 2012 and 2017.
- Elephant Reserves:
    - Elephant Reserve is a management entity notified by the State Governments as per recommendation of Govt. of India.
    - It includes Protected Areas, forest areas, corridors and private/reserve lands.
    - As of July 2020, 30 Elephant Reserves (ERs) extending over about 65507.42 sq km have been formally notified by various State Governments.
- Monitoring of Illegal Killing of Elephants (MIKE) Programme:
    - Mandated by COP resolution of CITES, MIKE program started in South Asia in the year 2003.
    - Objective was to provide information needed for elephant range States to make appropriate

management and enforcement decisions, and

- To build institutional capacity within the range States for the long-term management of their elephant populations.
- Mike Sites in India:
    1. Chirang Ripu (Assam)
    2. Dhang Patki(Assam)
    3. Eastern Dooars(WB)
    4. Deomali(Arun Pradesh)
    5. Garo Hills (Meghalaya)
    6. Mayurbhanj (Odisha)
    7. Mysore (Karnataka)
    8. Nilgiri(T. N)
    9. Shivalik (Uttarakhand)
    10. Wayanad (Kerala)

Elephant reserves in India

- The Indian elephant Elephas maximus occurs in the central and southern Western Ghats, North-east India, eastern India and northern India and in some parts of southern peninsular India.
- It is included in Schedule I of the Indian Wildlife (Protection) Act, 1972
    - And in Appendix I of the Convention on International Trade in Endangered Species of Flora and Fauna (CITES).
- There are 30 notified Elephant Reserves (ERs) in the country spread over 15 states.



75 Ramsar Sites in 75th Year of Independence

India adds 11 more wetlands to the list of Ramsar sites to make total 75 Ramsar sites covering an area of 13, 26,677 ha in the country in the 75th year of Independence.

- The 11 new sites include: Four (4) sites in Tamil Nadu, Three (3) in Odisha, Two (2) in Jammu & Kashmir and One (1) each in Madhya Pradesh and Maharashtra.

Key Points

- During this year itself (2022) a total of 28 sites have been declared as Ramsar sites.
- Tamil Nadu has maximum no. of Ramsar sites (14 nos), followed by UP which has 10 nos. of Ramsar sites.

Note: India is one of the Contracting Parties to Ramsar Convention, signed in Ramsar, Iran, in 1971. India signed it on 1st Feb 1982.

New Ramsar Sites in Brief

S.No	Name of wetland	Area in Ha	State
1.	Tampara Lake	300	Odisha
2.	Hirakud Reservoir	65400	
3.	Ansupa Lake	231	
4.	Yashwant Sagar	822.90	Madhya Pradesh
5.	Chitrangudi Bird Sanctuary	260.47	Tamil Nadu
6.	Suchindram Theroor Wetland Complex	94.23	
7.	Vaduvur Bird Sanctuary	112.64	
8.	Kanjirankulam Bird Sanctuary	96.89	
9.	Thane Creek	6521.08	Maharashtra
10.	Hygam Wetland Conservation Reserve	801.82	Jammu and Kashmir
11.	Shallbugh Wetland Conservation Reserve	1675	

1. Tampara Lake

- Tampara Lake is among the most prominent freshwater lakes in the State of Odisha situated in Ganjam district.
- The depression on the ground gradually filled with rainwater from catchment flow and was called “Tamp” by the British and subsequently termed “Tampra” by the locals.
- The wetland supports at least 60 species of birds, 46 species of fishes, at least 48 species of phytoplanktons, and more than seven species of terrestrial plants and macrophytes.
- The wetland is an important habitat for vulnerable species such as Cyprinus carpio, common pochard (Aythya ferina), and river tern (Sterna aurantia).
- With an estimated average fish yield of 12 tonnes per year, the wetland is an important source of livelihood for the local communities.
- Along with fishes the wetland also provides provisioning services like water for agriculture, and domestic use and is a well-known tourism and recreation site.

2. Hirakud Reservoir

- Hirakud Reservoir, the largest earthen dam in Odisha started operating in 1957.
- The reservoir to support a range of floral and faunal species, including several of high conservation significance.
- Out of the known 54 species of fish from the reservoir, one has been classed as being endangered, six near threatened and 21 fish species of economic importance.
- Fisheries presently yield a catch of around 480 MT of fish annually and is the mainstay of livelihoods of 7,000 fisher households.
- Similarly, over 130 bird species have been recorded at this site, out of which 20 species are of high conservation significance.
- The reservoir is a source of water for producing around 300 MW of hydropower and irrigating 436,000 ha of cultural command area.
- The wetland also provides important hydrological services by moderating floods in the Mahanadi delta, the ecological and socio-economic hub of the east coast of India.
- Hirakud reservoir supports abundant tourism, and forms an integral part of the high touristic value sites located around Sambalpur.

TRANSFORM IAS
Transforming Lives with Education

3. Ansupa Lake

- Ansupa Lake is the largest freshwater lake of Odisha situated in Banki sub-division of Cuttack district.
- The wetland is an oxbow lake formed by River Mahanadi and is spread over an area of 231 ha.
- The wetland is home to at least 194 species of birds, 61 species of fishes and 26 species of mammals in addition to 244 species of macrophytes.
- The wetland provides a safe habitat to at least three threatened bird species- Rynchops albicollis (EN), Sterna acuticauda (EN) and Sterna aurantia (VU) and
    - three threatened fish species- Clarias magur (Clariidae) (EN), Cyprinus carpio (Cyprinidae) (VU) and Wallago attu (VU).
- Ansupa Lake sustains the freshwater demands of the surrounding areas and also supports the livelihood of the local communities through fisheries and agriculture.
- The wetland has immense recreational and tourism potential as it is a major wintering ground for migratory birds and is also known for its scenic beauty.

4. Yashwant Sagar

- Yashwant Sagar is one of the two Important Bird Areas (IBA) in the Indore region as well as one of the most important birding sites in Malwa region of Madhya Pradesh.
- Presently it is mainly used for water supply to the city of Indore and is also being used for fish culture on a commercial scale.
- Yashwant Sagar reservoir comes under the jurisdiction of Indore City Municipal Corporation.
- The catchment area of this wetland is predominantly agriculture.
- Yashwant Sagar is considered to be a stronghold of the vulnerable Sarus Crane in central India.
- The lake backwaters have plenty of shallow areas, conducive for waders and other waterfowl.
- As the water level recedes, many islands serve as roosting sites for waterfowl.
- Due to its vast shallow reed beds, the wetland is considered heaven to a large number of winter migratory birds.

TRANSFORM IAS
Transforming Lives with Education

5. Chitrangudi Bird Sanctuary

- Chitrangudi Bird Sanctuary, locally known as “Chitrangudi Kanmoli” is located in Ramanathapuram district in Tamil Nadu.
- The wetland is a protected area since 1989 and declared as Bird Sanctuary, coming under the jurisdiction of Tamil Nadu Forest Department, Ramanathapuram division.
- Chitrangudi Bird Sanctuary is an ideal habitat for winter migratory birds.
- Around 50 birds belonging to 30 families have been reported from the site.
    - Out of these 47 are water birds and 3 terrestrial birds.
- Chitrangudi is surrounded by agricultural fields, where different crops are grown throughout the year.
- The wetland also supports a number of fishes, amphibians, molluscs, aquatic insects, and their larvae forming good food sources for arriving waterbirds.
- Groundwater is extracted for irrigation around and within the wetland for agricultural purposes.

6. Suchindram Theroor Wetland Complex

- Suchindrum Theroor Wetland complex is part of the Suchindrum-Theroor Manakudi Conservation Reserve.
- It is declared an Important Bird Area and lies at the southern tip of the Central Asian flyway of migratory birds.
- It was formed for birds' nesting purposes and it attracts thousands of birds every year.
- The total population dependent upon Theroor is about 10,500 and 75% of the population's livelihood hinges on agriculture.
    - This population is dependent upon the water released from the Theroor tank.
- This is a man-made, inland Tank and is perennial.
- Copper plate inscriptions from the 9th century mention Pasumkulam, Venchikulam, Nedumarthukulam, Perumkulam, Elemchikulam and Konadunkulam.
- Around 250 species of birds have been recorded in the area, of which 53 are migratory, 12 endemic, and 4 threatened.

7. Vaduvur Bird Sanctuary

- Vaduvur bird sanctuary spreads over an area of 112.638 ha, is a large human-made irrigation tank and shelter for migratory birds.
- It provides a suitable environment for food, shelter, and breeding ground.
- While these irrigation tanks have socio-economic and cultural significance, very little is known of their ecological importance.
- These tanks have the potential to harbor good populations of resident and wintering water birds but no studies have been done to confirm this.
- Indian Pond Heron Ardeola grayii occurred in most of the surveyed tanks.
- Large concentrations of wintering waterfowl such as Eurasian Wigeon Anas penelope, Northern Pintail Anas acuta, Garganey Anas querquedula were recorded in tanks.
- Vaduvur Bird Sanctuary has a diverse habitat including a number of inlets and surrounding irrigated agricultural fields which provides good nesting and foraging habitats for birds.
- Thus, the site provides support to the species listed above during critical stages of their life-cycle.

TRANSFORM IAS
Transforming Lives with Education

8. Kanjirankulam Bird Sanctuary

- Kanjirankulam Bird Sanctuary is a protected area in Tamil Nadu, India, declared in 1989.
- It is notable as a nesting site for several migratory heron species that roost in the prominent growth of babul trees there.
- The breeding population of migratory waterbirds arrive here between October and February.
- The site qualifies as an IBA as the threatened Spot-billed Pelican Pelecanus philippensis breeds here.
- The wetland exhibits rich biodiversity including many globally near-threatened species.
- The wetland also supports IUCN RedList vulnerable avian species like Sterna aurantia (River Tern).

In Image: Black winged stilt

9. Thane Creek

- Thane Creek is located in Maharashtra, India.
- There are several sources of fresh water to the creek, of which Ulhas River is the largest.
- It has been declared as Thane Creek Flamingo Sanctuary.
- Thane creek is fringed by mangroves on both banks & comprises around 20% of the total Indian mangrove species.
- The mangrove forest acts as a natural shelter belt & protects the land from cyclones, tidal surges, sea-water seepage & intrusions.
- The mangrove serves as a nursery for several fishes & sustains the local fishery.
- The area is an important part of the wetland complex of the Central Asian Flyway of the birds and has been categorized as an Important Bird Area (IBA).

In Image: Flamingoes in Thane creek

10. Hygam Wetland Conservation Reserve

- Hygam Wetland falls within the River Jhelum basin.
- It plays a significant role as a flood absorption basin, biodiversity conservation site, eco-tourism site, and livelihood security for the local communities.
- The wetland is located in the Baramulla district.
- It serves as an abode to many residents and migratory bird species.
- It is also recognized as an Important Bird Area (IBA).
- Consequent to the high rate of siltation, Hygam Wetland has lost its wetland characteristics to a large extent and in many places changed its profile into a landmass.
- This has resulted in further loss of habitat conditions to offer a suitable site for visiting migratory birds (Winter/ Summer migrants) and for resident birds as well.
- Hygam Wetland provides a plethora of ecosystem services, these include fish and fiber, water supply, water purification, climate regulation, flood regulation, and recreational opportunities.
- The livelihoods of people living in, and adjoining the fringes of wetlands depend partially or entirely on wetland ecosystem services.

TRANSFORM IAS
Transforming Lives with Education

11. Shallbugh Wetland Conservation Reserve

- Shallabug Wetland Conservation Reserve is located in the District Srinagar, UT of J&K.
- Large areas of the wetland dry up between September and March.
- It serves as an abode to more than four lakh resident and migratory birds of at least 21 species.
- Shallabugh Wetland plays a major role in the natural control, amelioration or prevention of flooding.
- It is also important for seasonal water retention for wetlands or other areas of conservation importance downstream.
- The wetland is important for the recharge of aquifers.
- A major natural floodplain system, Shallabugh Wetland provides plethora of ecosystem services.
- The wetland serves as an important breeding ground for many species of waterbirds.

Mandatory Procurement from MSMEs

The Government has been following various policy initiatives so as to ensure that there is continuous growth of Micro, Small & Medium enterprises (MSMEs) in defence sector.

Key Initiatives and Highlights

The Government has taken the following policy initiatives for promotion of Micro, Small & Medium enterprises (MSMEs) in defence sector:

- In the Defence Acquisition Procedure 2020, there are specific reservations on Orders up to Rs 100 crore/year for MSMEs.
- An innovation ecosystem for Defence titled Innovations for Defence Excellence (iDEX) had been launched in April 2018.
    - iDEX is aimed at creation of an ecosystem to foster innovation and technology development in Defence and Aerospace.
    - This ecosystem will developed by engaging Industries including MSMEs, Start-ups, Individual Innovators, R&D institutes and Academia.
- DRDO through its scheme Technology Development Fund scheme (TDF), funds industries especially Start-ups and MSMEs up to an amount of Rs 10 crore.
- Public Procurement Policy for MSEs Order 2012, notified by Ministry of Micro, Small & Medium Enterprises has also been adopted by all Defence PSUs.
- Department of Defence Production (DDP) also conducts outreach programs in various parts of the country.
    - A scheme aimed to promote MSMEs in defence is in place.
    - Under this scheme, conclaves/seminars are being organized in Tier-II and Tier-III cities across the country.
    - This is aimed at having strong industrial MSMEs presence with the support of the DDP.
- Details of the annual procurement of general goods and services from MSEs including SC/ST and

Women by the Ministry of Defence are given as under:

Financial year	(In Rs. crore)
2018-19	3531.74
2019-20	3204.24
2020-21	4303.13
2021-22	5760.14
2022-23 (Till 26.07.2022)	759.37

6 billion UPI transactions in July

According to the data released by the National Payments Corporation of India (NPCI), UPI recorded over 6.28 billion transactions in July 2022.

- It is a new record since the service was launched in July 2016.

What is UPI?

- A Unified Payment Interface (UPI) is a smartphone application that allows users to transfer money between bank accounts.
- It is a single-window mobile payment system developed by the National Payments Corporation of India (NPCI).
- It eliminates the need to enter bank details or other sensitive information each time a customer initiates a transaction.
- The Unified Payment Interface is a real-time payment system.
- It is designed to enable peer-to-peer inter-bank transfers through a single two-click factor authentication process.
- The interface is regulated by the Reserve Bank of India (RBI), India's central bank.
- It works by transferring money between two bank accounts along with a mobile platform.
- The pilot system was launched in India on April 11, 2016. Banks across the country started to upload their interface in August 2016.

How Unified Payments Interface (UPI) Works?

- UPI uses existing systems, such as Immediate Payment Service (IMPS) and Aadhaar Enabled Payment System (AEPS), to ensure seamless settlement across accounts.
- It facilitates push (pay) and pull (receive) transactions and even works for over-the-counter or bar-

code payments.

- It also works for multiple recurring payments such as utility bills, school fees, and other subscriptions.
- Sending money on the UPI is called a "push."
    - In order to send money, the user logs into the interface and selects the Send Money/Payment option.
    - After entering the recipient's virtual ID and the amount desired, he chooses the account from which the money will be debited.
    - The user then enters a special personal identification number (PIN) and receives a confirmation.
- Receiving money through the system is called a "pull."
    - Once the user has logged in to the system, she selects the option to collect money.
    - The user then needs to enter the virtual ID for the remitter, the amount to be collected, and the account in which she will deposit the funds.
    - A message then goes to the payer with the request to pay.
    - If he decides to make the payment, he enters his UPI PIN to authorize the transaction.

How is it unique?

- Immediate money transfer through mobile device round the clock 24*7 and 365 days.
- Single mobile application for accessing different bank accounts.
- Single Click 2 Factor Authentication – Aligned with the Regulatory guidelines, yet provides for a very strong feature of seamless single click payment.
- Virtual address of the customer for Pull & Push provides for incremental security with the customer not required to enter the details such as Card no, Account number; IFSC etc.
- QR Code
- Best answer to Cash on Delivery hassle, running to an ATM or rendering exact amount.
- Merchant Payment with Single Application or In-App Payments.
- Utility Bill Payments, Over the Counter Payments, QR Code (Scan and Pay) based payments.
- Donations, Collections, Disbursements Scalable.
- Raising Complaint from Mobile App directly.

TRANSFORM IAS
Transforming Lives with Education

UPI - Benefits to the Ecosystem participants

- Banks
    - Single click Two Factor authentication
    - Universal Application for transaction
    - Leveraging existing infrastructure
    - Safer, Secured and Innovative
    - Payment basis Single/ Unique Identifier
    - Enable seamless merchant transactions
- Merchants
    - Seamless fund collection from customers - single identifiers
    - No risk of storing customer's virtual address like in Cards
    - Tap customers not having credit/debit cards
    - Suitable for e-Com & m-Com transaction
    - Resolves the COD collection problem
    - Single click 2FA facility to the customer - seamless Pull
    - In-App Payments (IAP)
- Consumers

- Round the clock availability
- Single Application for accessing different bank accounts
- Use of Virtual ID is more secure, no credential sharing
- Single click authentication
- Raise Complaint from Mobile App directly

Some Statistics

The data below shows the volume and value of UPI transactions for the past 7 months.

Month	No. of Banks live on UPI	Volume (in Mn)	Value (in Cr.)
Jul-22	338	6,288.40	10,62,991.76
Jun-22	330	5,862.75	10,14,384.31
May-22	323	5,955.20	10,41,520.07
Apr-22	316	5,583.05	9,83,302.27
Mar-22	314	5,405.65	9,60,581.66
Feb-22	304	4,527.49	8,26,843.00
Jan-22	297	4,617.15	8,31,993.11

About NPCI

TRANSFORM IAS
Transforming Lives with Education

- National Payments Corporation of India (NPCI) is an umbrella organisation for operating retail payments and settlement systems in India.
- It is an initiative of Reserve Bank of India (RBI) and Indian Banks' Association (IBA) under the provisions of the Payment and Settlement Systems Act, 2007.

NPCI
भारतीय राष्ट्रीय भुगतान निगम
NATIONAL PAYMENTS CORPORATION OF INDIA

- It works for creating a robust Payment & Settlement Infrastructure in India.
- Considering the utility nature of the objects of NPCI, it has been incorporated as a "Not for Profit" Company under the provisions of Companies Act.
    - The intention is to provide infrastructure to the entire Banking system in India for physical as well as electronic payment and settlement systems.
- The Company is focused on bringing innovations in the retail payment systems through the use of technology.
- The ten core promoter banks of NPCI are:
    - State Bank of India, Punjab National Bank, Canara Bank, Bank of Baroda, Union Bank of India, Bank of India,
    - ICICI Bank Limited, HDFC Bank Limited, Citibank N. A. and HSBC.

75000 Start-ups Recognised

The Department for Promotion of Industry and Internal Trade (DPIIT) has recognized more than 75,000 startups- a milestone which coincides with 75th year of independence.

- India has now become the 3rd largest ecosystem in the world.

Key Points

- According to the data compiled by the Department for Promotion of Industry and Internal Trade (DPIIT):
  - 12% of the start-ups belong to the IT services,
  - 9% to healthcare and life sciences,
  - 7% to education,
  - 5% to professional and commercial services and
  - 5% to agriculture.
- About 7, 46,000 jobs have been created by the start-up ecosystem, having recorded a 110% annual increase over the last six years.
- While the initial ten thousand start-ups were recognised in 808 days, the latest ten thousand were achieved in only 156 days.
- 49% of the registered start-ups are from the tier-II and tier-III cities.
- However, while several start-ups have created much-needed employment, some of them have recently shed jobs, too.
  - Vedantu, Unacademy and Cars24 have reportedly laid off over 6,000 employees this year.
  - Similarly, Ola reportedly fired about 2,100 employees earlier this year.

TRANSFORM IAS
Transforming Lives with Education

Fair and Remunerative Price

The Cabinet Committee on Economic Affairs chaired by Hon'ble Prime Minister has approved Fair and Remunerative Price (FRP) of sugarcane for sugar season 2022-23.

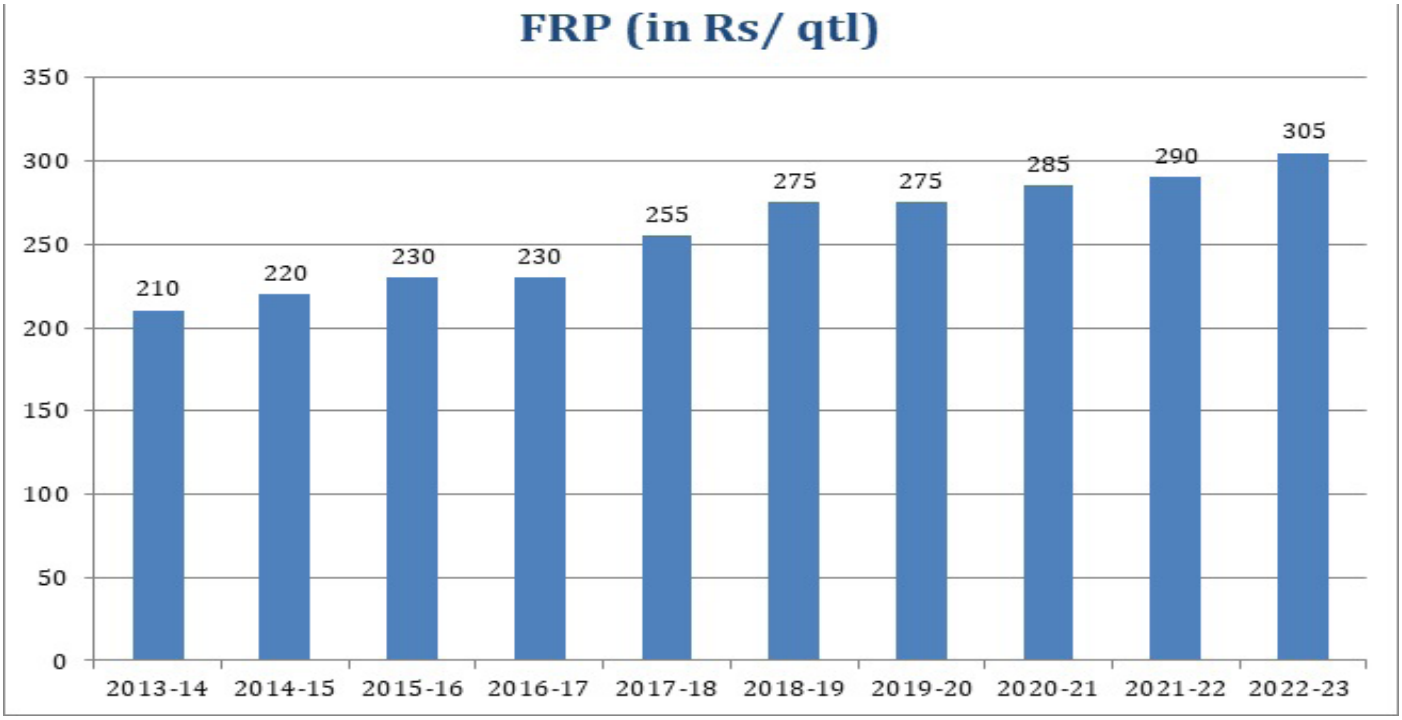
- This is the highest ever Fair and Remunerative Price of Rs 305/qtl that has been approved for Sugarcane Farmers.

Key Points

- The decision is expected to benefit 5 crore sugarcane farmers (Ganna Kisan) and their dependents.
  - It will also benefit 5 lakh workers employed in the sugar mills and related ancillary activities.
- Some key steps taken in Sugar Sector:

- FRP of sugarcane is fixed to ensure a guaranteed price to sugarcane growers.
- Government has increased FRP by more than 34% in past 8 years.
- Government has also introduced the concept of Minimum Selling Price (MSP) of sugar to prevent fall in ex-mill prices of sugar.
- Financial assistance of more than ? 18,000 crore extended to sugar mills to facilitate export of sugar, for maintaining buffer stocks, etc.
- Diversion of surplus sugar for production of ethanol.
- In the current sugar season 2021-22, about 3,530 lakh tons of sugarcane of worth Rs. 1, 15,196 cr was purchased by sugar mills, which is at all-time high.

- Considering the increase in the acreage & expected production of sugarcane in the sugar season 2022-23, more than 3,600 lakh tons of sugarcane is likely to be purchased by sugar mills.
  - As a result of which, the total remittance to the sugarcane farmers is expected to be more than Rs. 1, 20,000 crore.



India's Sugar Sector

- India has surpassed Brazil in the sugar production in the current sugar season.
- India apart from meeting its requirement for domestic consumption has also consistently exporting sugar which has helped in reducing our fiscal deficit.
- In last 4 sugar seasons 2017-18, 2018-19, 2019-20 & 2020-21, about 6 Lakh Metric Tonne (LMT), 38 LMT, 59.60 LMT & 70 LMT, respectively, of sugar has been exported
- About 100 LMT of sugar has been exported till 01.08.2022 in the current sugar season 2021-22 & exports likely to touch 112 LMT.
- In sugar seasons 2018-19, 2019-20 & 2020-21, about 3.37 LMT, 9.26 LMT & 22 LMT of sugar has been diverted to ethanol.
- In current sugar season 2021-22, about 35 LMT of sugar is estimated to be diverted.
- It is expected that by 2025-26 more than 60 LMT of sugar is targeted to be diverted to ethanol.
- This would address the problem of excess sugarcane as well as delayed payment issue because farmers would get timely payment.
- Earlier, sugar mills were dependent primarily on sale of sugar to generate revenues.
  - Surplus production in any season adversely affects their liquidity leading to accumulation of cane price arrears of farmers.

Note: Government has fixed target of 10% blending of fuel grade ethanol with petrol by 2022 & 20% blending by 2025.

What is Fair and Remunerative Price?

- Fair and Remunerative Price or FRP is the price required to be paid by sugar mills and factories to sugarcane farmers.
- It was introduced in 2009 and replaced the concept of Statutory Minimum Price (SMP).
- The payment of FRP across the country is governed by The Sugarcane Control order, 1966.
- It mandates payment within 14 days of the date of delivery of the cane.
- Mills have the option of signing an agreement with farmers, which would allow them to pay the FRP in instalments.
- MSP is announced by the Central Government on the basis of the recommendations of the Commission for Agricultural Costs and Prices (CACP).

Note: CACP is an attached office of the Ministry of Agriculture and Farmers Welfare, Government of India.

Source: pib.gov.in and The Indian Express

Lok Sabha passes Bill to set up Gati Shakti University

The Lok Sabha passed The Central Universities (Amendment) Bill, 2022, which seeks to establish the Gati Shakti Vishwavidaylaya, as a Central university.

- This will be done after changing the form of the National Rail and Transportation University which is currently a deemed to be institution in Vadodara.

Key Points

- The Bill also seeks to expand the scope of the deemed university from beyond the railways to cover the entire transport sector.
- This will help support the ambitious growth and modernisation in the field as announced in the Union Budget this year.
- Gati Shakti Vishwavidyalaya would be a multi-disciplinary and multi-dimensional institute, and the first Central University after the rollout of the National Education Policy.
- The plan is to unify different departments to create a new infrastructure where various transport sector elements such as
    - railways, road, waterways, aviation and port along with information and technology;
    - will coordinate with each other on the platform of Gati Shakti Mission
- The establishment of the Gati Shakti Vishwavidyalaya would address the need of talent in the strategically important and expanding transportation sector.
- The focus of the institute would be on five major aspects —
    - Transport-focused courses,
    - Skill development,
    - Applied research,
    - Technology development and
    - Transport economics and infrastructure financing.

Number of employees in IT

As per NASSCOM, Indian Information Technology (IT) Industry directly employs around 51 lakh persons in FY 2021-22, most of which are IT skilled.

- In addition, with increasing digitalization under the Digital India program in the last 7 years, other economic sectors have created large opportunities for digitally enabled jobs.

TRANSFORM IAS
Transforming Lives with Education

Key Points

The total revenue of Indian IT sector for the last three years is as under:

Financial Year	Revenue (USD in billion)
FY 2019-20	190
FY 2020-21	196
FY 2021-22 E	227

- As per report by Ministry of Electronics & IT on "India's trillion-dollar digital opportunity", India is poised to be a trillion dollar digital economy.
    - In such a scenario, the industry could support 60 to 65 million digitally enabled jobs by 2025-26.
- Also, as per NASSCOM, the projected requirement of manpower by Indian IT industry itself by the year 2026 would be around 95 lakh.
    - Out of which 55 lakh will be digitally skilled across key digital technologies such as cloud computing, AI, big data analytics and IoT etc.

Digital transaction

During the last three years, digital payment transactions have registered unprecedented growth in India.

- BHIM-UPI has emerged as the preferred payment mode of users.

Key Points

- Easy and convenient modes of digital payment in India includes:
  - Bharat Interface for Money-Unified Payments Interface (BHIM-UPI),
  - Immediate Payment Service (IMPS),
  - Pre-paid payment instruments (PPIs) and
  - National Electronic Toll Collection (NETC) system.
- All the modes have registered substantial growth.
- It has led to a transformation in digital payment ecosystem by increasing person-to-person (P2P) as well as person-to-merchant (P2M) payments.

The total number of digital payment transactions undertaken during the last three financial years and the current financial year are as under:

Financial year (FY)	Total number of digital transactions (in crore)
FY 2019-20	4,572
FY 2020-21	5,554
FY 2021-22	8,840
FY 2022-23 (till 24th July 2022)	3,270

The total value of digital payments during the last three financial year and in the current financial year is as under:

Financial year (FY)	Total value of digital transactions (in lakh crore)
FY2019-20	2,953
FY2020-21	3,000
FY2021-22	3,021
FY2022-23	566

Consumption of Petroleum Products and Natural Gas

The consumption of petroleum products and natural gas in the country, during 2021-22, was 204.23 MMT and 63.91 Billion Cubic Meter (BCM) respectively.

- During 2021-22, 22.8 % of total requirements of crude oil and gas of the country were met through domestic production.

Key Points

Details of crude oil imported along-with its cost for last 3 years and first quarter(Q1) (April – June) of 2022-23 is given below:

Financial Year	2019 - 20	2020 – 21	2021 – 22	Q1 of 2022-23
Crude Oil Import (in MMT)	227.0	196.5	212.0	60.3
Import Cost (in US $ billion)	101.4	62.2	120.4	48.0
Import Cost (in Rs. crore)	717001	459779	899312	369742

Details of Natural Gas imported along-with cost for last 3 years and Q1 of 2022-23 is given below:

Financial Year	2019 - 20	2020 – 21	2021 – 22	Q1 of 2022-23
Natural Gas Imports (in BCM)	33.887	33.031	30.776	7.40
Import Cost (in US $ billion)	9.5	7.9	13.4	3.4
Import Cost (in Rs. crore)	67383	58129	100011	25268

Note: The conventional hydrocarbon resources that have been discovered so far in the country is estimated to be approximately 12.0 Billion Tonnes of oil & oil equivalent of gas.

- Out of this, recoverable resources are estimated to be 4.2 Billion Tonnes of which about 2.6 billion Tonnes of oil and oil equivalent of gas has already been produced.

Production of Petroleum and Natural Gas

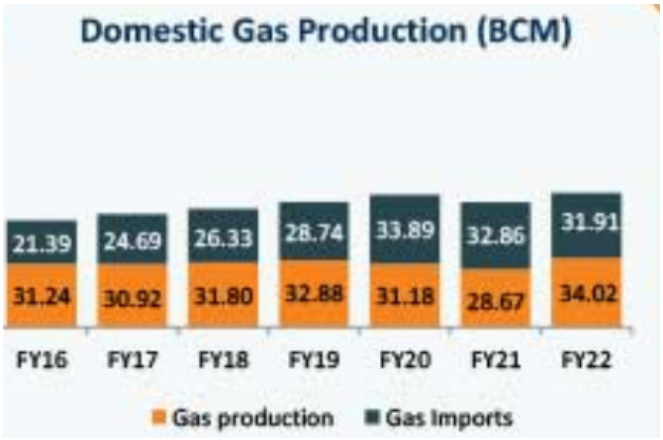
The Minister of State for Petroleum and Natural Gas informed the details of production of petroleum products in the country including State of Uttar Pradesh during last three years.

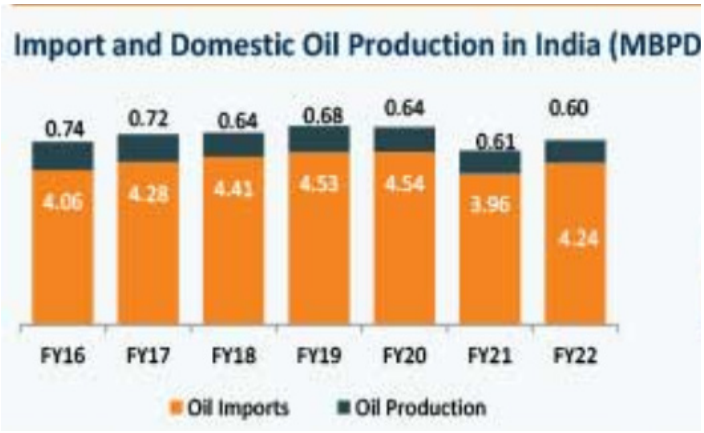
Details of production of natural gas in the country (state-wise) during the last 3 years are as under:

State-wise Natural Gas Production (in Million Metric Standard Cubic Meter)			
State/Region	2019-20	2020-21	2021-22
Andhra Pradesh	912	827	809
Arunachal Pradesh	46	55	58
Assam	3141	2995	3371
Gujarat	1342	1138	1017
Jharkhand	5	2	4
Madhya Pradesh	345	334	290
Rajasthan	1883	2040	2619
Tamil Nadu	1097	911	1067
Tripura	1473	1634	1531
West Bengal	306	307	389
Offshore	20635	18429	22869
Total Natural Gas Production	31184	28673	34024

About Oil and Gas Industry in India

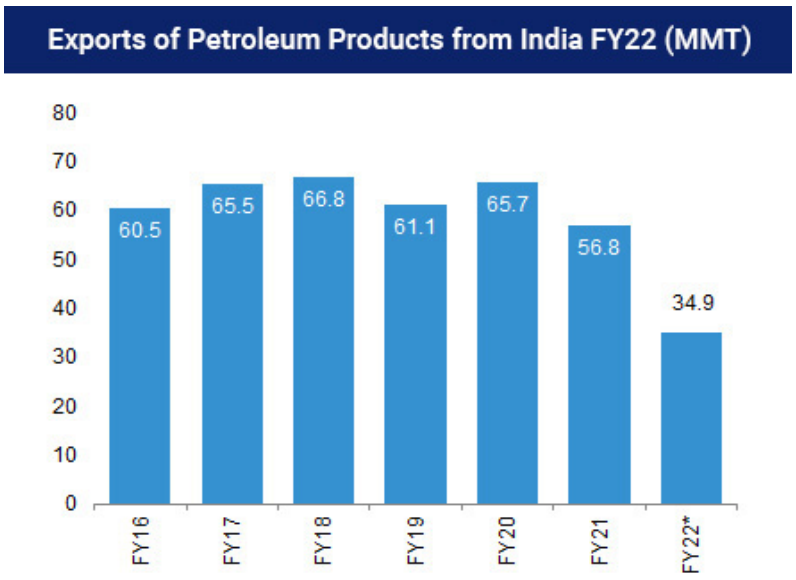
- Oil demand in India is projected to register a 2x growth to reach 11 million barrels per day by 2045.
- Diesel demand in India is expected to double to 163 MT by 2029-30, with diesel and gasoline covering 58% of India's oil demand by 2045.
- Consumption of natural gas in India is expected to grow by 25 billion cubic metres (BCM), registering an average annual growth of 9% until 2024.





- India aims to commercialise 50% of its SPR (strategic petroleum reserves) to raise funds and build additional storage tanks to offset high oil prices.
- In May 2022, ONGC announced plans to invest US$ 4 billion from FY22-25 to increase its exploration efforts in India.
- In July 2021, the Department for Promotion of Industry and Internal Trade (DPIIT) approved an order allowing 100% foreign direct investments (FDIs) under automatic route for oil and gas PSUs.
- The Government has allowed 100% Foreign Direct Investment (FDI) in upstream and private sector refining projects.
- India's crude oil production in FY22 stood at 29.7 MMT.
- According to IEA (India Energy Outlook 2021), primary energy demand is expected to nearly double to 1,123 million tonnes of oil equivalent.
    - India's gross domestic product (GDP) is expected to increase to US$ 8.6 trillion by 2040.
- India is expected to be one of the largest contributors to non-OECD petroleum consumption growth globally.
- India's consumption of petrol products stood at 204.23 MMT in FY22.
- High Speed Diesel was the most consumed oil product in India and accounted for 38.84% of petroleum product consumption in FY22.
- As of May 1, 2022, India had 10,420 kms of crude pipeline network, with a capacity of 147.9 MMTPA.
- Exports of petroleum products from India reached 62.7 MMT in FY22.
    - The value of these crude oil and petroleum products stood at US$ 44.41 billion.
    - In FY22, crude oil imports stood at 4.24 MBPD, which was worth US$ 120.4 billion.

TRANSFORM IAS
Transforming Lives with Education



REC sanctions 22,000 crore to Discoms

State-run REC sanctioned around 22,000 crore to Discoms in four States to clear their outstanding dues under the new late payment surcharge rules.

- This initiative works with the sole aim of financially strengthening the electricity suppliers and bringing financial discipline in the power sector.

Key Points

- Late Payment Surcharge (LPS) are charges payable by a Discoms to a Genco or electricity trading licensee on account of delay in payment of monthly charges.
- Rural Electrification Corporation (REC) provided the financial assistance for the distribution licensees of Jharkhand, Rajasthan, Chhattisgarh and Jammu & Kashmir.
- Major States such as Rajasthan, Jharkhand, Tamil Nadu, Maharashtra, J&K, Madhya Pradesh and Uttar Pradesh have pending dues to the tune of almost 96,000 crore.
    - But REC said that these states are complying with the new rules.
- In line with the same, the distribution licensees of the above States will be paying around 2,600 crore to their electricity suppliers.

Note: The total outstanding dues of the State power utilities has now crossed 1, 50,000 crore.

- REC assistance will ensure that the end consumer gets reliable and quality uninterrupted supply of electricity.
    - Additionally it alleviates the interest burden on account of late payment of power purchase dues by the State utilities.

TRANSFORM IAS
Transforming Lives with Education

About REC

- Rural Electrification Corporation (REC) is a Navratna Central Public Sector Undertaking under the Ministry of Power.
- It is a leading infrastructure finance company with a net worth of over 50,000 crore (as on 31st March, 2022).
- REC business activities involve financing projects in the complete power sector value chain, be it generation, transmission or distribution.
- Domestically, REC hold the highest credit ratings from CRISIL, ICRA, IRRPL and CARE and internationally they are rated at par with the sovereign ratings.
- REC have been appointed as a Nodal Agency for Government of India's flagship schemes viz.
    - Pradhan Mantri Sahaj Bijli Har Ghar Yojana (SAUBHAGAYA),
    - Deen Dayal Upadhaya Gram Jyoti Yojana (DDUGJY) and
    - National Electricity Fund (NEF).
- REC has also been designated as Nodal Agency for Revamped Distribution Sector Scheme (RDSS).
- REC also assists Ministry of Power in monitoring of the Ujjwal Discom Assurance Yojana (UDAY).
    - UDAY seeks to operationally reform and financially turnaround the power distribution companies of the country.

Supply and Demand of Coal

In order to build adequate coal stock before onset of monsoon, Ministry of Power had issued advisory on 28.04.2022 to State Sector and IPP plants.

- The objective of the advisory was to import coal for blending @10% of their requirement.
- Later, Central Electricity Regulatory Commission (CERC) was directed to allow higher amount of blending upto 30% with imported coal, subject to technical feasibility.

Key Points

The production and supply of domestic coal is mostly used in power plants. The details of domestic supply and demand of coal during the last five years are given below:-

Year	Domestic Supply	Import	Total Demand
2017-18	690.00	208.25	898.25
2018-19	732.79	235.35	968.14
2019-20	707.18	248.54	955.72
2020-21	690.89	215.25	905.88
2021-22	818.65	208.93	1027.58

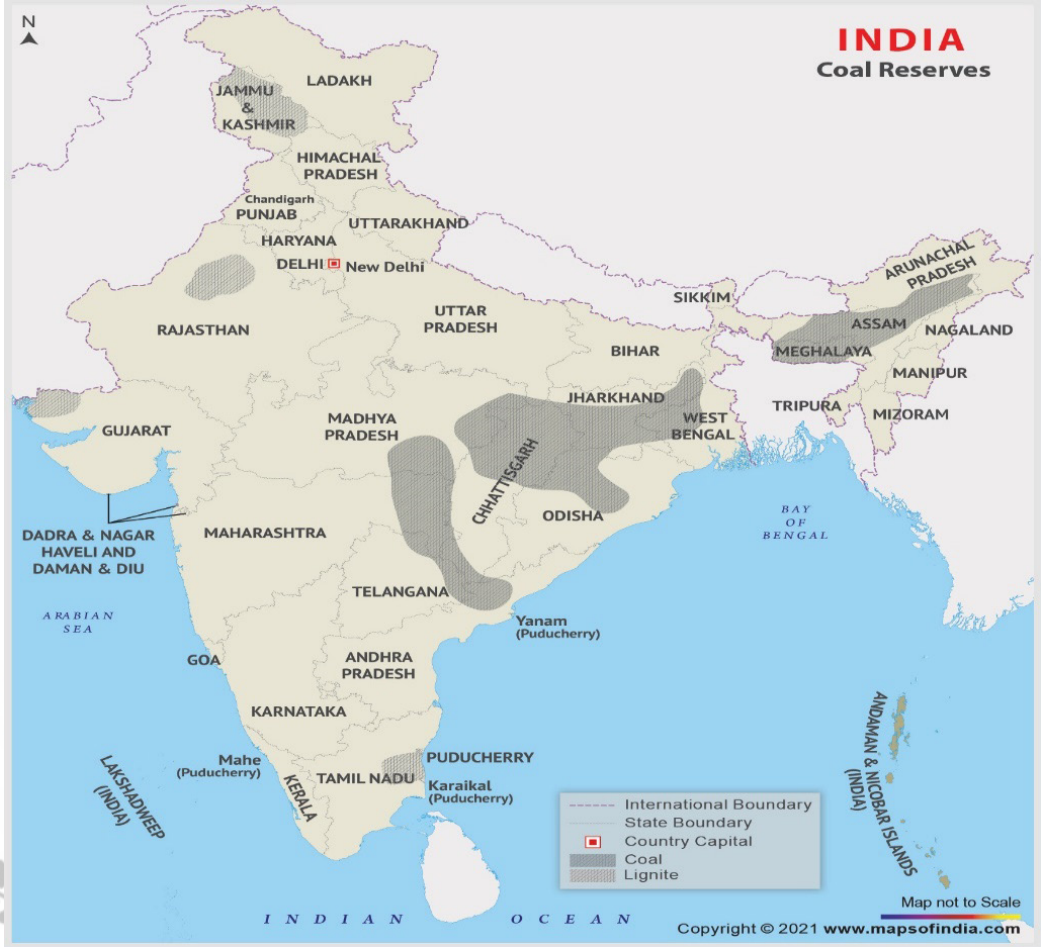
- The Government has taken several steps to ramp up domestic coal production and achieve self-reliance in coal Industry.
- 100% Foreign Direct Investment is allowed for commercial mining.
- Several measures are taken to increase domestic production.
- Some of the Major initiatives taken to increase domestic production of coal are as follows:
    - Single Window Clearance portal has been launched for the coal sector.
    - Mines and Minerals (Development and Regulation) Act, 1957 amended to allow sale up to 50% of their annual production after meeting the requirement of the end use plant.
    - Commercial auction of coal blocks on revenue sharing basis and allotment of specific coal blocks for captive end use.
    - A Monitoring Committee has been constituted under the Chairmanship of Secretary (Coal).
    - To increase production through MDO model, Coal India Ltd. has identified 15 MDO Projects having combined capacity of 168.6 Million Tonne per year (MTY).
    - Out of this Six MDO Projects have already been awarded with capacity of 96.74 MTY.
    - Advanced Technologies like surface miners, etc. for open cast mining
        - And Power supported Longwall (PSLW), High wall Mining, continuous miner etc.
        - For underground mines are being deployed for efficiency and higher production of coal.
    - CIL has also invested in the construction of 7 critical new rail line projects.
    - This is for the expansion of Brownfield mining projects and Greenfield projects in Chhattisgarh, Odisha and Jharkhand.

About Coal in India

- India is home to vast reserves of coal, and a commercial coal-mining industry has been in operation since 1774 launched by the East India Company.
- A 2018 report estimated the subcontinent possesses just over 319 billion tonnes of proven, indicated and inferred coal reserves.
- On a proven-resource basis, India ranks fifth among countries with the world's largest coal reserves.
- It is second-placed among the top coal-producing countries after China.

TRANSFORM IAS Transforming Lives with Education

- About 98% of the coal fuel in India comes from Gondwana coal — the oldest kind of the fossil fuel, formed around 250 million years ago.
- 70% of the coal fuel comes from the states of Jharkhand, Chhattisgarh, Odisha, West Bengal and Madhya Pradesh.



Guidelines for the scheme 'Strengthening of Pharmaceutical Industry (SPI)'

Department of Pharmaceuticals, Ministry of Chemicals and Fertilizers had released the guidelines for the scheme 'Strengthening of Pharmaceutical Industry (SPI' in March this year.

- The ministry has reiterated its commitment to pharma sector to bring in more ease of doing business and include more benefits for the MSMEs.

Key Points

The scheme will address the rising demand in terms of support required to existing Pharma clusters and MSMEs across the country to improve their productivity, quality and sustainability.

- The scheme comes with a total financial outlay of Rs.500 Cr for the period from FY 21-22 to FY 25-26.
- This will help in making India a global leader in the Pharma Sector.
- Under the Scheme, financial assistance to pharma clusters will be provided for creation of Common Facilities.
- This will not only improve the quality but also ensure the sustainable growth of clusters.
- Further, in order to upgrade the production facilities of SMEs and MSMEs so as to meet national and international regulatory standards (WHO-GMP or Schedule-M),

- interest subvention or capital subsidy on their capital loans will be provided, which will further facilitate the growth in volumes as well as in quality.

- The Scheme has 3 components / sub-schemes:
  - Assistance to Pharmaceutical Industry for Common Facilities (APICF)- to strengthen the existing pharmaceutical clusters' capacity for their sustained growth by creating common facilities.
  - Pharmaceutical Technology Upgradation Assistance Scheme (PTUAS)- to facilitate Micro, Small and Medium Pharma Enterprises (MSMEs) of proven track record to meet national and international regulatory standards.
  - Pharmaceutical & Medical Devices Promotion and Development Scheme (PMPDS)- to facilitate growth and development of Pharmaceutical and Medical Devices Sectors through study/ survey reports, awareness programs, creation of database, and promotion of industry.

National Rail Plan (NRP) for India – 2030

Indian Railways under the Ministry of Railways have prepared a National Rail Plan (NRP) for India – 2030.

- The Plan is to create a 'future ready' Railway system by 2030.

Key Points

The NRP is aimed to formulate strategies based on both operational capacities and commercial policy initiatives to increase modal share of the Railways in freight to 45%.

- The objective of the Plan is to create capacity ahead of demand, which in turn would also cater to future growth in demand right up to 2050 and
  - also increase the modal share of Railways to 45% in freight traffic and to continue to sustain it.
- To achieve this objective all possible financial models including Public Private Partnership (PPP) are being considered.

To achieve this objective, following main features of the National Rail Plan have been identified:-

- Reduce transit time of freight substantially by increasing average speed of freight trains to 50Kmph.

- As part of the National Rail Plan, Vision 2024 has been launched for accelerated implementation of certain critical projects by 2024 such as:
    - 100% electrification,
    - multi-tracking of congested routes,
    - upgradation of speed to 160 kmph on Delhi-Howrah and Delhi-Mumbai routes,
    - upgradation of speed to 130kmph on all other Golden Quadrilateral-Golden Diagonal (GQ/GD) routes and
    - elimination of all Level Crossings on all GQ/GD route.
- Identify new Dedicated Freight Corridors.
- Identify new High Speed Rail Corridors.
- Assess rolling stock requirement for passenger traffic as well as wagon requirement for freight.
- Assess Locomotive requirement to meet twin objectives of 100% electrification (Green Energy) and increasing freight modal share.
- Assess the total investment in capital that would be required along with a periodical break up.
- Sustained involvement of the Private Sector in areas like:
    - operations and ownership of rolling stock,
    - development of freight and passenger terminals,
    - Development/operations of track infrastructure etc.

About India Railways: Brief History

TRANSFORM IAS
Transforming Lives with Education

- After a long decade of inaction, private entrepreneurs were allowed to establish a rail system by Lord Hardinge, the Governor-General of India in 1844.
- Two companies were formed by the year 1845 namely "East Indian railway Company" and the "Great Indian Peninsula Railway".
- The first railway on Indian sub-continent ran over a stretch of 21 miles from Bombay to Thane.
- The idea of a railway to connect Bombay with Thane, Kalyan and with the Thal and Bhore Ghats inclines first occurred to Mr. George Clark.
    - He was the Chief Engineer of the Bombay Government.
- The formal inauguration ceremony was performed on 16th April 1853, when 14 railway carriages carrying about 400 guests left Bori Bunder.
- The first passenger train steamed out of Howrah station destined for Hooghly, a distance of 24 miles, on 15th August, 1854.
- In south the first line was opened on 1st July, 1856 by the Madras Railway Company.
    - It ran between Vyasarpadi Jeeva Nilayam (Veyasarpandy) and Walajah Road (Arcot), a distance of 63 miles.
- In the North a length of 119 miles of line was laid from Allahabad to Kanpur on 3rd March 1859.
- By 1880 the Indian Railway system had a route mileage of about 9000 miles.
- 1866: Railway Branch was formed in Central Public Works Department.
- A Railway Board was constituted in 1901, but decision-making power was retained by the Viceroy, Lord Curzon.
- 1925: The first Railway budget was presented in India.
    - Also, the first electric railway was operated same year.
- At the time of independence in 1947, a large portion of the railways went to the then newly formed

Pakistan.

- A total of forty-two separate railway systems, including thirty-two lines owned by the former Indian princely states, were amalgamated as a single unit which came to be known as the Indian Railways.
- The existing rail networks were abandoned in favour of zones in 1951 and a total of six zones came into being in 1952.
- As the economy of India improved, almost all railway production units were indigenised.
- By 1985, steam locomotives were phased out in favour of diesel and electric locomotives.
- The entire railway reservation system was streamlined with computerisation in 1995.

Indian Railway Zones

- Indian Railways is geographically organized into zones.
- At present there are 17 Zonal Railways (including Metro Railway, Kolkata).

	Zones	Route Km	Headquarters	Divisions
1	Central (CR)	3905	Mumbai	Mumbai, Bhusawal, Pune, Solapur, Nagpur
2	East Central (ECR)	3628	Hajipur	Danapur, Dhanbad, Mughalsarai, Samastipur, Sonpur
3	East Coast (ECoR)	2572	Bhubaneswar	Khurda Road, Sambalpur, Visakhapatnam
4	Eastern (ER)	2414	Kolkata	Howrah, Sealdah, Asansol, Malda
5	North Central (NCR)	3151	Allahabad	Allahabad, Agra, Jhansi
6	North Eastern (NER)	3667	Gorakhpur	Izzatnagar, Lucknow, Varanasi
7	North Western (NWR)	5459	Jaipur	Jaipur, Ajmer, Bikaner, Jodhpur
8	Northeast Frontier (NFR)	3907	Guwahati	Alipurduar, Katihar, Rangia, Lumding, Tinsukia
9	Northern (NR)	6968	Delhi	Delhi, Ambala, Firozpur, Lucknow, Moradabad
10	South Central (SCR)	5803	Secunderabad	Secunderabad, Hyderabad, Guntakal, Guntur, Nanded, Vijayawada
11	South East Central (SECR)	2447	Bilaspur	Bilaspur, Raipur, Nagpur
12	South Eastern (SER)	2631	Kolkata	Adra, Chakradharpur, Kharagpur, Ranchi
13	South Western (SWR)	3177	Hubli	Hubli, Bangalore, Mysore
14	Southern (SR)	5098	Chennai	Chennai, Tiruchirappalli, Madurai, Palakkad, Salem, Trivandrum
15	West Central (WCR)	2965	Jabalpur	Jabalpur, Bhopal, Kota
16	Western (WR)	6182	Mumbai	Mumbai Central, Ratlam, Ahmedabad, Rajkot, Bhavnagar, Vadodara
17	Kolkata Metro	24.5	Kolkata	

EASE OF DOING BUSINESS 2.0

While presenting Union Budget 2022-23, Union Finance Minister had announced the next phase of Ease of Doing Business 2.0 (EODB 2.0) and Ease of Living.

- This new phase will be guided by an active involvement of the States, digitisation of manual processes and interventions, integration of the Central and State-level systems through I-T bridges.
- Recently, the finance minister reiterated the government's commitment and efforts towards EODB 2.0.

Key Highlights

Endeavour of the Government to improve productive efficiency of capital and human resources, and the Government will follow the idea of 'trust-based governance'.

- Working in the direction of 'minimum government & maximum governance', over 25,000 compliances were reduced and 1,486 Union laws were repealed in recent years.
- These measures have improved India's Ease of Doing Business in all parameters.
- Green Clearances: The Finance Minister proposed to expand the scope of single window portal, PARIVESH to provide information to the applicants.
    - Based on location of units, information about specific approvals will be provided.
    - It will enable application for all four approvals through a single form, and tracking of the process through Centralized Processing Centre-Green (CPC-Green).
- Land Records Management: States will be encouraged to adopt Unique Land Parcel Identification Number to facilitate IT-based management of land records.
    - The facility for transliteration of land records across any of the Schedule VIII languages will also be rolled out.
- Government Procurement: To enhance transparency and to reduce delays in payments, end-to-end online e-Bill System to be launched for use by all Central ministries for their procurements.
    - The system will enable the suppliers and contractors to submit online their digitally signed bills and claims and track their status from anywhere.
    - To reduce indirect cost for suppliers and work-contractors, the use of surety bonds as a substitute for bank guarantee will be made acceptable in government procurements.
- AVGC Promotion Task Force: An animation, visual effects, gaming, and comic (AVGC) promotion task force with all stakeholders will be set-up.
    - It will recommend ways to tap into the immense potential of this sector to employ youth and build domestic capacity for serving our markets and the global demand.
- Accelerated Corporate Exit: Centre for Processing Accelerated Corporate Exit (C-PACE) with process re-engineering, will be established.
    - The aim is to facilitate and speed up the voluntary winding-up of these companies from the currently required 2 years to less than 6 months.
- 5G Production-Linked Incentive Scheme (PLI): The finance minister also proposed a scheme for design-led manufacturing to build a strong ecosystem for 5G as part of the Production Linked Incentive Scheme.

Nano Urea production and sales

During the period from 1st April, 2022 to 10th August, 2022 nano urea production and dispatches had been 1.23 crore bottles.

- From 1st August 2021, a total of 3.27 crore bottles have been sold, of which 2.15 crore bottles were sold during FY 2021-22.

Key Points

- Union Minister of Chemical and Fertilizers has said that nano urea is now being widely accepted by farmers across the country.

TRANSFORM IAS
Transforming Lives with Education

- With the inclusion of Nano Urea in the monthly supply plan of the states by Dept. of Fertilizers, its availability and reach to the farmers will increase manifold.

About Nano Urea

- Nano Urea is an innovative nano fertilizer developed indigenously.
- Nano Urea is produced by an energy efficient environment friendly production process with less carbon footprints.
- IFFCO Nano Urea is the only Nano fertilizer approved by the Government of India and included in the Fertilizer Control Order (FCO).
- Application of 1 bottle of Nano Urea can effectively replace at least 1 bag of Urea.
- It has been tested on more than 90 crops across 11,000 locations in collaboration with ICAR.
- When sprayed on leaves, Nano Urea easily enters through stomata and other openings and is assimilated by the plant cells.
- It is easily distributed through the phloem from source to sink inside the plant as per its need.
- Unutilized nitrogen is stored in the plant vacuole and is slowly released for proper growth and development of the plant.
- Small size (20-50 nm) of Nano Urea increases its availability to crop by more than 80%.
- Scaling up of production and sales as well as application of Nano Urea will also lead to reduction in green House Gas (GHGs) emissions over a period of time.

Chapter-
5

SCIENCE AND TECHNOLOGY

Enhancement of Capabilities of AI Technology

Defence Artificial Intelligence Council (DAIC) has been set up under the Chairmanship of Raksha Mantri.

- The aim is to provide necessary guidance and structural support to develop AI technology in defence sector.

Transforming Lives with Education

Key Points

- The Council has been created as per the recommendation of a task force set up by DDP under the Chairmanship of Shri N Chandrasekaran, Chairman Tata Sons.
- Defence AI Project Agency (DAIPA) has also been created under the Chairmanship of Secretary DDP for enabling AI based processes in defence Organisations.
- Artificial Intelligence framework and guidelines for projects and programmes in DRDO have been issued.
- All DRDO system laboratories have started AI technology groups to introduce AI features in all products.
- Further, an AI roadmap has also been finalised for each DPSU under which 70 defence specific AI projects have been identified for development.

Steps taken for AI Technology Growth

- DRDO has three dedicated laboratories for application orientated research in AI in different domains. They are:
    - Centre for Artificial Intelligence and Robotics (CAIR), Bengaluru,
    - DRDO Young Scientist Laboratory (DYSL)-AI and
    - DYST-CT (Cognitive Technology).
- CAIR is nurturing start-ups & also conducting workshops for DRDO scientists to create skill sets on AI in Defence Systems.
- Defence Institute of Advanced Technology (DIAT) is conducting certified courses in AI & Machine Learning.
- AI is also promoted in academia and industry through R&D projects under various schemes of

DRDO.

- DDP has earmarked Rs. 100 crore per year for AI projects for Armed Forces.
- IAF has established the Unit for Digitization Automation, AI an App Networking (UDAAN).

About DDP

- The Department of Defence Production (DDP) was set up in November 1962 with the objective of developing a comprehensive production infrastructure.
- The goal was to produce the weapons, systems, platforms, and other equipment required for defence.
- Over the years, the Department has established wide ranging production facilities for various defence equipment through Defence Public Sector Undertakings (DPSUs).
- Some of the main organizations under the Department of Defence Production are as follows:
    - Hindustan Aeronautics Limited (HAL)
    - Bharat Electronics Limited (BEL)
    - Bharat Dynamics Limited (BDL)
    - Mishra Dhatu Nigam Limited (MIDHANI)
    - Mazagon Dock Shipbuilders Limited (MDL)
    - Garden Reach Shipbuilders & Engineers Limited (GRSE), etc.

Import and domestic production of APIs

India exported Bulk Drugs/Drug Intermediates worth Rs. 33,320 crore in financial year 2021-22.

- The Indian Pharmaceutical industry is the 3rd largest in the world by volume.

Key Points

- India is one of the major producers of Active Pharma Ingredients (API) or bulk drugs in the world.
- However, the country also imports various Bulk Drugs/APIs for producing medicines from various countries.
- India imported Rs. 35,249 crore worth APIs and Bulk drugs in 2021-22.

What is Active Pharma Ingredients (API)?

- The active pharmaceutical ingredient (API) is the part of any medication that produces the intended health effects.
- It is the biologically active component of a drug product (tablet, capsule, cream, injectable).
- The APIs are produced from raw materials, with a specified strength and chemical concentration.
- Some drugs, such as combination therapies, have multiple APIs that may act in different ways or treat different symptoms.
- All drugs are made up of two core components:
    - The API is the central ingredient.

- The excipient includes substances other than the drug that help deliver the medication to your system.

- Excipients are chemically inactive substances, such as lactose or mineral oil in the pill.
- Excipients should not have any effect on your health unless you are allergic to them.

5G spectrum auction

Government of India had put 72,098 MHz spectrum to auction, of which 51,236 MHz (71% of the total) has been sold with bid amounting to Rs. 1, 50,173 Cr.

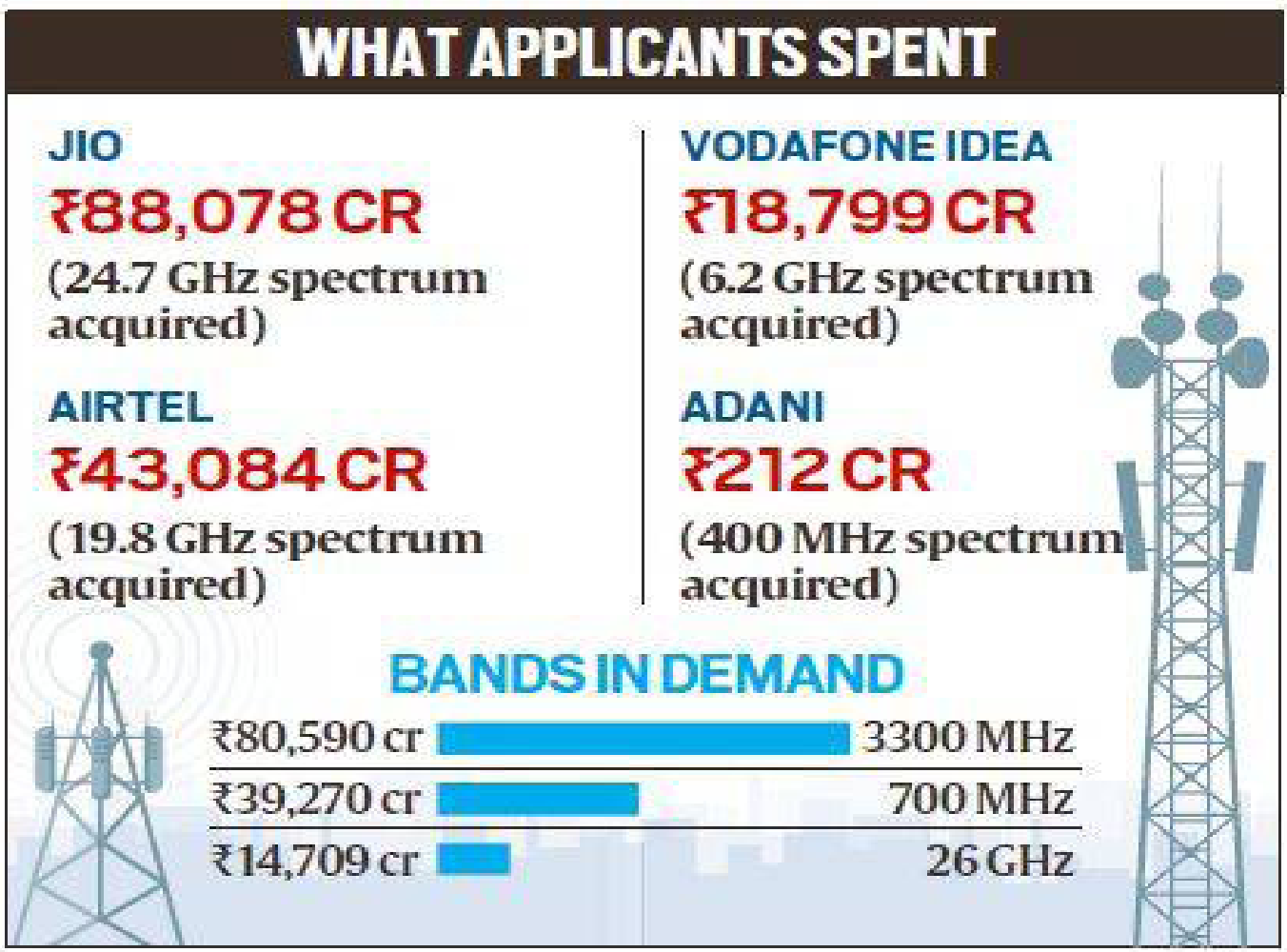
- The total spectrum sold should be able to cover all circles in the country, estimating "good coverage" of 5G in the next two-three years.

Key Points

- The total bid amount of Rs 1, 50,173 Cr comprises the following bids:
  - Rs. 212 Cr by Adani Data Networks, Rs. 43,048 Cr Bharti Airtel Ltd, Rs. 88,078 Cr by Reliance Jio Infocomm and Rs. 18,799 Cr by Vodafone idea Ltd.
  - The annual instalment to be paid by all the participants is Rs. 13,365 Cr.
- The interest rate in computing annual instalments is 7.2% and some participants may make more upfront payment.
- M/s Adani Data Networks Ltd has obtained 400 MHz spectrum in mm wave band (26 GHz).
- M/s Bharti Airtel Ltd has obtained 19,867.8 MHz in 900, 1800, 2100, 3300 MHz and 26 GHz bands.
- M/s Reliance Jio Infocomm Ltd has obtained 24,740 MHz spectrum in 700, 800, 1800, 3300 MHz and 26 GHz.
- M/s Vodafone Idea Ltd has obtained 6,228 MHz spectrum in 1800, 2100, 2500, 3300 MHz and 26 GHz.
- 600 MHz band was put to auction for the first time.
  - No bids were received for this band.
  - The device ecosystem of 600 MHz band is still not developed for mobile telephony.
  - In a few years, this band may become important.
- In 700 MHz, 5G ecosystem is very well developed. It has a large cell size and infrastructure requirement is less.
  - This band provides a large range and good coverage.
  - M/s Reliance Jio has obtained pan India 10 MHz spectrum.
- For bands between 800 to 2500, participants have primarily placed bids for spectrum for augmenting capacity and improving 4G coverage.
- Mid band i.e. 3300 MHz band is crucial in providing high throughput.
  - All three existing operators have obtained spectrum in this band.
  - Operators are likely to augment existing 4G capacity and provide 5G services in 3300 MHz band.

TRANSFORM IAS
Transforming Lives with Education

- In mm wave band i.e. 26 GHz has high throughput but very short range.
    - The band is likely to be utilized for captive or non-public network.
    - Fixed Wireless Access (FWA) is becoming popular in this band across the world.
    - FWA can be used as an alternative to fiber in high density/ congested urban areas.
    - All the four participants have obtained spectrum in this band.
- M/s Metal Scrap Trading Corporation (MSTC), a PSU of Government of India was the auctioneer.
- The process of allocation of spectrum shall be completed within the timeframe and 5G services are likely to be rolled out by September/October.



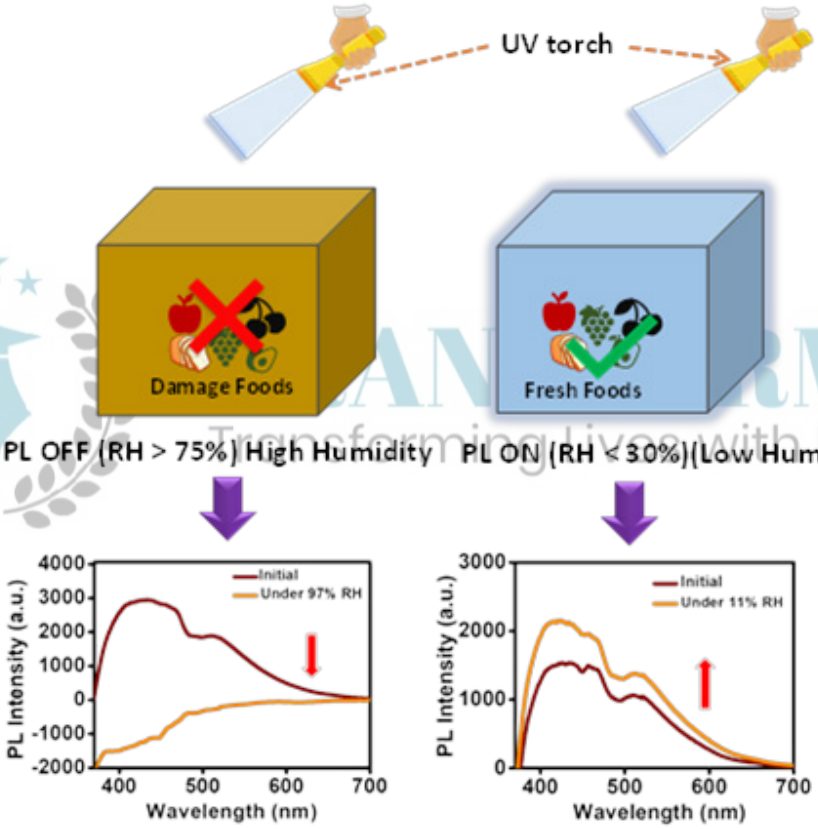
Biodegradable Biopolymer Nanocomposite

A newly developed biodegradable, biopolymer nanocomposite which can detect relative humidity, can find application as smart packaging materials, especially for the food industry.

Key Points

- The food industry has an increasing need for non-toxic, biodegradable, low-cost, and environmentally friendly material for use as packaging material.
    - Such material could help to replace petroleum-based material like plastics.
- Besides, the food industry also needs smart and active packaging materials to detect and report food quality in a real-time fashion.
- Such smart and active packaging systems respond to signals while interacting with the food packaging environment.
- Perishable packed foods are easily damaged by the change in relative humidity.
- Scientists from the Institute of Advanced Study in Science and Technology (IASST), have developed a smart biodegradable biopolymer nanocomposite which can detect relative humidity.

  - The research was led by Prof. Devasish Chowdhury, Professor in the Physical Sciences Division, and his INSPIRE Senior Research Fellow (SRF) student Mr. Sazzadur Rahman.
- In this, two biopolymers, Guar Gum (a variety of beans obtained from plant) and Alginate (obtained from brown algae), were blended with carbon dots (nanomaterial).
  - This resulted in a nanocomposite film that was successfully used to detect relative humidity.
- The fabricated nanocomposite film was an excellent smart sensor based on the fluorescence 'on-off' mechanisms against humidity.
- Their research has been published in the International Journal of Biological Macromolecules.
- The nanocomposite film shows change in fluorescence in presence of high humidity.
- Hence, the fabricated nanocomposite film can monitor the packed food freshness using just a UV light source.
- Smart and active packaging can help consumers select a fresh product without breaking the pack.



ITU Regional Standardization Forum (RSF)

The International Telecommunication Union (ITU) organized a Regional Standardization Forum (RSF) on "Regulatory and Policy aspects of Telecommunications/ICTs".

- The Forum was hosted by the Ministry of Communications of India.

Key Points

- The theme of the Forum is "Regulatory and Policy aspects of Telecommunications/ICTs".
- The Regional Standardization Forum is a platform for constructive exchange of ideas, discussing standardization topics.
- This includes inter alia India's experience in various sectors of technology such as:
  - Sustainable Digital Transformation and the Role of ITU Standards,

- Harnessing Technologies for Digital and Financial Inclusion in Emerging Markets,
- Evolving Data Value Chain and Digital Health.

- The panel discussion aims to provide an insight to for Asia and Oceania Region's experience from policy and regulatory perspective under various sub-themes.
- Participation in the Forum is open to ITU Member States, Sector Members, Associates, and Academic Institutions and to any individual from a country which is a member of ITU.

About ITU

- The International Telecommunication Union (ITU) is an agency of the United Nations (UN).
- Its purpose is to coordinate telecommunication operations and services throughout the world.
- Originally founded in 1865, as the International Telegraph Union, the ITU is the oldest existing international organization.
- ITU headquarters are in Geneva, Switzerland.
- The ITU consists of three sectors:
  - Radiocommunication (ITU-R) -- ensures optimal, fair and rational use of the radio frequency (RF) spectrum
  - Telecommunication Standardization (ITU-T) -- formulates recommendations for standardizing telecommunication operations worldwide
  - Telecommunication Development (ITU-D) -- assists countries in developing and maintaining internal communication operations
- The ITU sets and publishes regulations and standards relevant to electronic communication and broadcasting technologies of all kinds.
  - This include radio, television, satellite, telephone and the Internet.
- Another important aspect of the ITU's mandate is helping emerging countries to establish and develop telecommunication systems of their own.

Government offers use of Indigenous 5G Test Bed

Government of India has decided to offer the use of Indigenous 5G Test Bed free of cost to the Indian Government recognized start-ups and MSMEs.

- This has been done with an objective to boost 5G ecosystem within India and to achieve the objectives of Aatmanirbhar Bharat and Make in India initiatives.

सत्यमेव जयते
Department of Telecommunications
Ministry of Communications
Government of India

Key Points

- The offer from GoI is valid for the next six months upto Jan, 2023.
- It is available at a very nominal rate to all other stakeholders.
- Department of Telecommunications has strongly urged all 5G stakeholders to utilise the 5G testbed facilities
    - and expertise to test and facilitate the speedy development & deployment of their products in the network.
- DoT had approved financial grant for the multi-institute collaborative project to set up 'Indigenous 5G Test Bed' in India in March, 2018 with total cost of Rs.224 Crore.
- The Indigenous 5G Test Bed was dedicated to the nation by the Hon. Prime Minster on May 17th 2022.
- The 5G Test Bed is available at five locations viz., Integrated Test Bed at CEWiT /IIT Madras and other Test Beds are at IIT Delhi, IIT Hyderabad, IIT Kanpur and IISc Bangalore.
- The development of this Indigenous Test Bed is a key milestone step for India's becoming self-reliant in the 5G Technology domain.
- This has resulted in huge cost efficiency and reduced design time due to which Indian 5G products are likely to become market competitive globally.

TRANSFORM IAS
Transforming Lives with Education

Type Ibn Supernovae (SNe)

A team of scientists have deciphered the physical characteristics of a rare class of supernovae called Type Ibn Supernovae (SNe).

- Type Ibn supernovae are a rare class of stripped-envelope supernovae interacting with a helium-rich dense circumstellar medium (CSM).

Key Points

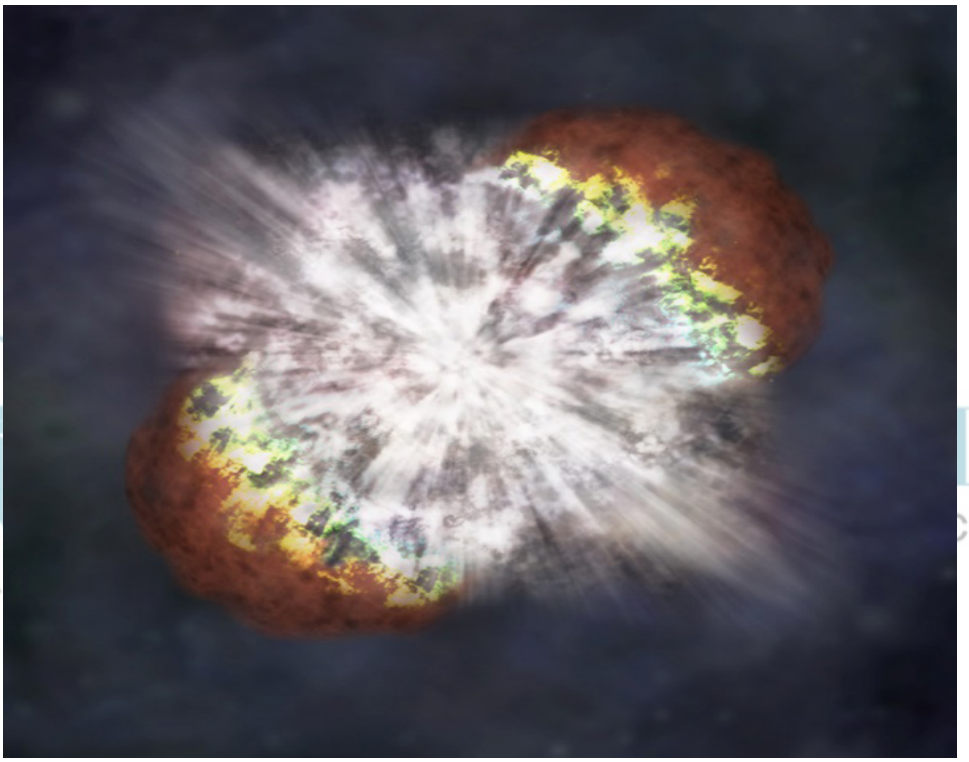
- These SNe are unique and essential because they help to explore about the typical density, velocity, and composition of the nearby SN environment.
- They are more luminous than normal supernovae, which are huge stellar explosions releasing a humongous amount of energy.
- SN 2019wep is one of the very rare SNe for which a long-term monitoring campaign was launched.
    - The objective was to decipher the physical characteristics following detection of flash ionisa-

tion signatures.

- This is a unique study where the SN properties are probed along with environmental studies.

What is a Supernovae?

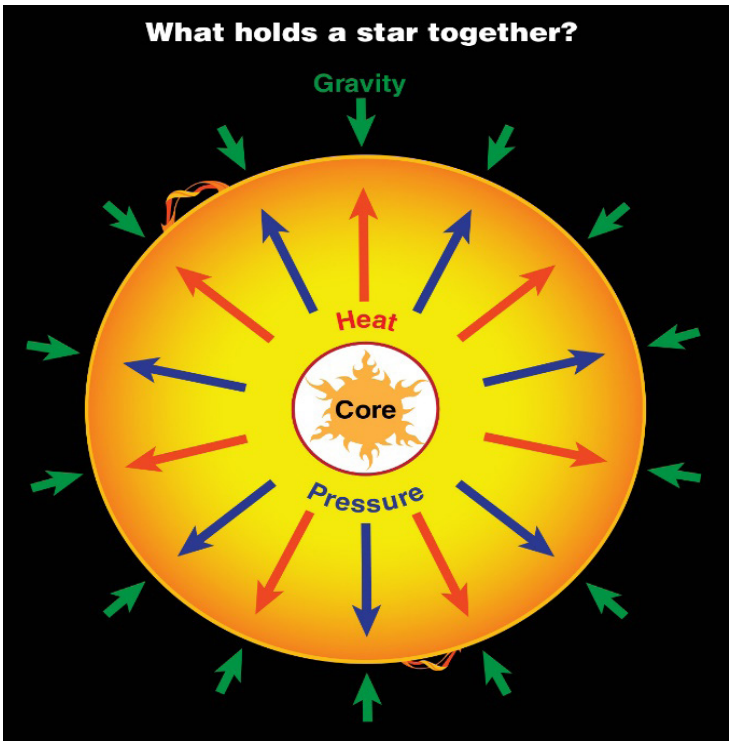
- A supernova is what happens when a star has reached the end of its life and explodes in a brilliant burst of light.
- A supernova is the biggest explosion that humans have ever seen.
- Each blast is the extremely bright, super-powerful explosion of a star.
- Supernovae can briefly outshine entire galaxies (opens in new tab) and radiate more energy than our sun (opens in new tab) will in its entire lifetime.
- They're also the primary source of heavy elements in the universe.



In Image: An illustration of one of the brightest and most energetic supernova explosions ever recorded.

What causes a supernova?

- One type of supernova is caused by a dying massive star.
- This happens when a star at least five times the mass of our sun goes out with a fantastic bang.
- Massive stars burn huge amounts of nuclear fuel at their cores, or centers.
- This produces tons of energy, so the center gets very hot.
- Heat generates pressure, and the pressure created by a star's nuclear burning also keeps that star from collapsing.
- A star is in balance between two opposite forces.
- The star's gravity tries to squeeze the star into the smallest, tightest ball possible.
- But the nuclear fuel burning in the star's core creates strong outward pressure.
- This outward push resists the inward squeeze of gravity.



- When a massive star runs out of fuel, it cools off.
- This causes the pressure to drop.
- Gravity wins out, and the star suddenly collapses.
- The collapse happens so quickly that it creates enormous shock waves that cause the outer part of the star to explode!
- Usually a very dense core is left behind, along with an expanding cloud of hot gas called a nebula.
- A supernova of a star more than about 10 times the size of our sun may leave behind the densest objects in the universe—black holes.
- A second type of supernova can happen in systems where two stars orbit one another and at least one of those stars is an Earth-sized white dwarf.
    - A white dwarf is what's left after a star the size of our sun has run out of fuel.
    - If one white dwarf collides with another or pulls too much matter from its nearby star, the white dwarf can explode.

Preservation of Quality of Native Indian Seeds

There is well established system available for analysis of seed quality of native Indian crop and trees in the Country.

- 161 State Seed Testing Laboratories and six Central Seed Testing Laboratories are functioning in the Country.

Key Points

- At COP 26, there was a call for greater biodiversity in agriculture sector, however, no consensus was reached on the proposal of biodiversity in agriculture.
- Hence, India has not committed anything on the biodiversity during the COP 26.
- However, the Government has a policy to encourage conservation of the seeds of native Indian varieties of various crops and trees.

TRANSFORM IAS
Transforming Lives with Education

- The National Bureau of Plant Genetic Resources (NBPGR) has conserved 94,609 native Indian varieties of different crops and trees in Gene Banks located in different States.
- The Protection of Plant Varieties and Farmer's Rights Authority (PPV & FRA) has also registered 1896 native Indian varieties of different crops.
    - This helps in enabling the farmer to commercialize these varieties.
- In addition, in order to ensure availability of native seeds and improve their usage by farmers, Indian Council of Agricultural Research is developing high yielding and multi stress tolerant varieties of different crop.
    - This includes cereals, millet, pulses, oilseeds and fruits suited to different agro-climatic condition.
- In order to enhance indigenous species of trees, a Scheme called Sub-Mission on Agro-forestry since 2016-17 is being implemented to encourage and expand tree plantation.
    - This is under Ministry of Agriculture & Farmers Welfare

About National Bureau of Plant Genetic Resources (NBPGR)

TRANSFORM IAS
Transforming Lives with Education

- The need for establishment of an organization to undertake activities of plant introduction and germplasm augmentation for use in crop improvement was felt as early as 1935.
- The need was reiterated in a meeting of the Indian Society of Genetics and Plant Breeding in 1941.
- The ICAR scheme for 'Plant Introduction' commenced functioning in 1946 in the then Botany Division of IAR.
- Subsequently, on the recommendations of the 'High Level Committee' constituted by the Government of India in 1970,
    - The 'Division of Plant Introduction' was upgraded to an independent institute 'National Bureau of Plant Introduction' in August 1976.
    - The institute was rechristened as 'National Bureau of Plant Genetic Resources' (NBPGR) in January 1977.
- The establishment of the Bureau coincided with the advent of the Green Revolution.
- The NBPGR played a pivotal role in the improvement of various crop plants and diversification and development of agriculture in India.

Indigenous Vaccine for Lumpy Skin disease

The Union Minister for Agriculture and Farmers Welfare launched the indigenous vaccine Lumpi-ProVac Ind to protect livestock from Lumpy Skin disease.

- The vaccine has been developed by the National Equine Research Center, Hisar (Haryana) in collaboration with the Indian Veterinary Research Institute, Izzatnagar (Bareilly).

About Lumpy Skin disease

- Lumpy skin disease is an infectious viral disease of cattle, which often occurs in epizootic form.
- The disease is characterized by the eruption of nodules in the skin, which may cover the whole of the animal's body.
- It is transmitted by blood-feeding insects, such as certain species of flies and mosquitoes, or ticks.
- It causes fever, and nodules on the skin and can also lead to death.
- Though it is primarily a vector-borne disease, LSD can spread through direct contact with the mucus of the infected cattle.

TRANSFORM IAS
Transforming Lives with Education

School Innovation Council

School Innovation Council (SIC) is an initiative taken by the Ministry of Education's Innovation Cell (MIC) and was launched in July 2022.

- School Innovation Council (SIC) has been introduced to all schools of all the states.

Key Points

- It is a council of teachers, students, and experts from industry and academia.
- The objective is to conduct round the year activities for students and teachers on Innovation and Entrepreneurship.
- The activities will be monitored through the SIC portal of the MIC, to record the influence at the ground level.
- SIC will help enable mind-set change, awareness, and training on various topics such as:
    - Ideation, Innovation and Entrepreneurship,
    - design thinking, Intellectual Property Rights,
    - Start-up finance, and HR among teachers and students.
- It will also enable the ranking system for schools on the level of innovation-oriented activities.
- To implement the SIC council in all schools across the nation, SIC portal has been developed where schools can register themselves.
- All registered schools are encouraged to perform innovation-related activities as per the SIC Calendar Activities.

About MoE's Innovation Cell

- Ministry of Education has established 'MoE's Innovation Cell' with the mandate to work closely with our Higher Education Institutions (HEIs).
- The idea is to encourage the creative energy of our student population to work on new ideas and innovation and promote them to create start-ups and entrepreneurial ventures.

Alternatives for Tobacco Farmers

The Department of Agriculture & Farmers Welfare (DA&FW) has been implementing Crop Diversification Programme (CDP) in 10 tobacco growing states.

- The idea is to encourage farmers to shift to alternative crops/cropping systems.

TRANSFORM IAS
Transforming Lives with Education

Key Points

- The 10 tobacco growing states are: Andhra Pradesh, Bihar, Gujarat, Karnataka, Maharashtra, Odisha, Tamil Nadu, Telangana, Uttar Pradesh and West Bengal.
- Crop Diversification Programme (CDP) is a sub-scheme of Rashtriya Krishi Vikas Yojana (RKVY).
- Under CDP, tobacco growing states have been given the flexibility to take suitable activities / interventions to shift from tobacco crops to alternative agricultural / horticultural crops.
- A total of 111889 acres land has been shifted from tobacco farming during last five years i.e. 2017-18 to 2021-22 to other alternative crops/cropping system.

Note: ICAR- Central Tobacco Research Institute, Rajahmundry has recommended alternative cropping system to the States for replacing tobacco.

About Rashtriya Krishi Vikas Yojana (RKVY)

TRANSFORM IAS
Transforming Lives with Education

- RKVY scheme was initiated in 2007 as an umbrella scheme for ensuring holistic development of agriculture and allied sectors.
- The National Development Council (NDC) had initially passed a resolution for a special Additional Central Assistance Scheme (RKVY) to be launched.
- The NDC reaffirmed its commitment to achieve 4 per cent annual growth in the agricultural sector during the 11th plan.
- The Department of Agriculture, in compliance of the above resolution prepared the guidelines for the RKVY scheme, to be known as National Agriculture Development Programme (RKVY).
- The scheme has come a long way since its inception and has been implemented across two plan periods (11th and 12th).
- Till 2013-14, the scheme was implemented as an Additional Central Assistance (ACA) to State Plan Scheme with 100% central assistance.
- It was converted into a Centrally Sponsored Scheme in 2014-15 also with 100% central assistance.
- Since 2015-16, the funding pattern of the scheme has been altered in the ratio of 60:40 between Centre and States (90:10 for North Eastern States and Himalayan States).
- For Union Territories the funding pattern is 100 % central grant.
- Objectives of the programme:
    - To incentivize the states that increase their investment in Agriculture and allied sectors.
    - To provide flexibility and autonomy to the States in planning and executing programmes for agriculture.
    - To ensure the preparation of Agriculture Plans for the districts and states.
    - To achieve the goal of reducing the yield gaps in important crops.
    - To maximize returns to the farmers.
    - To address the agriculture and allied sectors in an integrated manner.

- Basic features of RKVY:
  - It is a State Plan scheme.
  - The eligibility of a state for the RKVY is contingent upon the state maintaining or increasing the State Plan expenditure for Agricultural and Allied sectors.
  - The base line expenditure is determined based on the average expenditure incurred by the State Government during the three years prior to the previous year.
  - The preparation of the district and State Agriculture Plans is mandatory.
  - The scheme encourages convergence with other programmes such as NREGS.
  - If the state lowers its investment in the subsequent years, and goes out of the RKVY basket, then the balance resources for completing the projects already commenced would have to be committed by the states.
  - It is an incentive scheme, hence allocations are not automatic.
  - It will give high levels of flexibility to the states.
  - Projects with definite time-lines are highly encouraged.
- The Cabinet then approved for continuation of the ongoing Centrally Sponsored Scheme (State Plans) - Rashtriya Krishi Vikas Yojana (RKVY) in a new form.
- This was Rashtriya Krishi Vikas Yojana- Remunerative Approaches for Agriculture and Allied Sector Rejuvenation (RKVY-RAFTAAR).
- This continuation was for three years i.e. 2017-18 to 2019-20 with a financial allocation of Rs. 15,722 crores.
- The broad objective was of making farming a remunerative economic activity through strengthening the farmer's effort, risk mitigation and promoting agri-business entrepreneurship.
- Under RKVY-RAFTAAR, major focus is on pre & post-harvest infrastructure, besides promoting agri-entrepreneurship and innovations.
- The scheme is being implemented by Ministry of Agriculture and Farmer's Welfare, Govt. Of India.

TRANSFORM IAS
Transforming Lives with Education

Udyam Portal of Ministry of MSME

The Ministry of MSME celebrated the landmark of 1 crore registrations on its Udyam Portal.

- Following the adoption of the revised definition of Micro, Small and Medium Enterprises (MSMEs) in June 2020, the Udyam Registration Portal was launched in July, 2020.

Key Points

- The Udyam Portal is linked to the databases of CBDT and GSTN.
- It is fully online, does not require any documentation, and is a step towards Ease of Doing Business for MSMEs.
- In a span of 25 months, as many as 1 crore MSMEs have registered on the Udyam portal on a voluntary basis.
- These 1 crore MSMEs have declared that they employ 7.6 crore people, of which 1.7 crore are wom-

en.

- On the occasion, the Digi Locker facility for Udyam Registration was also launched.

NIESBUD and HUL sign MoU

National Institute for Entrepreneurship and Small Business Development (NIESBUD) and Hindustan Unilever Limited (HUL) signed a memorandum of understanding (MoU).

- The objective is to developing entrepreneurial skills among the youth and identifying other aspects for mutual collaboration.
- The alliance will further enhance employment generation and create sustainable livelihood opportunities.
- This will also give a major boost to nano and micro-entrepreneurship advancement in the country.

About NIESBUD

- NIESBUD is an apex organisation working under the administrative control of the Ministry of Skill Development and Entrepreneurship, Government of India.
- It is engaged in training, consultancy, research, etc. in order to promote entrepreneurship and Skill Development in the country.
- Objectives:
    - To standardize and systemize the processes of selection, training, support and sustenance of potential and existing entrepreneurs.
    - To support and motivate institutions/organizations in carrying out training and other entrepreneurship development related activities.
    - To serve as an apex national level resource institute for accelerating as well as enhancing the process of entrepreneurship development.
    - To measure the impact of entrepreneurship development within different strata of the society.
    - To provide national/international forums for interaction and exchange of ideas.
- The policy, direction and guidance to the Institute is provided by its Governing Council whose Chairman is the Minister of MSDE.

Swatch Sagar, Surakshit Sagar Campaign

The "Swachh Sagar, Surakshit Sagar/Clean Coast Safe Sea "campaign is a 75-day citizen-led campaign for improving ocean health through collective action.

- The coastal cleanup drive will be carried out at 75 beaches across the country with 75 volunteers for every kilometre of the coastline.

Key Points

- The campaign started on July 5th, 2022 and has 3 strategic underlying goals that target transformation and environmental conservation through behaviour change.
- The three underlying goals of the campaign are to:
    - Consume Responsibly
    - Segregate waste at home and
    - Dispose Responsibly.
- The campaign will culminate with the largest beach cleaning event on Sept 17, 2022 (International Coastal Cleanup Day).
- It will cover 75 beaches across India's 7500+km coastline.
- Key audiences for the campaign include local communities that rely on oceans and beaches for livelihood, school and college students, youth and citizens in-general.

TRANSFORM IAS
Transforming Lives with Education

- It is the first-of-its-kind and longest running coastal cleanup campaign in the world with highest number of people participating in it.
- Through this campaign, a mass behavioural change among the masses is intended by raising awareness about how plastic usage is destroying our marine life.
- A mobile app "Eco Mitram" has also been launched to spread awareness about the campaign.

IAS
Transforming Lives with Education

Microsoft and Meta for Training Tribal Youth

The Ministry of Tribal Affairs has partnered with Microsoft and Meta for training tribal youth in digital skills and technology.

Key Points

- The Ministry of Tribal Affairs had entered into a Memorandum of Understanding (MoU) with Microsoft in May, 2021.
- The initiative will enable the professional development of educators so as to train them to use technology in classrooms.
- Under the partnership, students from EMRS (Eklavya Model Residential Schools) schools will be mentored on projects that involve AI applications.
- The second phase of the GOAL Programme (GOAL 2.0) was launched on 28th June, 2022 in partnership with Meta (previously Facebook).
- This initiative is aimed at digitally skilling tribal youth and opening up opportunities for them using digital technology.
- The State Tribal Welfare Departments and Tribal Research Institutes are being consulted and asked to create awareness about the program amongst tribal communities of the state.

About Eklavya Model Residential Schools

- EMRS was started in the year 1997-98 to impart quality education to ST children in remote areas.
- The idea was to enable them to avail of opportunities in high and professional educational courses and get employment in various sectors.
- The schools focus not only on academic education but on the all-round development of the students.

- Each school has a capacity of 480 students, catering to students from Class VI to XII.
- In order to give further impetus to EMRS, it has been decided that by the year 2022,
    - Every block with more than 50% ST population and at least 20,000 tribal persons, will have an EMRS.
- Eklavya schools will be on par with Navodaya Vidyalaya and will have special facilities for preserving local art and culture.
    - They will also be providing training in sports and skill development.
- Across the country, as per census 2011 figures, there are 564 such sub-districts out of which there is an EMRS in 102 sub-districts.
    - Thus, 462 new schools have to be opened by the year 2022.

Distribution of Fortified Rice

The Government has approved the supply of fortified rice throughout the Targeted Public Distribution System (TPDS) under the National Food Security Act (NFSA).

- Fortified rice has also been approved for Other Welfare Schemes of Government of India in all States and Union Territories (UTs) in a phased manner.

Key Points

- Under Saksham Anganwadi and Poshan 2.0 (erstwhile Integrated Child Development Scheme), allocation of Fortified Rice began during the second quarter of FY 2021-2.
    - And from the third quarter onwards of FY 2021-22, 100% fortified rice was allocated to all the States/UTs.
- Consequently, 731962 MTs of Fortified Rice had been allocated to all the States/UTs during FY 2021-22.
    - 634079 MTs of Fortified Rice had been allocated to the all the States/UTs during FY 2022-23(upto second quarter only).

TRANSFORM IAS
Transforming Lives with Education

Note: The Centre had in 2019 launched a pilot scheme for fortified rice and its distribution under the Public Distribution System (PDS) for three years to deal with anaemia.

What Is Fortified Rice?

- The Food Safety and Standards Authority of India (FSSAI) defines fortification as-
    - The addition of key vitamins and minerals such as iron, iodine, zinc, Vitamins A and D to staple foods such as rice, wheat, oil, milk and salt to improve nutritional value and provide a public health benefit with minimal risk to health.
- The quantity added is small and well under the Recommended Daily Allowances (RDA) and is well regulated as per the prescribed standards for safe consumption.

- Fortification does not require any changes in the eating patterns or food habits of people.
- The process also does not change any food characteristics— aroma, texture or taste.

Why does India need fortification?

- National Family Health Survey 2019-2021 (NFHS-5) has revealed that around 90 per cent of children in the country aged between 6 and 23 months did not get an adequately nutritious diet.
- Over 67 per cent of children above six months but below five years of age were found to be anaemic.
- And while 25 per cent of men from the ages of 5 to 49 were anaemic, the number rose to 57 per cent for women in the same age group.
- More than 35 per cent of children below five years of age showed stunted growth, which is a measure of chronic malnutrition among kids.
- The survey findings show that malnutrition is a serious public health issue in India.
- Even those who look 'healthy' may often be malnourished due to the absence of appropriate nutrition in their food.
- This deficiency of micronutrients, also known as hidden hunger, thus poses a serious health risk.
- Food fortification is one strategy to fight malnutrition. Others include diversification of diet and supplementation of food.

Skill India launches Recognition of Prior Learning (RPL)

The National Skill Development Corporation (NSDC) has initiated a project to recognise the prior skills of 75,000 people between the age group of 18-45 years.

- The project aims to upskill them in association with the New Delhi Municipal Council (NDMC).

TRANSFORM IAS
Transforming Lives with Education

Key Points

- The project aims at certifying these people to increase their relevance in the volatile job market and encourage them in contributing toward nation-building.
- The initiative will be funded by NDMC and SANKALP (World Bank Project under MSDE) and implemented by NSDC.
- The training commenced on 5th August with an aim to upskill 25,000 workers in the first phase.
- The workers will be upskilled in multiple trades across construction, electrical, plumbing, pottery etc.
- It will not only expose them to digital literacy and entrepreneurial opportunities, but also upgrade them in technical skills.
- During the course of the training, the trainees will also be provided with an additional benefit of accidental insurance for two years.
- The Recognition of Prior Learning (RPL)/Upskilling program will be implemented in three phases through Sector Skill Councils (SSCs) and their empanelled training providers.
- Moreover, there will be two modes of implementation —
    - RPL through Camps, under which industrial and traditional clusters will be targeted and
    - RPL at Employer's premises which will be carried forward in partnership with industries and employers for orientation and training at the employer's location.

About Recognition of Prior Learning (RPL)

- RPL or prior learning assessment and recognition (PLAR), is a component of Skill India's flagship scheme PMKVY.
- It is an assessment process used to evaluate a person's existing skill sets, knowledge and experience gained either by formal, non-formal or informal learning.
- The process helps in aligning the competencies of the unregulated workforce of the country to the standardized National Skills Qualification Framework (NSQF).

- This helps to enhance employability opportunities and reduce the skill gap.

About National Skill Development Corporation (NSDC)

सत्यमेव जयते
GOVERNMENT OF INDIA
MINISTRY OF SKILL DEVELOPMENT
& ENTREPRENEURSHIP

N·S·D·C
National
Skill Development
Corporation
Transforming the skill landscape

- National Skill Development Corporation (NSDC) is a not-for-profit public limited company incorporated in July, 2008 under section 25 of the Companies Act.
- NSDC was set up by Ministry of Finance as Public Private Partnership (PPP) model.
- The Government of India through Ministry of Skill Development & Entrepreneurship (MSDE) holds 49% of the share capital of NSDC.
  - While the private sector has the balance 51% of the share capital.
- NSDC aims to promote skill development by catalyzing creation of large, quality and for-profit vocational institutions.
- Further, the organisation provides funding to build scalable and profitable vocational training initiatives.
- NSDC acts as a catalyst in skill development by providing funding to enterprises, companies and organizations that provide skill training.

TRANSFORM IAS
Transforming Lives with Education

About SANKALP

- Skill Acquisition and Knowledge Awareness for Livelihood Promotion ("SANKALP") is a programme of the Ministry of Skill Development with loan assistance from the World Bank.
- SANKALP aims to work in three key Result Areas,namely
  - (i) Institutional Strengthening at Central, State, and District level;
  - (ii) Quality Assurance of skill development programmes; and
  - (iii) Inclusion of marginalized population in skill development programmes.

- SANKALP was launched on 19th January 2018 and has a tenure till March 2023.
- The outcomes in the project are measured through the Results Framework, and Disbursement Linked Indicators (DLIs) agreed between MSDE and World Bank.

About National Skills Qualifications Framework (NSQF)

- NSQF is a nationally integrated education and competency-based framework that enables persons to acquire desired competency levels.

- The National Skills Qualifications Framework (NSQF) organizes qualifications according to a series of levels of knowledge, skills and aptitude.
- These levels, graded from one to ten, are defined in terms of learning outcomes which the learner must possess.
    - This is regardless of whether they were acquired through formal, non-formal or informal learning.
- It is, therefore, a nationally integrated education and competency-based skill and quality assurance framework.
- This will enable a person to acquire desired competency levels, transit to the job market and at an opportune time, return for acquiring additional skills to further upgrade their competencies.
- NSQF in India was notified on 27th December 2013.

Krishi Udan 2.0

Krishi UDAN 2.0 is being implemented at 58 airports across the country, primarily focussing on the north-eastern States and tribal regions.

About Krishi Udan

Krishi UDAN Scheme was launched in August 2020, on international and national routes to assist farmers in transporting agricultural products so that it improves their value realisation.

- The scheme aims to ensure seamless, cost-effective, time-bound air transportation and associated logistics for all Agri-products.
- The scheme specially targets farmers from Northeast, hilly and tribal regions of the country.

About Krishi UDAN 2.0

- Krishi UDAN 2.0 lays out the vision of improving value realization through better integration and optimization of Agri-harvesting and air transportation.
- The scheme proposes to facilitating and incentivizing movement of Agri-produce by air transportation.
    - The Ministry will be providing a full waiver on landing, parking, terminal navigation and route navigation facilities charges for all domestic airlines.
    - Strengthening cargo related infrastructure at airports and off airports
- Strengthen Cargo related infrastructure at airports and off airports by facilitating the development of a hub and spoke model and a freight grid.
- Development of E-KUSHAL (Krishi UDAN for Sustainable Holistic Agri-Logistics).
    - Integration of E-KUSHAL with National Agriculture Market (e-NAM) is also proposed.

Centre of Excellence for Khadi

The Government of India, through the Khadi and Village Industries Commission (KVIC), is establishing a Centre of Excellence for Khadi (CoEK).

- This is being done with the technical support of National Institute of Fashion Technology (NIFT).

Key Points

- The new Centre for Excellence will come up in New Delhi at NIFT Delhi (Hub Centre) and its four spokes at Gandhinagar, Kolkata, Shillong and Bengaluru.
- The objective is to help Khadi Institutions to effectively design, produce and market high quality differentiated Khadi products in the Indian and global market.
- Under the project, CoEK has created a Knowledge Portal for Khadi in which designs and specifications with sketches are uploaded for viewing by Khadi Institutions for replication.
- The objectives of the project are:
    - Creation of new fabrics/ products based on season-wise colour forecast/fashion trends.
    - Disseminate quality standards for Khadi fabrics and clothing for high end domestic and global market.
    - Branding and publicity by creating interesting narratives around the new Khadi fabrics and products.
    - Create visual merchandising and packaging for new Khadi products.
    - Increase the global reach of Khadi by organizing or participating in Khadi Fashion shows and exhibitions.

TRANSFORM IAS
Transforming Lives with Education

About KVIC

स्वदेशी और ग्रामोद्योग अपनाओ
KVIC
कामये दुःखतप्तानाम्।
प्राणिनाम् आर्तिनाशनम्॥

- The Khadi and Village Industries Commission (KVIC) is a statutory body established by an Act of Parliament.
- In April 1957, it took over the work of former All India Khadi and Village Industries Board.
- The broad objectives:
    - The social objective of providing employment.
    - The economic objective of producing saleable articles.
    - The wider objective of creating self-reliance amongst the poor and building up of a strong rural community spirit.
- The KVIC is charged with the planning, promotion, organisation and implementation of programs for the development of Khadi and other village industries in the rural areas.

National Handloom Day

The National Handloom Day is observed annually on 7th August to honour the handloom weavers in the country.

- In 2015, Prime Minister declared August 7 as the National Handloom Day to commemorate the Swadeshi movement that began in 1905 and to revive this ancient Indian art.

Key Points

- Handloom sector is a symbol of the country's glorious cultural heritage and an important source of livelihood in the country.
- The sector is key to women empowerment as over 70% of handloom weavers and allied workers are women.
- The first National Handloom Day was held on 7th August 2015.
- On this day, the handloom weaving community is honoured and the contribution of this sector in the socio-economic development of this country is highlighted.
- In India, after agriculture, handloom is one of the largest employment providers.
- In the country, this sector provides employment to about 43.31 lakh persons.
- According to the latest Handloom Census (2019-2020), there are nearly 31.44 lakh handloom households in the country.
- In India, the handloom sector contributes nearly 15% of the cloth production and also contributes to the export earnings of the country.

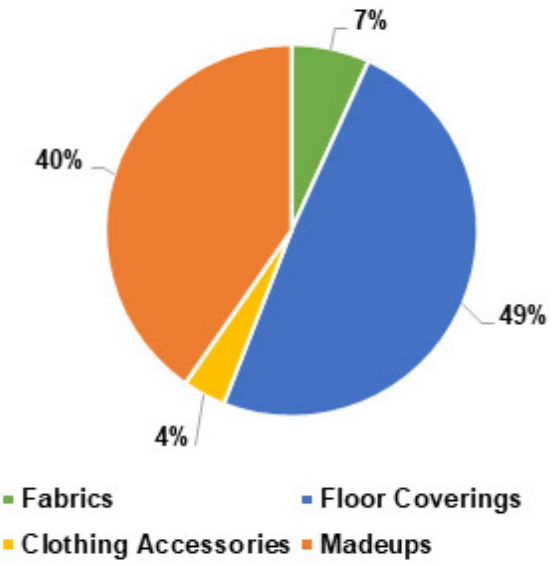
About Handloom Sector in India

- The handloom sector of India is one of the biggest unorganized economic activities.
- The handloom industry in India has a long tradition of outstanding artisanship that represents and preserves vibrant Indian culture.
- India's handloom artists are globally known for their unique hand spinning, weaving and printing style.
- They are based out of small towns and villages of the country which transfer skills from one generation to the next.
- The handloom sector of India has the advantage of being less capital intensive, eco-friendly, having less power consumption and the ability to adapt to market conditions.
- According to the Handloom Census 2019-20, the industry employs about 3,522,512 handloom workers across the country.

TRANSFORM IAS
Transforming Lives with Education

- The industry primarily employs women workers with a share of 72.29% of the total handloom workers.
- The majorly exported handloom products from India are mats and mattings, carpets, rugs, bedsheets, cushion covers and other handloom articles.

Category wise share of handlooms export revenue (2020-21)

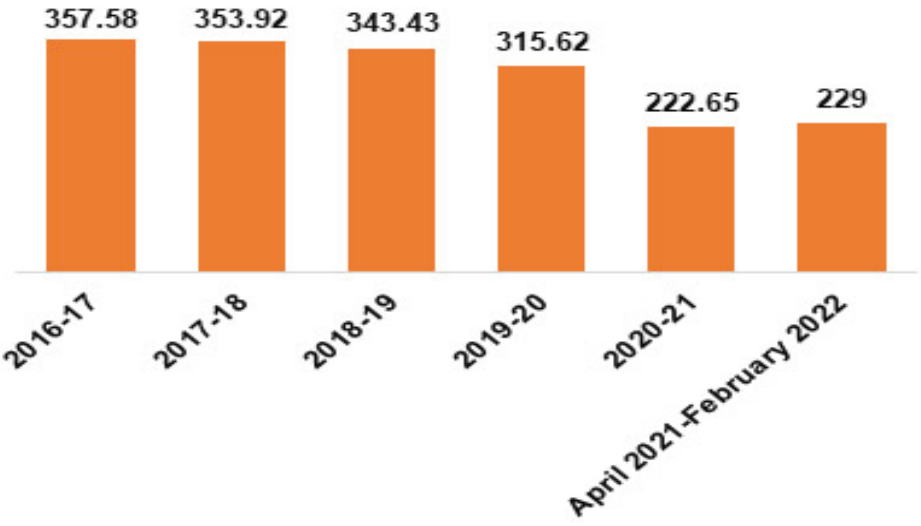


Source: The Handloom Export Promotion Council (HEPC)

TRANSFORM IAS
Transforming Lives with Education

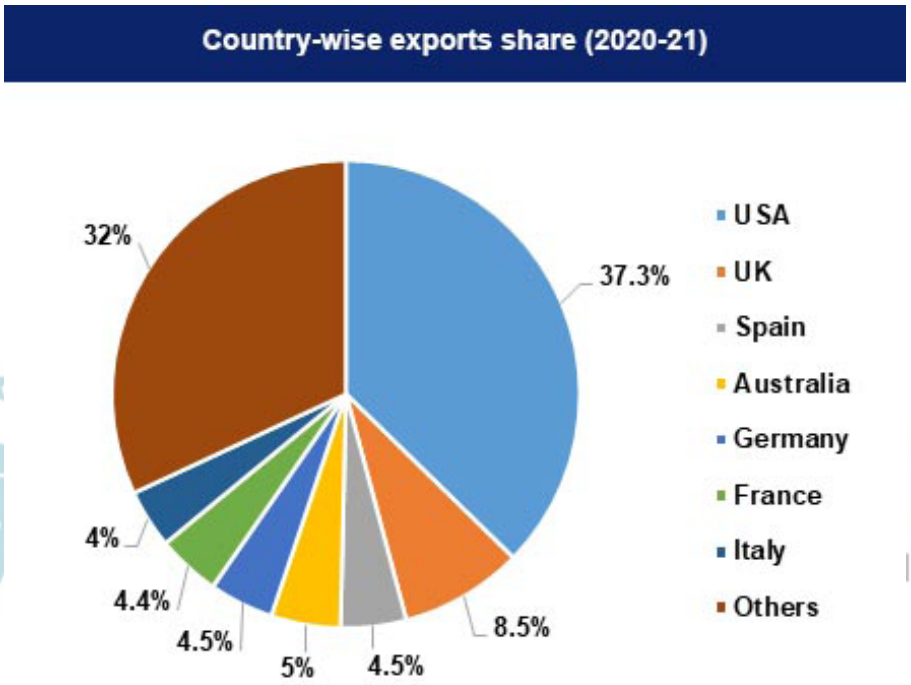
- During 2020-21, the mats and mattings exported from the country had a share of 29% in the total exports.
- The home textile constitutes over 60% of India's total handloom exports.
- The major handloom export centers are Karur, Panipat, Varanasi & Kannur.
- During April 2021-February 2022, India exported handloom products worth Rs. 1,693 crore (US$ 229 million).

India's handloom export trend (US$ million)



Source: The Handloom Export Promotion Council (HEPC)

- India exports handloom products to more than 20 countries in the world.
    - Some of the top importers are USA, the UK, Spain, Australia, Italy, Germany, France, South Africa, Netherlands and the UAE.
    - USA is the biggest importer of handloom products from India, consistently the top importer for the past 8 years.
- During 2020-21, the country imported handloom products worth Rs. 613.78 crore (US$ 83 million).
- Some of the other handloom importers from India are Canada, Brazil, Greece, Belgium, Chile, Denmark, Thailand and Sri Lanka.
    - During 2020-21, these countries accounted for 8.6% of India's total handloom exports at Rs. 141 crore (US$ 19.1 million).



Source: The Handloom Export Promotion Council (HEPC)

Government Initiatives for Handloom Sector

- National Handloom Development Programme (NHDP)
    - The NHDP programme has several components that focus on various stages of the handloom business.
    - The Cluster Development Programme (CDP) provides financial benefits to clusters and during 2021-22, assisted 66 clusters.
    - In addition to this, the government provides Handloom Marketing Assistance (HMA), the Urban Haats scheme and handloom awards.
    - This helps develop the industry and encourage businesses in India.
- Market Access Initiative (MAI)
    - The MAI, launched in 2018, was revised in 2021 and will be in effect till March 2026.
    - This scheme will act as a catalyst to promote India's exports on a sustained basis.
    - MAI is based on a produce specific approach with market studies and research on evolving the markets.

The Handloom Export Promotion Council (HEPC)

- The HEPC was formed in 1965 and is a not-for-profit organization.
- The council supports and promotes the export of Indian handloom fabrics.
- It helps the sector by undertaking market studies and trade missions, disseminating information, advising governments and providing guidance and consultancy to exporters.
- The HEPC also organizes and participates in international trade fairs and buyer-seller meets in India and abroad.

On boarding of Cooperatives on GeM portal

The Union Home and Cooperation Minister recently launched the on-boarding of cooperatives on the GeM portal in New Delhi.

- With this e-launch, all eligible cooperatives will be able to start placing orders on the GeM portal.

Key Points

- Recently, the Ministry of Cooperation in its advisory had made the National Cooperative Union of India (NCUI) the nodal agency to facilitate onboarding of cooperatives.
- NCUI has compiled a list of cooperatives with turnover/deposits of Rs. 100 crore and forwarded this information to GeM for starting the onboarding process.
- 589 cooperatives have been shortlisted as eligible for onboarding.
- A joint task force of NCUI and GeM officials has also been formed to call/mail individual cooperatives to urge them for onboarding and handhold for registration.
- The onboarding of cooperative societies/banks will be done in a phased manner.
- In the first phase, cooperative societies/banks with turnover/deposits of more than Rs. 100 crore and with A Grade auditing have been taken up for onboarding.

About GeM

- GeM (Government e-Market) has been set up as the National procurement portal to provide an end-to-end online marketplace for Central and State Govt deptts/ Ministries, PSUs, etc.
- The Union Cabinet had approved on June 1st to expand the mandate for GeM to allow cooperatives to procure goods and services through GeM.
- Cooperatives will get competitive prices through an open and transparent process.
- They will also be able to procure from about 45 lakh authenticated sellers/service providers available across the country on a single platform.
- Besides, this will lead to saving of time and reduction of administrative costs for cooperatives.

PMAY-U up to 31st December 2024

The Union Cabinet has approved the proposal of Ministry of Housing and Urban Affairs (MoHUA) for continuation of Pradhan Mantri Awas Yojana-Urban (PMAY-U) up to 31stDecember 2024.

- The financial assistance will be provided for the completion of already sanctioned 122.69 lakh houses till 31stMarch 2022.

Key Points

- PMAY-U: Housing for All, is one of the major flagship programmes being implemented by Government of India.
- The scheme is implemented by Ministry of Housing and Urban Affairs (MoHUA) and was launched on 25th June 2015.
- The Mission addresses urban housing shortage among the EWS/LIG and MIG categories including the slum dwellers.
- The objective is to provide all weather pucca houses to all eligible beneficiaries in the urban areas of the country through States/UTs/Central Nodal Agencies.
- The scheme covers the entire urban area of the country, i.e., all statutory towns as per Census 2011,
    - and towns notified subsequently, including Notified Planning/ Development Areas.
- The scheme is being implemented through four verticals:
    - Beneficiary Led Construction/ Enhancement (BLC),
    - Affordable Housing in Partnership (AHP),
    - In-situ Slum Redevelopment (ISSR) and
    - Credit Linked Subsidy Scheme (CLSS).

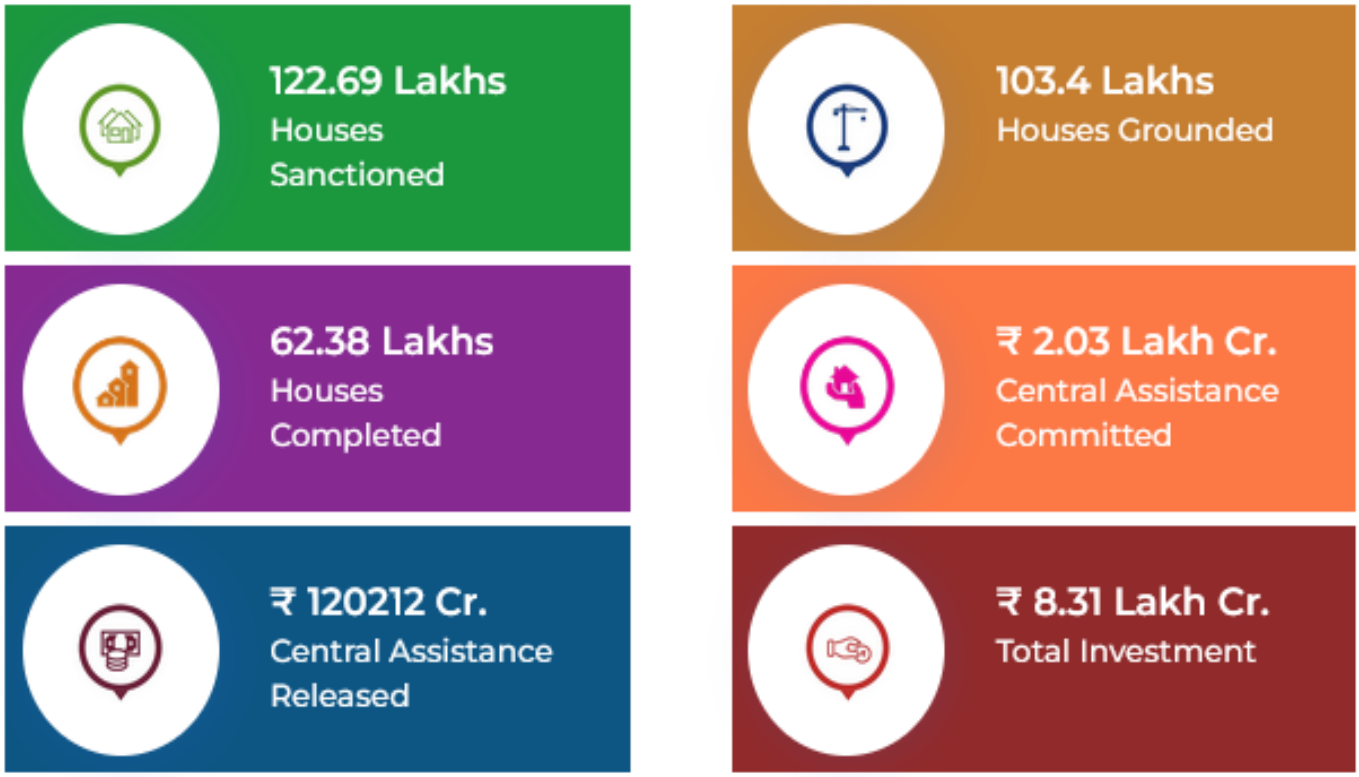
TRANSFORM IAS
Transforming Lives with Education

The Scheme is being implemented through the following four verticals:

Subsidy for Beneficiary-Led Individual house construction or enhancement	Affordable Housing in Partnership	"In-Situ" Slum Redevelopment	Affordable Housing through Credit Linked Subsidy Scheme*
- For Individuals of EWS category requiring individual house - State to prepare a separate project for such beneficiaries - No isolated/splintered beneficiary to be covered	- With private sector or public sector including Parastatal agencies - Central Assistance per EWS house in affordable housing projects where 35% of constructed houses are for EWS category	- Using land as a resource - With private participation -Extra FSI/TFR/FAR if required to make projects financially viable	**A. Interest subsidy for EWS & LIG** - EWS: Annual household income up to ₹3,00,000 & house sizes upto 30 sq.m - LIG: Annual Household income from ₹3,00,000 to ~6,00,000 & house sizes upto 60 sq.m **B. Interest subsidy for MIG** - MIG: Annual household income up to ₹6,00,000 to ₹12,00,000 & house sizes upto 160 sq.m - MIGII: Annual Household income from ₹12,00,000 to ₹18,00,000 & house sizes upto 200 sq.m

- While Govt of India provides financial assistance, State Govt/UTs implement the scheme including selection of beneficiaries.
- PMAY(U) adopts a demand driven approach wherein the Housing shortage is decided based on demand assessment by States/Union Territories.
- State Level Nodal Agencies (SLNAs), Urban Local Bodies (ULBs), Central Nodal Agencies (CNAs) and Primary Lending Institutions (PLIs) are main stakeholders who play an important role in implementation and success of PMAY(U).

PMAY(Urban) - Progress



Transforming Lives with Education

RIMPAC – 2022

The RIMPAC-22 exercise was recently held in and close to the Hawaiian Islands and Southern California from 29th June to 4th August.

- 27 countries participated in the current edition of the multi-dimensional exercise.

Key Points

- RIMPAC-22 is one of the largest multilateral naval exercises in which the Indian Navy also participated.
- The RIMPAC started in 1971 as an annual exercise by the US, Australia, and Canada.
- The theme of RIMPAC 2022 is 'capable, adaptive, partners.
- India participated with INS Satpura in Anti-Submarine, Anti-Ship and Anti-Air Warfare exercises with multi-national navies in the Pacific Ocean.
    - INS Satpura is an indigenously designed and built 6000 tonnes guided missile stealth frigate.
- India first participated in RIMPAC in 2014 when the indigenously built Shivalik class stealth frigate INS Sahyadri took part in the exercise.

India-Mauritius High-Powered Joint Trade Committee

India and Mauritius recently held the 1st session of India-Mauritius High-Powered Joint Trade Committee.

- The High-Powered Joint Trade Committee had been constituted as per the mandate of the India-Mauritius Comprehensive Economic Cooperation and Partnership agreement (CECPA)

Key Points

- The main objective of the committee is to review the general functioning and implementation of the

India-Mauritius CECPA which entered into force last year.

- CECPA is the first trade Agreement signed by India with a country in Africa.
- Both sides noted that the traditionally close, strong economic ties between the two countries touched a new high with the signing of the landmark CECPA.
- Appreciating the growth of the bilateral merchandise trade between India and Mauritius, which rose to USD 786.72 million in 2021-22 from USD 690.02 million in 2019-20,
    - Both sides agreed to enhance bilateral collaboration.
    - The idea is to further increase bilateral trade and realize the true potential of the bilateral relationship especially under the CECPA.
- Both parties also expressed willingness to enter into a Customs Mutual Administrative Assistance Agreement (CMMA) and agreed to initiate discussions for the same soon.

About India- Mauritius Historical Ties

- Mauritius maintained contacts with India through successive Dutch, French and British occupation.
- From the 1820s, Indian workers started coming into Mauritius to work on sugar plantations.
- From 1834, when slavery was abolished by the British Parliament, large numbers of Indian workers began to be brought to Mauritius as indentured labourers.
- November 2, 1834 marks the day when the ship 'Atlas' docked in Mauritius carrying the first batch of Indian indentured labourers.
    - This day is now observed in Mauritius as 'Aapravasi Day'.
- In all, about half a million Indian indentured labourers are estimated to have been brought into Mauritius between 1834 and the early decades of the 20th century.
    - Out of whom about two-thirds settled permanently in Mauritius.
- Barrister Manillal Doctor came to Mauritius in 1907 on the suggestion of Gandhiji.
    - He helped the Mauritian Indian community to organise themselves and laid the foundation for their struggle for political and social rights.
- Following Mauritius' independence on March 12, 1968, the first Prime Minister and the Father of the Mauritian Nation Sir Seewoosagur Ramgoolam accorded centrality to India in Mauritius' foreign policy.
- Subsequently, successive Mauritian leaders ensured that India occupies a position of significance and importance in the foreign policy orientation and activities of Mauritius.
- Diplomatic relations between India and Mauritius were established in 1948.

About Mauritius

- Mauritius, known officially as the Republic of Mauritius, is an island nation located off the southeast coast of the African continent in the Indian Ocean.
- It is a volcanic island of lagoons and palm-fringed beaches with coral reefs surrounding most of the coastline.
- The island is situated approximately 2400 kilometers off the South East Coast of Africa.
- The island nation is situated about 900 km east of Madagascar and 180 km northeast of French Réunion.
- The archipelago has a population of 1.37 million people (in 2020).
- The island state is the country with the highest population density in Africa.
- The capital and largest city is Port Louis.
- Spoken languages are Morisien, English, and French.

TRANSFORM IAS
Transforming lives with Education

Ex Vajra Prahar 2022

The 13th Edition of the Indo-US Joint Special Forces exercise "Ex Vajra Prahar 2022" was conducted at the Special Forces Training School (SFTS), Bakloh (HP).

- The US contingent is represented by personnel from the 1st Special Forces Group (SFG) and Special Tactics Squadron (STS) of US Special Forces.
- The Indian Army contingent is formed by drawing Special Forces personnel under the aegis of SFTS.

Key Points

- The Vajra Prahar series of joint exercise aims to share best practices and experiences in areas such as joint mission planning and operational tactics.
- The objective is to improve inter-operability between the Special Forces of both the Nations.
- This annual exercise is hosted alternatively between India and the United States.
- The 12th edition was conducted at Joint Base Lewis Mcchord, Washington (USA) in October 2021.

India's G20 Presidency

India will soon be holding the presidency of G20 countries. The Union Cabinet has recently approved the setting up of a G20 Secretariat and its reporting structure.

- The Secretariat will be responsible for implementation of overall policy decisions and arrangements needed for steering India's forthcoming G20 Presidency.

Key Points

India will hold the Presidency of the G20 from 1 December 2022 to 30 November 2023, culminating with the G20 Summit in India in 2023.

- As per practice, a G20 Secretariat is being established to handle work relating to substantive / knowledge / content, technical, media, security and logistical aspects of India's G20 Presidency.
- It will be manned by officers and staff from the Ministry of External Affairs, Ministry of Finance, and other relevant line Ministries / Departments and domain knowledge experts.
- The Secretariat will be functional till February 2024.
- The Secretariat will be guided by an Apex Committee headed by Prime Minister, and comprising:
    - Finance Minister, Home Minister, External Affairs Minister,
    - and G20 Sherpa (Commerce & Industry, Textiles, Consumer Affairs, Food and Public Distribution Minister),
    - To provide overall guidance to India's G20 Presidency.
- Further, a Coordination Committee will also be set up to oversee all G20 preparations and report to the Apex Committee.
- The G20 Secretariat will enable long term capacity building, including knowledge and expertise, for India's leadership on global issues in multilateral fora.

TRANSFORM IAS
Transforming Lives with Education

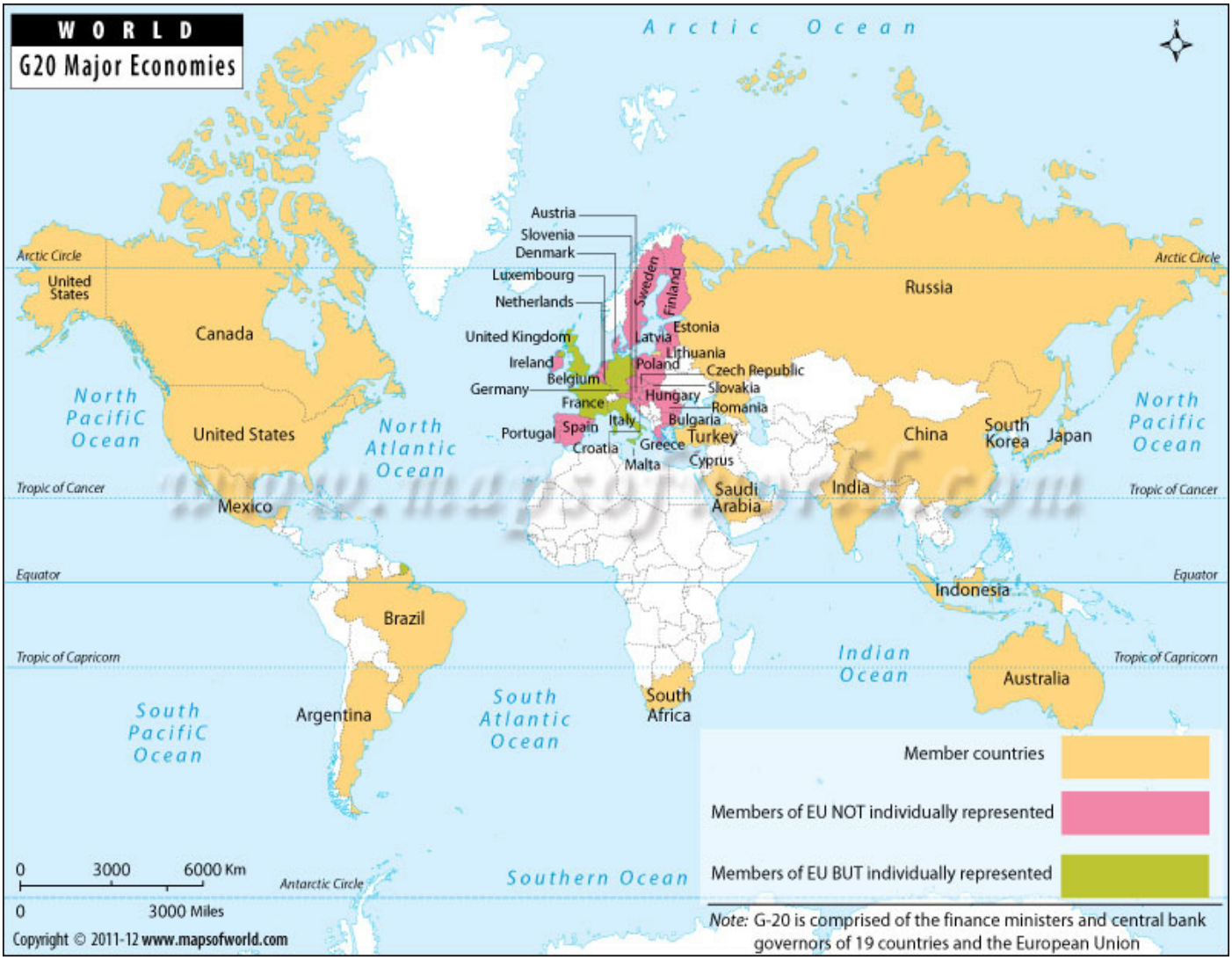
About G20

The G20 is made up of 19 countries and the European Union.

- The 19 countries are Argentina, Australia, Brazil, Canada, China, Germany, France, India, Indonesia, Italy, Japan, Mexico, the Russian Federation, Saudi Arabia, South Africa, South Korea, Turkey, the UK, and the US.
- The G20 is a strategic multilateral platform connecting the world's major developed and emerging economies.
- The G20 was formed in 1999 with the aim of discussing policies in order to achieve international financial stability.
- This forum was formed as an effort to find a solution to the global economic conditions hit by the global financial crisis in 1997-1999.
- On the advice of the G7 Finance Ministers, the G20 Finance Ministers and Central Bank Governors began holding meetings to discuss the response to the global financial crisis.
- Nine years later, on November 14-15 2008, the leaders of the G20 countries gathered for the first G20 Summit in United States.
- Together, the G20 members represent more than 80 percent of world GDP, 75 percent of international trade and 60 percent of the world population.
- Starting in 1999 as a meeting for the finance minister and central bank governors, the G20 has

evolved into a yearly summit involving the Head of State and Government.

- In addition to that, the Sherpa meetings (in charge of carrying out negotiations and building consensus among Leaders), working groups, and special events are also organized throughout the year.
- The presidency of the G20 rotates every year among its members.
- The country that holds the presidency works together with its predecessor and successor, also known as Troika, to ensure the continuity of the agenda.
- Currently Italy, Indonesia, and India are the Troika countries.
- The G20 has no permanent secretariat.
- The 17th Group of 20 (G20) Heads of State and Government Summit will take place in October 2022 in Bali, Indonesia.
- Under the Indonesian Presidency, the G20 in 2022 will focus on the theme "Recover Together, Recover Stronger".



Bilateral Exercise 'Udarashakti'

Indian air force participated in bilateral exercise named 'Udarashakti' hosted by Malaysia.

- Indian Air Force participated in the air exercise with Su-30 MKI and C-17 aircraft.
- The exercise will give an opportunity to IAF contingent members to share and learn best practices with some of the best professionals from RMAF.
- The four days of exercise will witness conduct of various aerial combat drills between the two Air Forces.

EXERCISE AL NAJAF IV

The Indo Oman Joint Military Exercise Al Najaf IV concluded recently at Mahajan Field Firing Ranges, Rajasthan.

- It was the fourth edition of Indo-Oman joint training exercise with a focus on counter-terrorism, regional security, and peacekeeping operations.

Key Points

- The aim of the exercise was to achieve inter-operability and to acquaint each other with operational procedures and combat drills in a Counter Terrorism environment under United Nations mandate.
- The Indian contingent was from 18th Battalion of Mechanised Infantry Regiment and the Royal Army of Oman contingent was represented by Sultan of Oman Parachute Regiment.
- The exercise was conducted in three phases.
- The first phase was orientation & familiarisation with weapon, equipment and tactical drills of each other by the participating contingents.
- The second phase was combat conditioning, formulation of joint drills and putting them into practise.
- The last phase was a 48 hours validation exercise of key drills and concepts learnt during the first two phases.

\

TRANSFORM IAS
Transforming Lives with Education

INDIAN ARMY LAUNCHES "HIM- DRONE-A-THON"

The Indian Army in collaboration with the Drone Federation of India has launched the 'Him Drone-a-thon' programme.

- This initiative is aimed to catalyse and provide focused opportunities to the Indian drone ecosystem.
- The objective is to develop path-breaking drone capabilities for meeting requirements of frontline troops.

Key Points

- The Indian Army's support to the indigenous drone ecosystem is based on the principle that 'good available indigenously' is better than the 'best available globally'.
- However, gradual enhancement in technology demanded by defence forces is likely to incentivise manufacture of better and more capable drone products.
- The 'Him Drone-a-thon' programme is pan India sustained connect between all stake holders.
- It will be conducted in stages with quantifiable parameters like altitude, weight, range, endurance etc.
    - And these parameters will be progressively enhanced based on demonstrated capabilities.
- As a start point, development in the following categories are included:
    - Logistics/ Load carrying Drone in High Altitude Areas.
    - Autonomous Surveillance/ Search & Rescue Drone.
    - Micro/ Nano Drones for Fighting in Built Up Areas.

Pharmacopoeia Commission for Indian Medicine

The Government of India had established Pharmacopoeia Commission for Indian Medicine & Homoeopathy (PCIM&H), as a subordinate office under Ministry of Ayush.

- The Commission is engaged in development of Pharmacopoial Standards for Ayurvedic, Unani, Siddha & Homoeopathic drugs.

Key Points

- The Pharmacopoeia Commission was established by merging Pharmacopoeia Commission of Indian Medicine & Homoeopathy (PCIM&H) and the two central laboratories.
- The two laboratories are Pharmacopoeia Laboratory for Indian Medicine (PLIM), Ghaziabad and Homoeopathic Pharmacopoeia Laboratory (HPL).
- PCIM&H also acts as Central Drug Testing cum Appellate Laboratory for Indian systems of Medicine & Homoeopathy.

Grand Onion Challenge

TRANSFORM IAS
Transforming Lives with Education

The Grand Onion Challenge instituted by Department of Consumer Affairs has been thrown open from 20.7.2022-15.10.2022.

- This challenge seeks ideas from young professionals, professors, scientists in product designs and prototypes for improving pre-harvesting techniques, primary processing, storage, and transportation of post harvested onions in the country.
- The challenge also seeks ideas for modernization of technology in dehydration, valorization of onions and onion food processing domain.

Akasa Air commences

Akasa Air commenced operations in India with its first flight taking off from Mumbai to Ahmedabad.

- The flight operations were inaugurated from the Chhatrapati Shivaji Maharaj International Airport in Mumbai.

Key Points

- Akasa Air is backed by investor Rakesh Jhunjhunwala and aviation veterans Aditya Ghosh and Vinay Dube.
- The airlines got its air operator certificate from the Directorate General of Civil Aviation (DGCA) on July 7.
- In the inaugural phage, Akasa Air will be offering 28 weekly flights between Mumbai and Ahmedabad.
- After which, starting from August 13, the airline will start operating an additional 28 weekly flights between Bengaluru and Kochi.

Repair of a US Navy Ship in India

In a first, a U.S. Navy Ship, Charles Drew, arrived in India for carrying out repairs and allied services at Larsen & Toubro's (L&T) Shipyard at Kattupalli, Chennai.

- This is the first ever repair of a U.S. Navy ship in India.

Key Points

- The US Navy had awarded a contract to L&T's Shipyard at Kattupalli for undertaking maintenance of the ship.
- The event signifies the capabilities of Indian shipyards in the global ship repairing market.
- Indian shipyards offer wide ranging and cost-effective ship repair and maintenance services, using advanced maritime technology platforms.
- The event signifies the capabilities of Indian shipyards in the global ship repairing market
- This will be adding a new dimension to the fast expanding Indo-U.S. strategic partnership.
- At the India-U.S. 2+2 in April, both sides agreed to explore the possibilities of utilising Indian shipyards for the repair and maintenance of ships.

In Image: US Navy Ship arriving in India

Note: India has six major shipyards with a turnover of nearly $2 billion.

India's first Saline Water Lantern

Union Minister of State (Independent Charge) Science & Technology launched India's first Saline Water Lantern named 'Roshini'.

- The lantern uses the sea water as the electrolyte between specially designed electrodes to power the LED lamps.

Key Points

- India's first Saline Water Lantern named 'Roshini' which uses the sea water to power itself.
- It is noteworthy that the technology can also be used in hinterlands, where sea water is not available.
- As any saline water or normal water mixed with the common salt can be used to power the Roshni lantern, which makes it cost-effective and feasible to operate.
- The lantern is designed and developed by the National Institute of Ocean Technology (NIOT), Chennai.
- The first-of-its-kind saline lantern would be able to bring 'Ease of Living' to the poor and needy,
    - Particularly the fishing community living along the 7,500 Kilometres long coastal line of India.

TIA TEAM

- The Team consists of Experts in the field of Civil Service
- Well planned Study strategy Program Methodology
- Strategy & Tips to score High Rank in CSE
- 360 Degree Complete coverage of syllabus
- Mentoring by Top Quality Faculties
- Quality Current Affairs in Line with UPSC pattern
- Committed to TIME BOUND completion of syllabus
- Balance between GS And Optional subject
- Specialized in conducting regular Tests for Prelims & Mains
- Focus on Answer writing skills
- Flexible Timings for Students & Working Professionals
- Decode the syllabus and Made easy for aspirants
- Small batches to provide personal Interest
- Time Management for Beginners
- Golden Tips to CRACK CIVIL SERVICE
- Most important Cost effective Coaching

TRANSFORM IAS ACADEMY

PHONE NO : 9986526271 , 9739804283

Website : www.transformiasacademy.com

-: ADDRESS :-

17, Kammanahalli Main Rd, above liberty showroom, near Nandana Hotel,
St Thomas Town, Inasappa Layout, Kalyan Nagar, Bengaluru, Karnataka 560084