

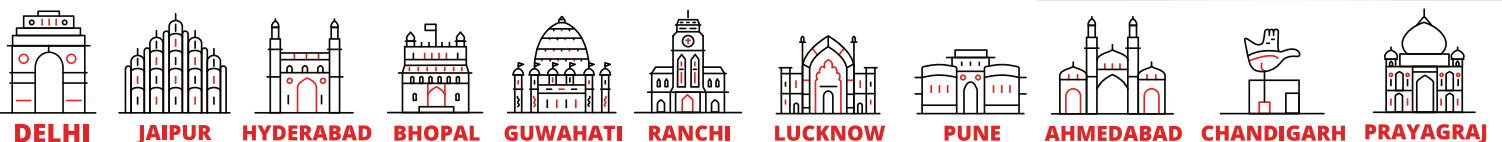


UPDATED CLASSROOM STUDY MATERIAL-2

March 2023-April 2023

 www.visionias.in

 8468022022 | 9019066066



DELHI **JAIPUR** **HYDERABAD** **BHOPAL** **GUWAHATI** **RANCHI** **LUCKNOW** **PUNE** **AHMEDABAD** **CHANDIGARH** **PRAYAGRAJ**

 enquiry@visionias.in  /c/VisionIASdelhi  /Vision_IAS  vision_ias  /VisionIAS_UPSC

PT 365 UPDATED PART 2

Table of Contents

1. POLITY AND GOVERNANCE	4
1.1. Basic Structure Doctrine	4
1.2. Ninth Schedule	5
1.3. Inter-state Border Disputes	5
1.4. Democratic Decentralisation in India	6
1.5. Disqualifications of Member of Parliament (MP)	6
1.6. National Party Status	7
1.7. Panel for Appointments of Election Commissioner	8
1.8. Criminal Indictment of a President in U.S. and India	9
1.9. Office of Lokpal	9
1.10. GST Appellate Tribunal (GSTAT)	10
1.11. Aadhaar	12
1.12. Regulation of Fake News	12
1.13. Other Important News	13
1.14. Errata	17
2. INTERNATIONAL RELATIONS	18
2.1. India-Bhutan	18
2.2. India-Latin America	18
2.3. India-Italy	19
2.4. Least Developed Countries (LDCs)	20
2.5. International Organizations/Institutions	20
2.6. International Events in News	22
2.7. Other Important News	24
2.8. Places in News	26
2.9. Defence Exercises in News	27
2.10. Errata	28
3. ECONOMY	30
3.1. Growth, Development and Poverty Alleviation	30
3.1.1. Direct Benefit Transfers (DBT)	30
3.1.2. Key terms and concepts in Growth and Development	30
3.2. Fiscal Policy	31
3.2.1. Direct Tax	31
3.2.2. Transfer Pricing	32
3.2.3. Key terms and concepts in Fiscal Policy	33
3.3. Banking, Asset Quality, Restructuring and Monetary Policy	33
3.3.1. Markets in Crypto Assets (MiCA)	33
3.3.2. Key terms and concepts in Banking and Monetary Policy	34
3.4. Payment Systems and Financial Markets	35
3.4.1. Regulations by the Securities and Exchange Board of India (SEBI)	35
3.4.1.1. Investor Protection and Participation	35
3.4.1.2. Strengthening Secondary Market	35
3.4.1.3. ESG	36
3.4.1.4. Regulatory Framework for Index Providers	36
3.4.2. Key terms and concepts in Payment Systems and Financial Markets	37
3.5. Foreign Trade Policy 2023	38
3.5.1. Trade Facilitation and Ease of Doing Business (EoDB)	39
3.5.2. Export Promotion Initiatives by FTP 2023	39
3.5.3. Other Initiatives by FTP 2023	40
3.5.4. Key terms and concepts in the External Sector	41
3.6. Labour and Employment	42
3.6.1. Gig Economy	42
3.6.2. Key terms and concepts in Labour and Employment	43
3.7. Innovation, Skill Development and Entrepreneurship	43
3.7.1. Start-up Funding Ecosystem	43
3.7.2. Stand-up India	43
3.7.3. Key terms and concepts in Innovation and Entrepreneurship	44
3.8. Agriculture	44
3.8.1. Primary Agricultural Credit Societies	44
3.8.2. SATHI (Seed Traceability, Authentication and Holistic Inventory) Portal	45
3.8.3. Prices of TOPs	46
3.8.4. Aquaculture Sector	47
3.8.5. Key terms and concepts in Agriculture	48
3.9. Industry	49
3.9.1. Vehicle Scrappage	49
3.9.2. E-pharmacy Sector	50
3.9.3. National Devices Policy, 2023	51
3.9.4. Key terms and concepts in Industry	51
3.10. Infrastructure	52
3.10.1. Smart Cities Mission	52
3.10.2. Key terms and concepts in Infrastructure	52
3.11. Power Sector	54
3.11.1. National Electricity Plan 2022-27	54
3.11.2. National Gas Grid	54
3.11.3. Key terms and concepts in Power Sector	55
3.12. Key Reports in News	56
3.13. Miscellaneous	56
3.14. Errata	57
4. ENVIRONMENT	58
4.1. Climate Change	58
4.1.1. Draft Carbon Credits Trading Scheme (CCTS)	58
4.1.2. Global Greenhouse Gas Monitoring Infrastructure (GGMI)	59
4.1.3. Other Important News	60
4.2. Pollution	61
4.2.1. UN 2023 Water Conference	61



4.2.2. 'Groundwater: A Valuable but Diminishing Resource' Report _____	62
4.2.3. Other Important News _____	63
4.3. Biodiversity _____	64
4.3.1. International Big Cat Alliance (IBCA) _____	64
4.3.2. Project Elephant _____	66
4.3.3. Greater Panna Landscape Council (GPLC) _____	67
4.3.4. Aravalli Green Wall Project _____	68
4.3.5. Protected Areas in News _____	68
4.3.6. Species in News _____	70
4.3.7. Other Biodiversity Related News _____	72
4.4. Sustainable Development _____	73
4.4.1. Low Temperature Thermal Desalination (LTTD) Plants _____	73
4.4.2 Other Important News _____	74
4.5. Geography and Disaster Management _____	75
4.5.1. Heatwave Alert _____	75
4.5.2. Other Important News _____	75
4.5.3. Places in News _____	77
4.5.3.1. India _____	77
4.5.3.2. International _____	78
4.6. Reports and Indices _____	78
4.7. Updates _____	82
4.7.1. Solar Waste Treatment under E-Waste (Management) Rules, 2022 _____	82
4.7.2. Biodiversity of Areas Beyond National Jurisdiction Treaty (United Nation High Seas Treaty) has been adopted _____	83
4.7.3. Forest (Conservation) Amendment Bill, 2023 introduced in Lok Sabha _____	84
4.7.4. New Biodiversity Heritage Sites _____	84
4.7.5. Supreme Court (SC) modifies order on Eco-sensitive Zones (ESZ) around Protected Forests _____	85
4.8. Errata _____	85
5. SOCIAL ISSUES _____	87
5.1. Draft National Curriculum Framework for School Education (NCFSE) _____	87
5.2. National Credit Framework (NCrF) _____	88
5.3. Right To Health _____	89
5.4. Rare Diseases _____	89
5.5. Social Protection in India _____	90
5.6. Other Important News _____	91
5.6.1. Triple Tests for Surrogacy _____	91
5.6.2. Assessment of Child Suspects _____	92
5.6.3. New India Literacy Programme (NILP) _____	92
5.6.4. Sangathan se Samridhhi Campaign _____	93
5.6.5. World Bank Program for India's Health Sector _____	93
5.6.6. Swachhotsav 2023 _____	93
5.6.7. Marketing and Logistics Development for Promotion of Tribal Products from North Eastern Region (PTP-NER) _____	94
5.6.8. Mid-Day Meal Pulses _____	94
5.6.9. Jigyasa _____	95
5.6.10. Important Reports in News _____	95
5.6.11. Terms in News _____	98
6. SCIENCE AND TECHNOLOGY _____	99
6.1. IT and Computer _____	99
6.1.1. Bharat 6G Mission _____	99
6.1.2. National Quantum Mission _____	100
6.1.2.1. Quantum Communication _____	101
6.1.3. Other Important News _____	101
6.2. Space Technology _____	103
6.2.1. Indian Space Policy-2023 _____	103
6.2.2. Space Debris _____	104
6.2.3. Reusable Launch Vehicle Autonomous Landing Mission (RLV LEX) _____	104
6.2.4. Dark Matter Map _____	105
6.2.5. JUperiter ICy Moons Explorer (JUICE) Mission _____	106
6.2.6. Other Important News _____	107
6.3. Health _____	109
6.3.1. One World Tuberculosis (TB) Summit _____	109
6.3.2. DNA Vaccine _____	110
6.3.3. Food Irradiation _____	110
6.3.4. Other Important News _____	111
6.4. Defence _____	113
6.4.1. Inter-Services Organisations (Command, Control and Discipline) Bill, 2023 _____	113
6.4.2. Self-Reliance in Defence _____	114
6.4.3. Defence Acquisition Policy 2020 (DAP) _____	114
6.4.4. Stockholm International Peace Research Institute (SIPRI) Reports _____	115
6.4.5. Other Important News _____	115
6.5. Miscellaneous _____	117
6.5.1. LIGO-India Project _____	117
6.5.2. Rare Earth Elements (REE) _____	118
6.5.3. Technology and Innovation Report 2023 _____	119
6.5.4. Raman Effect _____	119
6.5.5. Magnetoresistance _____	120
6.5.6. Other Important News _____	120
6.6. Errata _____	123
7. CULTURE _____	124
7.1. Vaikom Satyagraha _____	124
7.2. Raja Ravi Varma _____	126
7.3. National Mission for Cultural Mapping (NMCM) _____	126
7.4. Indian Knowledge Systems in Higher Education _____	128
7.5. Miscellaneous _____	129
7.5.1. Personalities in News _____	129
7.5.2. Paintings and Other Art Forms in News _____	130
7.5.3. Important sites in News _____	131
7.5.4. Geographical Indication (GI) Tags in News _____	132
7.5.5. Festivals in News _____	133
7.5.6. Tribes in News _____	133
7.5.7. Other Important News _____	133
7.6. Errata _____	134
8. APPENDIX: CONTRIBUTION OF INDIAN KNOWLEDGE SYSTEM IN VARIOUS FIELDS _____	135

NOTE

Dear Students,

PT 365 documents comprehensively covers the important current affairs of last 1 year (365days) in a consolidated manner to aid Prelims preparation.

In our endeavour to further enhance the document in the interest of the aspirants, following additions have been incorporated:



Summary Infographics: They have been made for ease of understanding and memorization.



Organization infographics: Prelims oriented information for key organisations have been consolidated alongside the respective article for quick revision.



Important Reports: Given **separately** in crisper format



Do You Know: They have been used to provide prelims related additional information on several topics.



Know the Term: Certain keywords have been identified and explained in a simplistic format.



Different colours have been used in the document for easy classification and recollection of a variety of information.



QR based Smart quiz has been added to test the aspirant's learnings and understanding.



SMART QUIZ

You can scan this QR code to practice the smart quiz at our open test online platform for testing your understanding and recalling of the concepts.



Copyright © by Vision IAS

All rights are reserved. No part of this document may be reproduced, stored in a retrieval system or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without prior permission of Vision IAS.

1. POLITY AND GOVERNANCE

1.1. BASIC STRUCTURE DOCTRINE

Why in news?

The landmark **Kesavananda Bharati judgement, 1973** which propounded the basic structure doctrine completed 50 years.

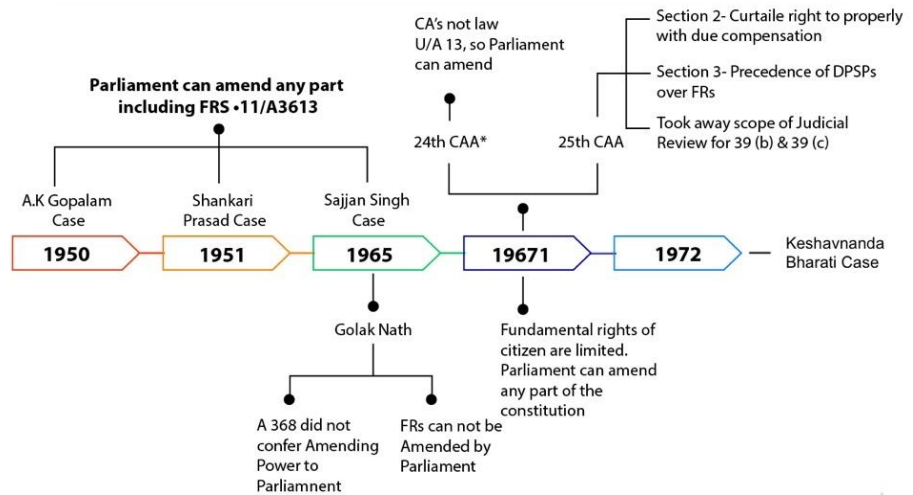
About the **Kesavananda Bharati Case, 1973**

- Case dealt with a petition against Kerala Government challenging the compulsory acquisition of his land by government under Kerala Land Reforms Act 1963, as a violation of Fundamental Rights (FRs), as enshrined in - Articles 25, 26 and 31 of Constitution of India.

• **Key Outcomes:**

- **Introduction of Basic Structure Doctrine:** SC upheld validity of 24th amendment and held that Parliament had power to amend any or all provisions of the Constitution (including FRs), with a condition that amendments should not alter, damage or destroy the essential features or the fundamental principles of the Constitution.
- **Corrected judgments of Golaknath case:** SC held that Article 368 contained both power and procedure for amending Constitution and that amending powers and legislative powers of Parliament were different.
- **Other judgments:** SC upheld 25th and 29th Amendments except for the parts that curtailed its power of judicial review and also asserted that Preamble is a part of Constitution and hence amendable.

EVOLUTION OF DOCTRINE OF BASIC STRUCTURE



Some Principles that are presently part of the 'Basic Structure'

- **Sovereignty** of India
- Essential features of the **individual freedoms** secured to the Citizens
- Mandate to build a **welfare State**
- **Supremacy of the Constitution**
- **Republican and democratic** form of government
- **Secular and federal** character of the Constitution
- **Separation of powers** between the legislature, executive and the judiciary
- **Unity and integrity** of the nation
- Power of **judicial review**
- Harmony and **balance between FRs and DPSPs**

About Basic Structure Doctrine

- Basic structure doctrine holds that **certain fundamental features of Constitution, cannot be amended or abrogated by Parliament through a constitutional amendment.**
 - There is **no mention of the term "Basic Structure"** anywhere in Constitution of India.

Significance of Basic Doctrine

- **Serves as a check on power of Parliament** to amend Constitution.
- **Ensures that Constitution remains a living document** that is responsive to changing times while preserving its fundamental values and principles.
- **Laid down several principles that have become the bedrock of constitutional law** in India such as rule of law, separation of powers, and the independence of judiciary.
- **Ensures that federal structure of the Constitution is not undermined**
- **Instrumental in shaping Indian judiciary's approach to constitutional interpretation.**

Application and evolution of Basic Structure Doctrine

- **Indira Gandhi vs. Raj Narain, 1975:** Court, applying basic structure doctrine for the first time, invalidated 39th Amendment Act (1975) that excluded election disputes involving PM and Lok Sabha Speaker from judicial review.
- **Minerva Mills Case, 1980:** Court **rejected 42nd amendment act** in which Parliament's power to amend constitution was declared limitless. Court held that Parliament can amend so long as the amendment does not damage or destroy the basic structure of the Constitution.
- **Waman Rao Case, 1981:** It was held that basic structure doctrine will be applied to Constitutional Amendments after Kesavananda Bharati Case Judgement and not retrospectively.
- **Kihoto hollohan vs. Zachillhu, 1992:** 'Free and fair elections' was added to the basic features.
- **Indira Sawhney vs. Union of India, 1992:** 'Rule of law, was added to the basic features.
- **S.R Bommai vs Union of India, 1994:** Federal structure, unity and integrity of India, secularism, socialism, social justice and judicial review were reiterated as basic features.

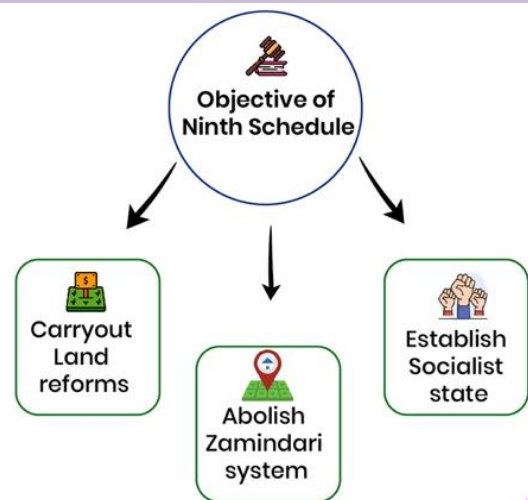
1.2. NINTH SCHEDULE

Why in news?

Recently, Chhattisgarh government has urged to Prime Minister to enlist the amended reservation provisions of the state, which **provides for 76% reservation in ninth schedule.**

Ninth Schedule

- It was added by **First Constitutional Amendment Act of 1951** by inserting a **new Article 31B**.
 - Originally, it contained a **list of central and state laws that cannot be challenged in court.**
 - Article 31B states that **none of the acts/regulations mentioned in Ninth Schedule shall be considered to be void on the ground that they are inconsistent with any rights.**
 - **Article 31B is retrospective in nature** and currently, there are **284 acts/laws under schedule**, of which most are related to agriculture and land laws.
 - While Article 31A extends **protection to 'classes' of laws, Article 31B shields specific laws or enactments.**



Ninth Schedule and its Judicial Scrutiny

- **Waman Rao Vs Union of India, 1981:** SC held that amendments to Constitution which was **made before 24th April 1973** are valid (as per Kesavananda Bharati judgement and evolution of Basic Structure doctrine).
- **IR Coelho Vs State of Tamil Nadu, 2007:** **Constitution bench of 9 Judges** declared that **Schedule IX cannot be challenged on grounds of violation of fundamental rights**, but they **can be challenged on ground of violating basic structure of Constitution.**

1.3. INTER-STATE BORDER DISPUTES

Why in news?

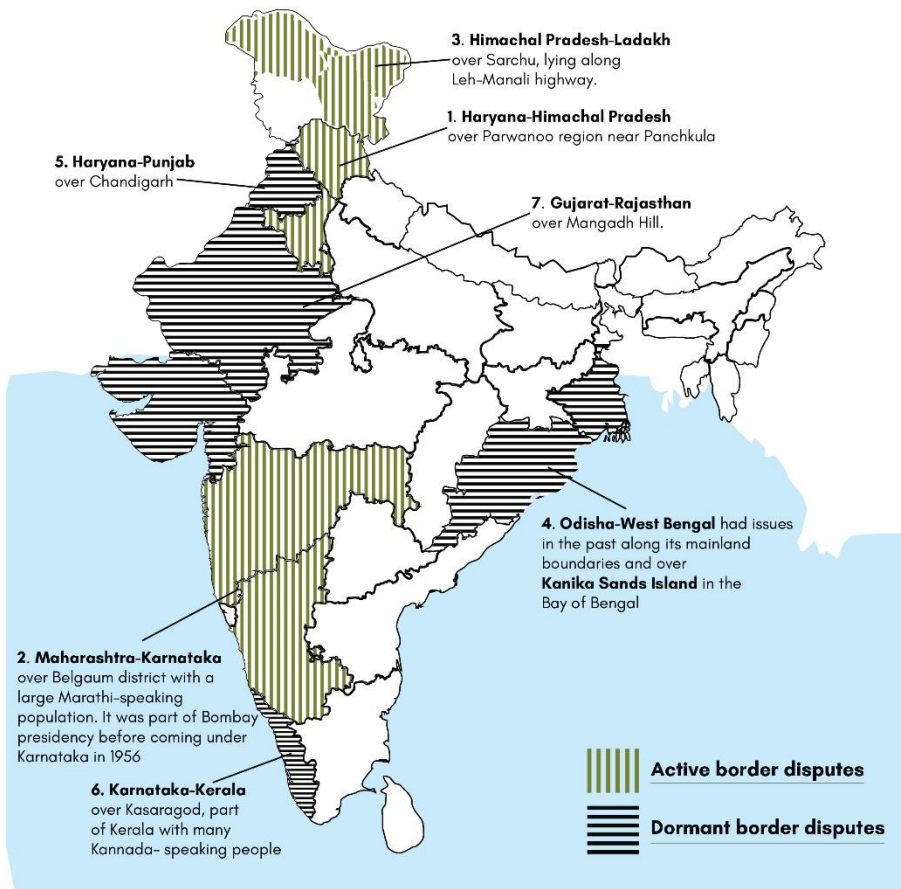
Assam and Arunachal Pradesh signed a **memorandum of understanding (MoU) to end a decades-long inter-state border dispute.**

Methods to resolve disputes among states

- **Judicial redressal:** SC in its **original jurisdiction** decides disputes between states. **Article 131** provides that SC shall, to exclusion of any other court, have **original jurisdiction in any dispute:**
 - Between Government of India and **one or more States;** or
 - Between **Government of India and any State** or States on one side and **one or more other States** on other;
 - Between **two or more States.**
- **Inter-state Council (ISC):** Article 263 gives powers to President to **set up an ISC** for resolution of disputes between states. Council is envisaged as a **forum for discussion** between states and Centre and charged with **duty of**

- Inquiring into and **advising upon disputes** which may have arisen between States;
- Investigating and discussing subjects in which **some or all of the States**, or Union and one or more of the States, have a **common interest**; or
- Making recommendations upon any such subject and recommendations for **better coordination of policy and action** with respect to that subject.
- **Zonal Councils:** They are statutory bodies established by **States Reorganisation Act of 1956**. They aim at **promoting cooperation and coordination** between states, union territories and Centre. They are **only deliberative and advisory bodies**.

BORDER DISPUTES



1.4. DEMOCRATIC DECENTRALISATION IN INDIA

Why in news?

The year 2023 marks the **30th anniversary of 73rd and 74th Amendment to the Indian Constitution** that led to the establishment of local self-governments in rural and urban areas thereby a three-tier federal structure.

About Democratic Decentralisation in India

- It refers to the **devolution of power, resources and decision-making authority from central government to local governments**, such as panchayats and municipalities.
- **73rd and 74th Constitutional Amendment Acts, 1992** that came into force in 1993 are landmark pieces of legislation that **introduced democratic decentralization in India**.

About 73 rd and 74 th Constitutional Amendment Acts	
73rd Constitutional Amendment Act, 1992	74th Constitutional Amendment Act, 1992
<ul style="list-style-type: none"> ● Panchayati Raj Institution was constitutionalized through the Act. ● This act has added a new Part-IX to Constitution of India and consists of provisions from Articles 243 to 243 O. ● In addition, act has also added a new 11th Schedule to Constitution that contains 29 functional items of panchayats. 	<ul style="list-style-type: none"> ● Urban local governments were constitutionalized. ● It added Part IX -A and consists of provisions from Articles 243-P to 243-ZG. ● It also added the 12th Schedule to the Constitution that contains 18 functional items of Municipalities.

1.5. DISQUALIFICATIONS OF MEMBER OF PARLIAMENT (MP)

Why in news?

Recently, Wayanad MP was **disqualified** after a court in Surat held him guilty of criminal defamation.

Ways a Member of Parliament can be disqualified

- Constitutional disqualification:** As per Article 102(1) (for becoming and being a member of parliament) and 191(1) (for becoming and for being a member of a state legislature) the disqualifications are-
 - If he/she holds **any office of profit under Government of India or Government of any State**, other than an office declared by Parliament by law not to disqualify its holder.
 - If he/she is of **unsound mind** and stands so declared by a competent court.
 - If he/she is an **Un-discharged insolvent**.
 - If he/she is **not a citizen of India**, has voluntarily acquired citizenship of a foreign State, or is under any acknowledgment of allegiance or adherence to a foreign State.
 - Any other **disqualification prescribed by Parliament.**
- Anti-defection Act:** A person shall be **disqualified from being a parliament or state legislature member** if he is so disqualified under the **tenth Schedule**.
- Disqualification under Representation of People Act (RPA), 1951:** Parliament is empowered to make statutory laws prescribing disqualification for membership for both parliament and the state legislature. Disqualification on the ground of-
 - Conviction for certain offenses;** Commission of **corrupt practices or disloyalty;** Holding office under a **government company;** and Failure to lodge an **account of election expenses.**
- SC in **Lily Thomas vs. Union of India case (along with Lok Prahari vs. Union of India)**, had ruled that any MP/MLA who is convicted and given a minimum of two years' imprisonment, loses membership of House with immediate effect.
 - Earlier, **Section 8 (4) of RPA** allowed convicted lawmakers a three-month period for filing appeal to higher court and to get a stay of conviction and sentence.

Defamation

- Defamation is any **false and unprivileged statement** published or spoken with the **intention to damage someone's reputation**.
 - Article 19(2) has imposed reasonable exemption to freedom of speech and expression** granted under Article 19(1) (a).
 - Contempt of court, defamation** and incitement to an offence are some exceptions.
- Defamation could be **both a criminal offence and a civil wrong**.

Subject	Criminal defamation	Civil defamation
Objective	The objective is to punish the wrongdoer, to ensure that no other person does the same.	The objective is to amend the wrong committed by the person.
Branch of law	Indian Penal Code	Law of torts
Codification of law	Codified	Codified
Legal provisions	Sections 499-502 of IPC	Uncodified
Judgment	Judgment is based on penal provisions.	Judgment is based on precedents and common law principles
Punishment	Imprisonment or fine or both	Compensation

- Tort law **does not rely on statutes but takes from case laws** to define what would constitute a wrong.

Related news

Governor's Power to Call for a Floor Test

- A **constitution bench of Supreme Court** (in Subhash Desai v. Principal Secretary, Governor of Maharashtra And Ors.) observed that **Governor's decision to call for a floor test should not trigger the fall of a government**.
 - Floor test is 'a **constitutional mechanism primarily taken to know whether the executive enjoys the confidence of the legislature**'.
- Earlier, in **Shivraj Singh Chouhan vs State of Madhya Pradesh**, SC approved **Governor's decision to call for a floor test** following breakaway in the then ruling party.

Legislator facing disqualification can't attend floor test: Supreme Court

- SC observe that allowing a MP or MLA who is facing disqualification under the Anti-defection law (ADL) to participate in a floor test would be seen as legitimizing a violation of the constitutional provision.
- Elected Members of a House are **bound by instructions of whip** in house and **actions defying it will attract disqualification**.
 - Whip is a **written ordinance which mandates party members to be present in a state assembly** or parliament if an important vote is to be cast.
 - India inherited the concept of whip from **British parliamentary system**.

1.6. NATIONAL PARTY STATUS

Why in news?

Election Commission of India (ECI) grants National party status to Aam Aadmi Party (AAP).

More on news

- **Citing Election Symbols (Reservation and Allotment) Order, 1968**, which stipulates criteria for recognition as a national or state party, **ECI now recognises six national parties**:
 - Bharatiya Janata Party (BJP), Indian National Congress, Bahujan Samaj Party (BSP), Communist Party of India (CPI) (Marxist), National People’s Party (NPP) and AAP.
 - Trinamool Congress (TMC), Nationalist Congress Party (NCP) and CPI **lost their national party status**.

<p>How is a Party’s National status decided?</p> <ul style="list-style-type: none"> • Votes in Lok Sabha (LS), state polls: A party should secure at least 6% of votes polled in four or more states in LS or assembly elections, and, in addition, have at least four members in LS. • Seats in LS: It should have at least 2% of total Lok Sabha seats and have candidates from not less than three states. • Must be a state party: in at least four states. 	<p>Benefits of National Party Status</p> <ul style="list-style-type: none"> • Exclusive allotment of its reserved symbol to candidates set up by it throughout India. • Need only one person to propose a candidate’s name to enable them to file nominations. • Get broadcast/telecast facilities over Akashvani/Doordarshan during general elections. • Can have up to 40-star campaigners while other can have up to 20-star campaigners.
--	---

Review of registration of a political party

- **Three exceptions under which ECI can review registration of a political party** (Supreme Court’s 2002 judgment in **Indian National Congress Vs. Institute of Social Welfare and Others**)
 - When **political party** in question has obtained registration through **fraud** or forgery.
 - When a **party changes its nomenclature of association**, rules and regulation **abrogating the provisions** therein conforming to provisions of Section 29A (5) or intimating the Commission that it has **ceased to have faith and allegiance to Constitution of India and its ideals**.
 - When a **registered political party** had been **declared unlawful** by Union government under provisions of **Unlawful Activities (Prevention) Act** or any other similar law.

<p>Related news</p> <p>No power to ban caste-based rallies during non-election period: ECI to Allahabad HC</p> <ul style="list-style-type: none"> • In response to a PIL, ECI has submitted before Allahabad HC that it has no jurisdiction to ban caste-based rallies of political parties organized during non-election period. <ul style="list-style-type: none"> ○ ECI also submitted that its Model Code of Conduct (MCC) has set of rules to prohibit campaigning or seeking votes on basis of caste, creed or religion. ○ However, these rules can only be enforced during election period and not during non-election period.

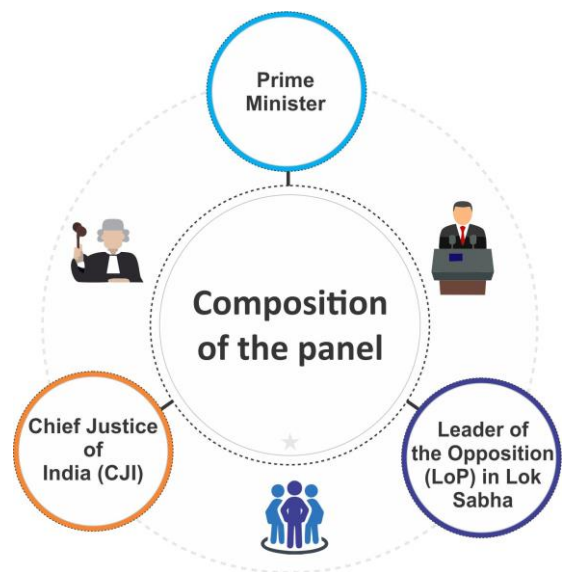
1.7. PANEL FOR APPOINTMENTS OF ELECTION COMMISSIONER

Why in news?

Recently, Supreme Court (in **Anoop Baranwal vs. Union of India 2023**) has ruled that **election commissioners and Chief Election Commissioner (CEC) will be chosen by a panel**.

More on news

- **Temporary mechanism:** Panel would continue to advise the President on appointment **until the Parliament enacts a law** on appointment process of Election Commissioners.
- **Independence of EC:** The move is aimed at insulating the **appointment of CEC and election commissioners** from Executive’s interference.
- **Permanent Secretariat:** SC has also asked the **Parliament and Union government** to put in place a permanent secretariat for Election Commission of India (ECI).



Constitutional provisions for appointments

- Under **Article 324(2)**, the President of India is empowered to appoint the CEC and the ECs.
- Article 324(2) **empowers the President** of India to fix from time to time the **number of Election Commissioners other than the CEC**.

Panels in selection process of other key bodies

National Human Rights Commission	Central Information Commission	Central Vigilance Commission	CBI	Lokpal
<ul style="list-style-type: none"> • Prime Minister • The speaker of Lok Sabha • The Deputy chairman of Rajya Sabha • Leader of Opposition in both the houses of Parliament • The Central Home Minister 	<ul style="list-style-type: none"> • Prime Minister • The Leader of Opposition in Lok Sabha • A Union Cabinet Minister nominated by Prime Minister 	<ul style="list-style-type: none"> • Prime Minister • The Leader of Opposition in Lok Sabha • A Union Cabinet Minister nominated by Prime Minister 	<ul style="list-style-type: none"> • Prime Minister • The Leader of Opposition in Lok Sabha • Chief justice of India 	<ul style="list-style-type: none"> • Prime Minister • The speaker of Lok Sabha • The leader of opposition in Lok Sabha • Chief justice of India • An eminent jurist to be nominated by the President

1.8. CRIMINAL INDICTMENT OF A PRESIDENT IN U.S. AND INDIA

Why in news?

Recently, Donald Trump became the first former U.S. President to face a criminal charge.

More on news

- In both US and India (Article 361 (2) of the Constitution), criminal proceeding against a sitting president cannot be instituted.
 - However, this immunity is not available to the former Presidents in USA and India.
 - Also, in India, those convicted with a jail term of two or more years cannot contest the election of President for six years.
 - But in USA, such a person can run for the office of President and can even serve as the President.
- Other Points of comparison

Provisions	Indian President	U.S. President
Qualification	<ul style="list-style-type: none"> • 35 years of age • Citizen of India • Qualified for election as a member of Lok Sabha • Not holding office of profit 	<ul style="list-style-type: none"> • 35 years of age • U.S. resident for 14 years and a natural born citizen
Impeachment	<ul style="list-style-type: none"> • Grounds - Violation of the Constitution • Impeachment charges can be initiated by either House of Parliament. • Requires two-third majority from both the houses. 	<ul style="list-style-type: none"> • Grounds - Treason, Bribery, or other high crimes and misdemeanours. • Impeachment charges can be introduced in the House of Representatives. • Requires a simple majority from House of Representatives and two-third majority from the House of Senate.

1.9. OFFICE OF LOKPAL

Why in News?

Parliamentary panel on Personnel, Public Grievances, Law, and Justice in its report found that Lokpal, has not prosecuted a single person for graft till date.

About Lokpal

- Lokpal is a statutory body constituted under Lokpal and Lokayuktas Act, 2013.
 - Act mandates for creation of Lokpal for Union and Lokayukta for states.
- Lokpal and Lokayuktas Act, 2013 aims to enhance the current legal and institutional frameworks to facilitate better implementation of obligations outlined in United Nations Convention against Corruption (UNCAC).

United Nations Convention against Corruption (UNCAC)

Genesis: It was adopted by UN General Assembly in 2003 came into force in 2005.

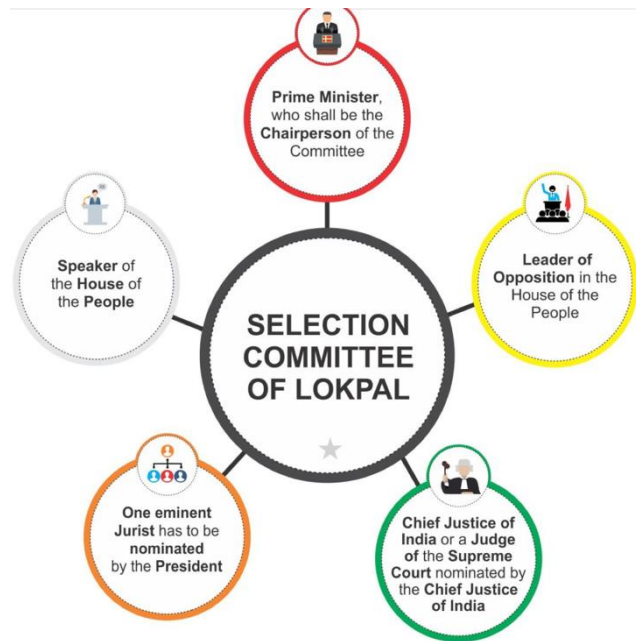
Objective: UNCAC aims to promote and strengthen measures to prevent and combat corruption more efficiently and effectively.

Status: Signatories: 140 and Parties: 189

Key features:

- UNCAC is the only legally binding universal anti-corruption instrument.
- The Convention covers five main areas: preventive measures, criminalization and law enforcement, international cooperation, asset recovery, and technical assistance and information exchange.
- The Convention covers many different forms of corruption, such as bribery, trading in influence, abuse of functions, and various acts of corruption in the private sector.

- **Jurisdiction of Lokpal**
 - Prime Minister, Ministers, members of Parliament, Groups A, B, C and D officers and officials of Central Government.
 - Chairpersons, members, officers and directors of any board, corporation, society, trust or autonomous body either established by an Act of Parliament or wholly or partly funded by Union or State government.
 - It also covers any society or trust or body that receives foreign contribution above ₹10 lakh.
- **Composition of Lokpal:** Lokpal shall consist of a Chairperson and a maximum of eight Members, of which fifty percent shall be judicial Members.
 - Fifty per cent of members of Lokpal shall be from amongst SC, ST, OBCs, Minorities and Women.
- **Appointment of Members of Lokpal:** The Chairperson and the Members of the Lokpal shall be appointed by the President on recommendations of a Selection Committee (refer infographics).
- **Salary and allowances:** Chairperson shall be the same as those of Chief Justice of India.
 - Other Members shall be the same as those of a Judge of the Supreme Court.
- **Reappointment:** On ceasing to hold office, Chairperson and every Member shall be ineligible for reappointment as Chairperson or a Member of Lokpal.
 - They are also ineligible for any diplomatic assignment, appointment as administrator of a Union territory and such other assignment or appointment which is required by law to be made by the President by warrant under his hand and seal.
- **A complaint under Lokpal Act should be in prescribed form** and must pertain to an offence under Prevention of Corruption Act (PCA) 1988 against a public servant.
 - There is **no restriction on who can make such a complaint.**
- **Lokpal has two major wings: Inquiry wing and Prosecution wing.**
 - When a complaint is received, Lokpal may order a preliminary inquiry by its Inquiry Wing or any other agency, or refer it for investigation by any agency, including CBI, if there is a prima facie case.
 - ✓ Lokpal, with respect to Central government servants, shall refer complaints to the Central Vigilance Commission (CVC).
 - ✓ A preliminary inquiry should be completed within 30 days of receiving a complaint.
 - If the inquiry concludes that an offence was committed, Lokpal can recommend disciplinary action. It can also file a case in special court.
 - ✓ Central Government shall constitute such number of Special Courts, as recommended by the Lokpal, to hear and decide the cases arising out of PCA, 1988 or under this Act.
 - Lokpal does not need prior sanction to inquire into an offence, or to initiate prosecution in the special court.



Exceptions in Jurisdiction of the Lokpal

- Corruption charge against the Prime Minister if the allegations are related to international relations, external and internal security, public order, atomic energy, and space.
- Judiciary and armed forces do not come under the ambit of Lokpal.
- The employees of the State Government are not covered unless they have served in connection with the affairs of the Union.

1.10. GST APPELLATE TRIBUNAL (GSTAT)

Why in News?

Recently, Finance Bill, 2023 provided for the establishment of the Goods and Service Tax (GST) Appellate Tribunal (GSTAT).

More on News

- In **49th GST Council Meeting**, Group of Ministers (GoM) report was accepted which recommended for establishment of the GSTAT.
- **Finance Bill, 2023** amended section 109 of Central Goods and Services Tax Act, 2017 to facilitate the creation of GSTAT and its benches.
- **Constitution of GSTAT** has been pending since 2017.



Goods and Services Tax Council	
Secretariat	New Delhi
Genesis 	It is established as per Article 279A , which was inserted in the Constitution through the 101st Constitutional Amendment Act, 2016 .
About 	It is a joint forum of the Centre and the States . It facilitates the implementation of the GST.
Functions 	It makes recommendations to the Union and the States on important issues related to GST , like the goods and services that may be subjected or exempted from GST, model GST Laws, principles that govern Place of Supply, threshold limits , etc.
Membership 	Chairperson - Union Finance Minister Member - Union Minister of State, in-charge of Revenue of finance and Minister In-charge of finance or taxation or any other Minister nominated by each State Government
Appellate Mechanism 	Central Goods and Services Tax Act, 2017 provides four stages of appeal and review (first forum to last): <ul style="list-style-type: none"> ➤ Appeal to GST Appellate Authority ➤ Appeal to GSTAT ➤ Appeal to High Court ➤ Appeal to Supreme Court

GST Appellate Tribunal (GSTAT)	
<ul style="list-style-type: none"> • It is the second appeal forum under GST, it will hear appeals against the orders passed by the Appellate Authority or the Revisional Authority. It is the duty of the GSTAT to ensure uniformity in the redressal of disputes arising under GST. 	
Benches	
Principal Bench	State Bench
<ul style="list-style-type: none"> • It shall consist of the President, a Judicial Member, a Technical Member (Centre), and a Technical Member (State). • It will be located at New Delhi. • Only Principal Bench shall hear the cases involving the issue of place of supply. 	<ul style="list-style-type: none"> • It shall consist of two Judicial Members, a Technical Member (Centre) and a Technical Member (State). • These are established on the request of the State and the recommendations of the GST Council.
Jurisdiction of Judges (Members) under both Principal Bench and State Benches	
Single Member	One Judicial and One Technical member
<ul style="list-style-type: none"> • Demand in appealed order up to Rs. 50 Lakh • Related to Tax, ITC, Fine, Fee or Penalty only • Does not involve Question of Law. 	<ul style="list-style-type: none"> • Demand in appealed order exceed Rs. 50 Lakh Related to Tax, ITC, Fine, Fee or Penalty etc. • Involves Question of Law • Cases involving issue of place of supply-only by Principal Bench
Differences of opinion between the judges	
State Bench	The president shall refer the case to another member of the same State Bench or if no such member present then to a member of another State Bench .
Principal Bench	The president shall refer the case to another member of Principal Bench or if no such member present, then to a member of any State Bench .

Qualification of Members	
President	A Judge of the Supreme Court or the Chief Justice of a High Court.
Judicial Member	Judge of the High Court or for a combined period of ten years has been a District Judge or an Additional District Judge.
Technical Member (Centre)	Has been a member of Indian Revenue (Customs and Indirect Taxes) Service, Group A, or of the All India service with 3 years of experience in law administration and has completed 25 years in service.
Technical Member (State)	Has been an officer of the State Government or an officer of All India Service etc.
Search-cum-Selection Committee (for appointment or re-appointment)	
Different committees will select President, a Judicial Member, a Technical Member, and a Technical Member.	

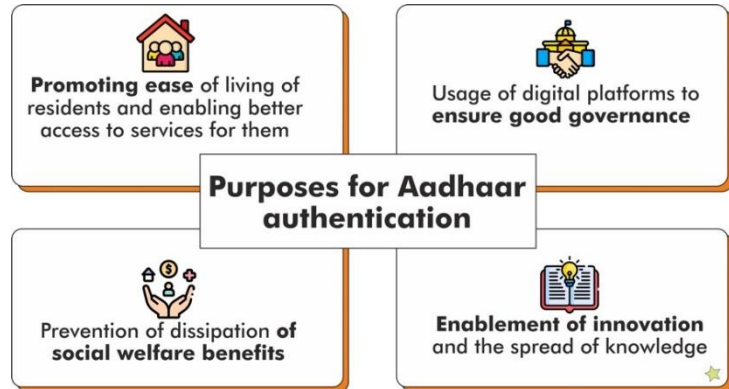
1.11. AADHAAR

Why in news?

Ministry of Electronics and Information Technology (MeitY) has proposed rules to enable Aadhaar authentication by entities other than Government Ministries and Departments for better delivery of services to citizens.

More on news

- In 2019, an amendment to **Aadhaar Act allowed entities to enable Aadhaar authentication** with Unique Identification Authority of India's (UIDAI) approval after ensuring compliance with security and privacy requirements.
- At present, Ministries and Departments are allowed to **undertake Aadhaar Authentication under 2020 rules**.
 - It is allowed for purposes like in **interest of good governance, preventing leakage of public funds and enablement of innovation and spread of knowledge**.
 - Also, entities such as **banks and telecom companies** were allowed to perform authentication if UIDAI was satisfied about **standards of privacy and security**.



Related news

Aadhaar authentication of prisoners

- Ministry of Home Affairs has **authorized state governments to carry out Aadhaar authentication** of prison inmates on a **voluntary basis**.
 - It will **enable prison inmates to get health care, skilling, vocational training, legal aid, etc.**
- It is notified under **Rule 5 of Aadhaar Authentication for Good Governance (Social Welfare, Innovation, Knowledge) Rules, 2020, and Aadhaar (Targeted Delivery of Financial and Other Subsidies, Benefits and Services) Act, 2016**.
- **Aadhaar Authentication** is a process by which **Aadhaar number along with demographic information** of an individual is submitted to UIDAI's Central Identities Data Repository for its verification.

Aadhaar Based Payment System (ABPS) and National Automated Clearing House (NACH)

- Central government has continued the mixed payment mode, i.e., ABPS and NACH, for payment of wages under MGNREGS.
- Developed by **National Payments Corporation of India (NPCI)**,
 - ABPS is a **bank led model** which enables payment to **Aadhar-linked bank account** in a **transparent manner**.
 - NACH is a **web-based solution** to facilitate **interbank, high volume, electronic transactions** of repetitive and periodic nature.
- **For MGNREGS payment, NACH system is used** when beneficiary account is not linked with ABPS.

1.12. REGULATION OF FAKE NEWS

Why in News?

Recently, **Ministry of Electronics and Information Technology (MeitY)** notified the Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Amendment Rules, 2023.

New Amendments in IT Rules 2021

- **Defined Words** such as **'Digital media'** and **'News and current affairs content'**.
- **Due diligence:** Social media intermediaries (such as Facebook, Twitter) and telecom service providers have to inform the user about new rules.
- **Nodal contact person:** **24x7 coordination** with law enforcement agencies and officers to ensure compliance to their orders or requisitions.
- **Two Categories of Social Media Intermediaries:** Social media intermediaries and significant social media intermediaries.
- **Fact-checking unit of the Press Information Bureau (PIB):** Any piece of news that has been identified as "fake" by the fact-checking unit, will not be allowed on online intermediaries.
- **Grievance Officer:** Appointed by the intermediary or the publisher.

- **Grievance Appellate Committee (GAC):** Central Government shall, by notification, establish one or more Grievance Appellate Committees.
 - GAC is an **online dispute resolution mechanism** that makes **digital platforms - big and small**, accountable to **Digital Nagriks**.
 - Aims to ensure a **Safe & Trusted and Accountable Internet** for Indian users.
 - **Accessible through Common Service Centers (CSCs)**, GAC empowers social media users to appeal against decisions taken by social media platforms.
 - It endeavors to **resolve the appeals of users within 30 days**.
 - GAC consists of a **chairperson and two whole-time members appointed by the Central Government**.

Related News

Rules on Online Gaming

- The **Ministry of Electronics and Information Technology (MeiTY)** has amended the **Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules (IT Rules) 2021**
- **Key Features of the Rules on Online Gaming**
 - **Insertion of definitions** like ‘**online gaming intermediary (OGI)**’ and ‘**online gaming self-regulatory body (SRB)**’.
 - ✓ **OGI** means any intermediary that enables the users of its computer resource to access one or more online games.
 - **Role of Intermediaries:** To make a reasonable effort to **not host, publish or share any online game** that can **cause the user harm**, or that has **not been verified as a permissible online game** by an **online gaming Self-Regulatory Body/Bodies (SRBs)** designated by the Central Government.
 - **Multiple SRB:** The MeiTY may notify multiple SRBs, for the purposes of verifying an Online game as a permissible one.
 - **Authority of SRBs:** The SRB may categorise any Game as a permissible game if it is satisfied that:
 - ✓ the online game **does not involve wagering** on any outcome,
 - ✓ the OGI and the game **comply with the rules** and the requirements under law for being competent to enter into a contract (currently at 18 years), and
 - ✓ the OGI and the game **complies with the framework made by the SRB** regarding safeguards.
 - **Prohibition:** Online games that involve any kind of gambling (including ads) will be prohibited.

1.13. OTHER IMPORTANT NEWS

<p>Cinematograph (Amendment) Bill 2023</p>	<ul style="list-style-type: none"> • Cabinet nod to Cinematograph (Amendment) Bill 2023. • It has provisions to curb the transmission of pirated film content on internet. <ul style="list-style-type: none"> ○ It has provisions to classify films based on age group, instead of current practice of ‘U’, ‘A’, and ‘UA’. ✓ “U” is for unrestricted public exhibition, “A” is restricted to adult audience, and “UA” is for unrestricted public exhibition subject to parental guidance for children below age of 12, “S” is for special category audiences such as doctors and scientists. ○ It seeks to add new classification – “UA-7+”, “UA-13+” and “UA-16+” in place for 12 years.
<p>Tribal Council</p>	<ul style="list-style-type: none"> • Tribal council withdrew NOC for contentious Great Nicobar Island (GNI) project. <ul style="list-style-type: none"> ○ GNI project was piloted by NITI Aayog, for holistic development of GNI, that includes international container trans-shipment terminal (ICTT), a military-civil dual use airport, a solar power plant and an integrated township. • Tribal council is a traditionally elected body looking after welfare of the local people. • It is elected by captains of Village Council, who are elected democratically by residents of the village or hamlets.
<p>Reservation in Private sector</p>	<ul style="list-style-type: none"> • Jharkhand government launched ‘Jharniyojan’ portal where all private establishments have to register themselves. <ul style="list-style-type: none"> ○ Employers who make use of portal will have to adhere to ‘Jharkhand State Employment of Local Candidates in Private Sector Act, 2021’. ✓ As per act, 75% of jobs in private sectors with salaries up to Rs 40,000 are to be reserved for “locals” in state.

Important Judicial Pronouncements in context of Reservation in Private sector

Dr Pradeep Jain case, 1984
 ► Court expressed an opinion that **legislation for “sons of the soil” would be unconstitutional**.

Sunanda Reddy v State of Andhra Pradesh, 1995
 ► It **struck down** a state government policy that gave **5% extra weightage to candidates** who had studied with **Telugu as the medium of instruction**.

Allahabad High Court verdict, 2019
 ► Allahabad High Court **struck down** a **recruitment notification** by UP-Subordinate Service Selection Commission which **prescribed preference for women** who are “**original residents**” of the UP alone.

Ranganath Mishra Commission	<ul style="list-style-type: none"> Supreme Court stated that government may need to re-check its stance on Ranganath Mishra report. About Ranganath Mishra Commission <ul style="list-style-type: none"> It is officially known as National Commission for Religious and Linguistic Minorities. It was constituted to look into various issues related to linguistic and religious minorities in the country. Report by Commission (2007) recommended that Scheduled caste status be completely delinked from religion and be made religion neutral like STs. It had recommended permitting Dalits who converted to Islam and Christianity to avail Scheduled Caste status.
Right against self-incrimination	<ul style="list-style-type: none"> SC had rejected Delhi Deputy Chief Minister's arguments that he had right against self-incrimination. Article 20(3) in Part III (Fundamental Rights) of Indian Constitution says that "No person accused of any offence shall be compelled to be a witness against himself." <ul style="list-style-type: none"> A person who is accused of a crime cannot be forced to testify against themselves or provide evidence that may incriminate them. This prohibition cannot be applied in cases where an object or document is searched or seized from possession of the accuse. Right against self-incrimination has its origins in Roman law, and evolved as a distinct right in English jurisprudence.
Default Bail	<ul style="list-style-type: none"> Supreme Court held that fundamental right (under Article 21) of an accused to get default bail cannot be scuttled by filing supplementary charge sheets in cases where a probe is yet to be completed. Default or statutory bail is a right to bail that accrues when police fail to complete investigation within a specified period in respect of a person in judicial custody. <ul style="list-style-type: none"> It is enshrined in Code of Criminal Procedure (CrPC). For most offences, police have 60 days to complete the investigation and file a final report before the court. However, for some offences there is a 90 or 180 days limit also.
Court martials	<ul style="list-style-type: none"> Army court has recommended life imprisonment for a Captain over killing three men in J&K in 2020. When Army wants an allegation against its personnel investigated, it first sets up a Court of Inquiry which may follow Court martial (trial and punishment). Under Army Act, Indian Army courts can try personnel for all kinds of offences except for murder and rape of a civilian, which are tried by a civil court. <ul style="list-style-type: none"> President has power (Article 72 of Constitution) to grant pardons, reprieves, respites or remissions of punishment or to suspend, remit or commute the sentence awarded by a Court Martial.
Support for Poor Prisoners Scheme	<ul style="list-style-type: none"> Ministries of Home Affairs (MHA) to extend financial support to poor inmates. Scheme envisages "financial support to poor persons who are in prisons and unable to afford the penalty or the bail amount". <ul style="list-style-type: none"> It was announced in Union Budget 2023-24. MHA will enable underprivileged prisoners, majority of whom belong to socially disadvantaged or marginalized groups with lower education and income levels, to get out of prison. It'll ease the burdens on the Indian jails.
Central Administrative Tribunal (CAT)	<ul style="list-style-type: none"> Parliamentary committee on Personnel, Public Grievances, Law and Justice has asked CAT to decide cases pending for more than 10 years on a priority basis. <ul style="list-style-type: none"> According to CAT (Procedure) Rules, 1987, every application should be heard and decided as far as possible, within six months from date of its registration. CAT had been established (under Administrative Tribunal Act, 1985) under Article 323 -A for adjudication of disputes and complaints with respect to recruitment and conditions of service of persons appointed to public services and posts. <ul style="list-style-type: none"> Members of defence forces, officers and servants of Supreme Court and secretarial staff of Parliament are not covered by it. CAT is a multi-member body consisting of a chairman and members. <ul style="list-style-type: none"> It is guided by the principles of natural justice. Appeals against the orders of CAT lie before concerned High Court (Chandra Kumar case).
Armed Forces Tribunal (AFT)	<ul style="list-style-type: none"> SC in a recent judgment allowed high courts to interfere with pension and service-related matters decided by AFT. <ul style="list-style-type: none"> SC observed that power of judicial review under Article 226 is part of basic structure of Constitution and all decisions of a tribunal would be subject to High Court's writ jurisdiction.

	<ul style="list-style-type: none"> • AFT are established under AFT Act, 2007 to provide for adjudication with respect to commission, appointments, enrolment, and conditions of service. <ul style="list-style-type: none"> ○ Section 30 of AFT Act, 2007 provided that an appeal against order of AFT will lie only in Supreme Court if it involves a question of law of public importance.
Doctrine of promissory estoppel	<ul style="list-style-type: none"> • In a hearing related to Agnipath scheme, plaintiff (party moving court in a civil action) cited doctrine of promissory estoppel. • Promissory estoppel is a concept developed in contractual laws. <ul style="list-style-type: none"> ○ It essentially prevents a “promisor” from backing out of an agreement on the grounds that there is no “consideration.” ○ It is invoked by a plaintiff to ensure execution of a contract or seek compensation for failure to perform the contract. • In Chhaganlal Keshavalal Mehta v. Patel Narandas Haribhai case (1981), Supreme Court listed out a checklist for when the doctrine can be applied.
Compassionate Appointment (CA)	<ul style="list-style-type: none"> • Supreme Court in a recent judgement held that compassionate appointment is not a vested right of dependents of a deceased employee. • Concept of CA can be traced to Article 39 (right to livelihood), which is under Directive Principles of State Policy. <ul style="list-style-type: none"> ○ It aims to provide employment on compassionate grounds to dependent family members of a government servant who dies in harness or retires on medical grounds, leaving the family without any source of sustenance. ○ CAs are made by either Joint Secretary in charge of administration in Ministry or Department concerned or Head of Department in case of attached and subordinate offices. ○ They can also be made by Secretary of a Ministry or Department in special cases.
Commercial Courts	<ul style="list-style-type: none"> • Delhi High Court sought response from government on a petition seeking directions to set up more commercial courts in Delhi. • Commercial Act, 2015 provides for a separate set of commercial courts to be set up by states at district level. • State Governments/UTs may constitute commercial courts at the District level by notification after consultation with High Court. • Persons having experience in commercial disputes can be appointed as judges of Commercial court by State governments with concurrence of Chief Justice of the High Court.
Rules for Registration and Regulation of Foreign Lawyers and Foreign Law Firms in India, 2022	<ul style="list-style-type: none"> • Bar Council of India (BCI) notified Rules for Registration and Regulation of Foreign Lawyers and Foreign Law Firms in India, 2022. • Key Highlights of the rules <ul style="list-style-type: none"> ○ Allows foreign lawyers and law firms to <ul style="list-style-type: none"> ✓ Register with BCI to practise in India. ✓ Practice in non-litigious matters, which would be laid down by BCI in consultation with Ministry of Law. ✓ Advice Indian clients on international legal issues, including international arbitration. ○ However, they will not be allowed to appear before any courts, tribunals or any other regulatory authorities.
Consumer Disputes	<ul style="list-style-type: none"> • SC eased norm for selection of consumer court presidents, members. • SC eased norms, using powers under Article 142, to attract younger talent to preside over consumer courts: <ul style="list-style-type: none"> ○ Reduced mandatory professional experience for appointment as President (presently 10 years) and member (presently 15 years) of state consumer commission and district forums to 10 years. ○ Introduced written exams and viva voce to check candidates' performance. • With an objective to provide better protection of the interests of Consumers, especially in digital era, Consumer Protection Act (CPA), 2019 was enacted. <ul style="list-style-type: none"> ○ It replaced Consumer Protection Act, 1986. • Key Feature of CPA, 2019 <ul style="list-style-type: none"> ○ Promulgates a three-tier quasi-judicial mechanism for redressal of consumer disputes (refer table). ○ Central Consumer Protection Authority to protect rights of consumers. ○ Penalties for misleading advertisement. ○ Central Consumer Protection Authority under the act can suo-moto inquire and investigate violations of consumer rights. ○ A person who avails services for any commercial purpose is not considered a consumer.

	Composition	Pecuniary Jurisdiction
District commissions	A President, who is or has been or is qualified to be a District Judge and not less than two members.	Up to Rs 50 lakh
State commissions	A President, who is or has been a Judge of a High Court and at least four other members.	More than Rs 50 lakh up to Rs 2 crore
National commission	A President who is or has been a Judge of SC and not less than four other members , one of whom shall be a woman.	Above Rs 2 crore
National Generic Document Registration System (NGDRS) and Unique Land Parcel Identification Number (ULPIN)	<ul style="list-style-type: none"> 28 States / UTs adopted the NGDRS for Land Records and 26 States/UTs have adopted ULPIN or Bhu-Aadhar. A project initiated by Department of Land Resources (DoLR), Ministry of Rural Development, NGDRS is an in-house advanced software application for registration system developed by National Informatics Centre (NIC). <ul style="list-style-type: none"> This software application is scalable, flexible, configurable and compatible with state-specific needs in country. It enables citizens to proceed with land buying online. <p>About ULPIN or Bhu-Aadhaar</p> <ul style="list-style-type: none"> ULPIN, developed by NIC, is part of the Digital India Land Records Modernization Programme (DILRMP) and is a 14-digit identification number accorded to a land parcel. <ul style="list-style-type: none"> It provides single window service to citizens, standardization across states, easy sharing of land records, protects government land and ensures transparency. Identification basis: Identification is based on longitude and latitude coordinates of land parcel and depends on detailed surveys and geo-referenced cadastral maps. 	
Nagpur Resolution	<ul style="list-style-type: none"> 'Nagpur Resolution- A holistic approach for empowering citizens' was adopted in 2019. It aims to <ul style="list-style-type: none"> Empower the citizens by policy interventions for better service delivery through timely updation of citizens charters, implementation of enactments and benchmarking standards for continuous improvement. Focus on dynamic policy making and strategic decisions, monitoring of implementation, appointment of key personnel, coordination and evaluation. Achieve a sense of common identity by exchange of technical expertise in areas of Improved Service Delivery between paired States under Ek Bharat – Shresht Bharat Program. 	
All India Services (AIS) (Conduct) Rules, 1968	<ul style="list-style-type: none"> DoPT has instructed all-India service officers to disclose their investments in shares, debentures and other securities if they add up to more than their basic salary for six months. <ul style="list-style-type: none"> This intimation is in addition to similar information that needs to be shared under AIS Rules, 1968. About AIS rules, 1968: <ul style="list-style-type: none"> These rules specify the overall conduct for Civil Servants. Rule 14 (1) says that no member shall speculate in any stock, share or other investments. But this provision will not apply to occasional investment made through stock-brokers or other persons duly authorized on license under relevant law. 	
Good Governance Index (GGI)	<ul style="list-style-type: none"> GGI was launched by Department of Administration Reforms and Public Grievances (DARPG). <ul style="list-style-type: none"> GGI is a comprehensive and implementable framework to assess the State of Governance across the States and UTs which enables ranking of States/Districts. It is prepared on a bi-annual basis. It evaluates the performance of 10 sectors. 	
Governance Knowledge Centre (GKC)	<ul style="list-style-type: none"> Department of Administrative Reforms & Public Grievances (DARPG) as part of its mandate to document and disseminate good-governance initiatives launched a Web Portal, namely, GKC in 2005. Portal is intended to be a knowledge repository and a platform for sharing of ideas and views on governance and is primarily targeted at civil servants and those interested in the practice of and research on governance and public management. 	

<p>Summit for Democracy</p>	<ul style="list-style-type: none"> • Election Commission of India (ECI) hosted an international conference as the lead for Cohort on Elections Integrity which was established as a follow up to Summit for Democracy. • Summit for Democracy was an initiative of US President to set forth an affirmative agenda for democratic renewal and to tackle greatest threats faced by democracies today. • Following this Summit, a Year of Action was proposed and Summit also developed two platforms: <ul style="list-style-type: none"> ○ Focal Groups and Democracy Cohorts to facilitate participation in the Year of Action. ○ ECI is leading Democracy Cohort on Election Integrity.
------------------------------------	--

1.14. ERRATA

PT 365 Polity (April 2022 – December 2022)

Article 6.2: FOREIGN CONTRIBUTION REGULATION ACT (FCRA): Information given under heading More on News ‘The entities that can receive this includes political parties, legislature members, election candidates, government servants, judges, journalists, and media houses- who were all barred earlier from receiving foreign contribution’ is not correct. **The correct information is**

- **Section 3 of FCRA act 2010 still bars Political parties, legislature members, election candidates, government servants, judges, journalists, and media houses** from receiving foreign contribution.
 - However, as per section 4(e) of FCRA,2010 and Rule 6 of FCRR ,2011, even the persons prohibited i.e., persons not permitted to accept foreign contribution, are allowed to accept foreign contribution from their relatives.
- As per amended Rule 6 of FCRR 2011, **any person receiving Foreign Contribution (FC) more than Rs. 10 Lakh in a financial year from relatives has to intimate to Central Government within three months** of receipt of FC.

Speaker of House



- **Appointment: Elected by Lok Sabha (LS)** from amongst its members. **(Article 93)**
 - As office of Deputy Speaker becomes vacant, LS elects another member.
 - **Date of election** of Deputy Speaker is **is fixed by President.**
 - Corresponding position for **Speaker of Legislative Assembly of a state (Article 178).**



Term of office: 5 years



- **Role of Speaker:** Head of LS. Acts as **ex-officio chairman of Parliamentary Group.**
 - **When LS dissolved, Speaker doesn't vacate his office** and continues till newly elected LS meets.



- **Powers and Functions of Speaker:**
 - Guardian of powers and privileges of members, House as a whole and its committees.
 - His **decision in Parliamentary matters is final.**
 - **Derives powers and duties from three sources i.e.,** Constitution of India; Rules of Procedure and Conduct of LS; Parliamentary precedents.
 - Cannot vote in first instance but **can exercise a casting vote.**
 - **Decides whether a bill is money bill or not** and his decision is final.



- **Removal:** Speaker has to vacate office in any of three cases **(Article 94)**
 - Removed only by **resolution passed by LS by Special majority;**
 - **Resigns by writing to Deputy Speaker;**
 - **Ceases to be a member** of LS.
 - Speaker cannot preside LS while a resolution for his removal from office is under consideration **(Article 96).**



Salaries and Allowances (Article 97): Fixed by Parliament; Charged on Consolidated Fund of India.

PT 365 Updated 1 (January 2023-February 2023)

Article 1.3 Speaker of the House: The subheading of the third point of the infographics ‘speaker of the house’ was miswritten as **role of the deputy speaker. The correct subheading is role of the speaker.** Kindly refer to the corrected infographics.

2. INTERNATIONAL RELATIONS

2.1. INDIA-BHUTAN

Why in News?

The King of Bhutan recently visited India to strengthen the bilateral relationship between the two countries.

Outcomes of the Visit

- **Support to Bhutan:**
 - **Additional Standby Credit Facility (SCF)** for a period of five years.
 - ✓ **SCF provides financial assistance to low-income countries** with short-term balance of payments needs.
 - Assistance in digital infrastructure such as establishment of **Third International Internet Gateway** for Bhutan,
 - ✓ **International gateway** is any facility that provides an interface to send and receive electronic communications (i.e., voice, data and multimedia images/ video) traffic between one country's domestic network facilities and those in another country.
 - ✓ In India, there are **multiple International Internet Gateway** like in **Mumbai, Chennai, Agartala etc.**
 - **Integration of Bhutan's Druk Research & Education Network (DrukREN) with India's National Knowledge Network**, key co-operation in the domain of e-Learning.
- **Hydropower:** Discussion on Hydroelectric Power Plants in Bhutan like Mangdechhu, Chhukha, Basochhu, Punatsangchhu-I, Sankosh project etc.
- **Security:** Established **first integrated check post at Jaigaon** (West Bengal, India) and Phuntsholing (Bhutan).
- **Connectivity:** Expedited Kokrajhar (Assam)-Gelephu rail link and supported Gelephu airport construction for investment attraction.



India Bhutan Relations- Key Facts

The infographic lists the following key facts:

- From being a hereditary Monarchy, Bhutan became a **two-party parliamentary democracy** in 2008.
- Bhutan shares an **open border of 699 kms** with **four Indian states** (Sikkim, West Bengal, Assam, Arunachal Pradesh).
- **Mutually beneficial hydro-power cooperation** forms the core of bilateral economic cooperation.
- **India-Bhutan Treaty of Friendship** was signed in 1949 and revised in 2007.
- **India is Bhutan's largest trading partner.**
- 1st Trade Transit Agreement was signed in 1972.
- **The India-Bhutan Foundation**, established in 2003, aims to enhance people-to-people exchanges in the cultural field.
- **The Indian Military Training Team (IMTRAT)** is permanently based in western Bhutan and assist and trains the Royal Bhutan Army.
- India's Border Road Organisation, has built the majority of roads in Bhutan under **project 'DANTAK'**.

The map shows the geographical context of Bhutan, bordered by China to the north and east, and India to the south and west. It highlights the **Nathu La Pass** and the **Doklam Plateau** as areas of interest or dispute.

2.2. INDIA-LATIN AMERICA

Why in news?

Indian External Affairs Minister paid visit to four of the Latin American countries- Panama, Guyana, Colombia and Dominican Republic.

More on news

- He is the **first Indian foreign minister** to have made a bilateral visit to these countries.
- He also attended the **India-Central American Integration System (SICA)** Foreign Ministerial Meet.
- He also co-chaired the **fourth India-CARICOM (Caribbean Community and Common Market)** ministerial meeting.

Significance and Outcomes of the Meet

Guyana	<ul style="list-style-type: none"> Guyana is home to one of the world's largest oil reserves. Important for India to diversify its oil sources. Commissioned an India-made ferry MV Ma Lisha to improve connectivity and mobility within Guyana.
Panama	<ul style="list-style-type: none"> Panama is India's largest Central American trade partner, with reportedly \$610 million in annual trade in 2022. Positioned to serve as India's gateway to the Latin American region, offering unique logistical capabilities as a maritime hub.
Colombia	<ul style="list-style-type: none"> Signed the Cultural Exchange Program for 2023-26. Supplies crude oil, coal to India.
Dominican Republic	<ul style="list-style-type: none"> Inaugurated the Embassy of India in the Dominican Republic. India's automobile dealers, like Bajaj, Hero and Royal Enfield have established local dealerships in the Dominican Republic.



Central American Integration System (SICA)



Secretariat:
San Salvador,
El Salvador.



Genesis:

Established on December 13, 1991, by the signing of the **Protocol to the Charter of the Organization of Central American States (ODECA) or Tegucigalpa Protocol**.



Member:

Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, Panama, Belize and Dominican Republic.



Mandate:

- Realize regional Peace, Liberty, Democracy and Development, based firmly on the respect and promotion of human rights.
- Integration of the region, formation of a Free Trade Area and later a Customs Union,
- Integration of infrastructure, common position on regional and global issues and common passport and visa policy.



Presidency:

Rotates every six months.



Relations with India:

Starting from 2004, **four India- SICA ministerial meets** were held.



2.3. INDIA-ITALY

Why in news?

Celebrating 75th anniversary of **bilateral ties**, India-Italy relationship is elevated to **'Strategic Partnership'**.

Key highlights

- Both nations agreed to **deepen defence cooperation through co-development and co-production in India**.
- Established a **Startup Bridge** between India and Italy.
- Signed **Declaration of Intent (DOI) on Migration and Mobility** for enhanced people-to-people ties by concluding **Migration and Mobility Partnership Agreement**.
- Italy joined **Science, Technology and Academic Cooperation Pillar of Indo Pacific Ocean Initiative (IPOI)**.

About Indo Pacific Ocean Initiative

- Launched in 2019 by **India** at **East Asia Summit**, IPOI is an **open global initiative to manage, conserve, sustain and secure maritime domain**.
- Building upon India's **"Security and Growth for All in the Region"** (SAGAR) initiative, IPOI has **7 Pillars** (see image).



2.4. LEAST DEVELOPED COUNTRIES (LDCS)

Why in news?

The **Fifth United Nations Conference on the Least Developed Countries (LDC5)** concluded with adoption of the **‘Doha Political Declaration’** by the world leaders.

About Least Developed Countries (LDCs)

- LDCs are **low-income countries** confronting severe **structural impediments** to sustainable development.
- They are **highly vulnerable to economic and environmental shocks** and have low levels of human assets.
- There are **currently 46 countries (Africa 33, Asia 9, Caribbean 1 and Pacific 3)** on the list of LDCs which is **reviewed every three years** by the **Committee for Development (CDP)**, a subsidiary body of the **United Nations Economic and Social Council**.
- LDCs Identification Criteria:** CDP make recommendations on the **inclusion and graduation** of eligible countries using the **following criteria**:
 - Gross national income (GNI) per capita** that provides information on the income status and the **overall level of resources** available to a country.
 - Human Assets Index (HAI)** composed of **six indicators** grouped into a health and education subindex.
 - Economic and Environmental Vulnerability Index (EVI)** composed of **eight indicators**, grouped into an economic and environmental subindex.

About Doha Political Declaration

- Doha Political Declaration welcomed **Doha Programme of Action (DPoA)** for Least Developed Countries (LDCs) that was adopted at first part of Conference, held in 2022 in New York.
- DPoA manifests a new generation of renewed **commitments between the LDCs and their development partners**, including the private sector, civil society, and governments **at all levels**.
- It is a **10-year plan (2022-2031)** to put world’s 46 most vulnerable countries back on track to **achieving the UN-mandated Sustainable Development Goals (SDGs)**.

Least Developed Countries (LDC)



Host about **40% of world’s poor**.



Account for **13% of world population**.



About **1.3% of global GDP**.



Less than 1% of global trade and FDI.




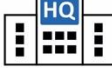

Only a **fifth of the population** has **access to the internet**.

Related news

- Bhutan will become seventh nation to graduate (removed) from United Nations’ list of LDC by 2023 end.
- Other six countries that were removed earlier are- Botswana, Cabo Verde, Maldives, Samoa, Equatorial Guinea and Vanuatu.

2.5. INTERNATIONAL ORGANIZATIONS/INSTITUTIONS

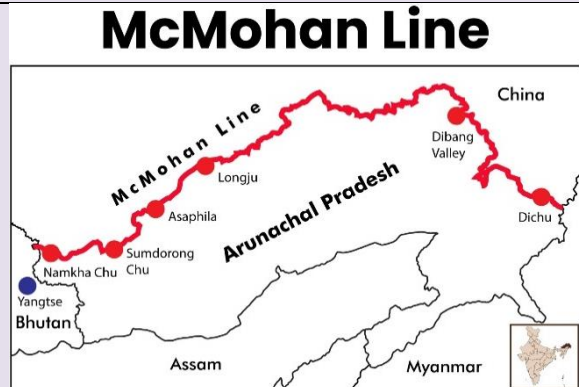
<p>Shanghai Cooperation Organization (SCO)</p>	<ul style="list-style-type: none"> Saudi Arabia agreed to join Shanghai Cooperation Organization (SCO) as a dialogue partner. <ul style="list-style-type: none"> It will be increasing the number of dialogue partners to 7. Also, During the recent SCO defence minister’s meeting, India elaborated on concept of ‘SECURE’ (floated during SCO summit in Qingdao, China, 2018) which reflects India’s commitment towards multi-dimensional welfare of region. <ul style="list-style-type: none"> SECURE stands for- S Security of citizens; E - Economic development for all; C - Connecting the region; U - Uniting the people; R - Respect for Sovereignty and Integrity; E - Environmental protection.
<p>United Nations Statistical Commission</p>	<ul style="list-style-type: none"> India has been elected to United Nations Statistical Commission for a four-year term beginning January 1, 2024. <div style="border: 1px solid black; padding: 5px;"> <div style="display: flex; justify-content: space-between; align-items: center;"> <div style="text-align: center;"> <p>United Nations Statistical Commission</p> <p>New York, USA,</p> </div> </div> <p>About: It is the highest body of global statistical system bringing together Chief Statisticians from member states from around the world.</p> <ul style="list-style-type: none"> It oversees the work of United Nations Statistics Division (UNSD), and is a Functional Commission of UN Economic and Social Council (UNESCO). Established 1947. <p>Membership: Consists of 24 member countries of UN elected by UNESCO on basis of an equitable geographical distribution.</p> <p>Members’ Term of office: Four years.</p> <p>Functions:</p> <ul style="list-style-type: none"> Provides a global centre for data on international trade, national accounts, social statistics etc. gathered from national and international sources. Promotes international standards of methods, classifications and definitions used by national agencies. Assists Member States, at their request, to improve their statistical services by giving advice and training </div>

<p>United Nations Permanent Forum on Indigenous Issues (UNPFII)</p>	<ul style="list-style-type: none"> • 22nd session of the UNPFII held recently. • UNPFII is an advisory body to the Economic and Social Council. • Forum was established in 2000 with a mandate to discuss indigenous issues related to economic and social development, culture, the environment, education, health and human rights. <ul style="list-style-type: none"> ○ It is one of three UN bodies to deal specifically with indigenous peoples' issues. • Others are Expert Mechanism on Rights of Indigenous Peoples and Special Rapporteur Rights of Indigenous Peoples. 												
<p>Asian-African Legal Consultative Organization (AALCO)</p>	<ul style="list-style-type: none"> • A seminar on 'Seven Decades of the Constitution of India' was held in context of India's Presidency of AALCO. <div style="border: 1px solid black; padding: 10px; margin-top: 10px;"> <div style="display: flex; justify-content: space-between; align-items: center;">  <div style="text-align: center;"> <h3>Asian-African Consultative Organization (AALCO)</h3> </div> <div style="text-align: right;">  New Delhi </div> </div> <p>Genesis: Established in 1956 as the outcome of Bandung Conference (1955), held in Indonesia.</p> <p>Objective:</p> <ul style="list-style-type: none"> ▶ Its main functions include assisting Member States in drafting constitutions, model legislations and bilateral agreements upon request. ▶ Providing expertise and assistance to Member States in the appointment of arbitrators etc. <p>Membership: 47 member states.</p> <p>Other Key Information</p> <ul style="list-style-type: none"> ▶ It was initially formed to serve as an advisory board to member states on matters relating to international law. ▶ Launched the Integrated Scheme for Settlement of Disputes in the Economic and Commercial Transactions in 1978. <div style="text-align: right; margin-top: 10px;">  MEMBER </div> </div>												
<p>Economic Community of West African States (ECOWAS)</p>	<ul style="list-style-type: none"> • Economic Community of West African States (ECOWAS) announced severe sanctions on Mali, seeking to discourage further coups. <p>Economic Community of West African States (ECOWAS)</p> <ul style="list-style-type: none"> • HQ- Nigeria • About: Established on May 28 1975 via the treaty of Lagos, ECOWAS is a 15-member regional group with a mandate of promoting economic integration in all fields of activity of the constituting countries. • Members: The members of ECOWAS include Benin, Burkina Faso, Cape Verde, Cote d' Ivoire, The Gambia, Ghana, Guinea, Guinea Bissau, Liberia, Mali, Niger, Nigeria, Sierra Leone, Senegal and Togo. • Objectives: <ul style="list-style-type: none"> ○ to foster the ideal of collective self-sufficiency for its member states. ○ to create a single, large trading bloc through economic cooperation. 												
<p>European Free Trade Association (EFTA)</p>	<ul style="list-style-type: none"> • India has ruled out any duty concessions for gold or easing of intellectual property rights regime for European Free Trade Association (EFTA) countries. • EFTS is an intergovernmental organisation of Iceland, Liechtenstein, Norway and Switzerland. • It was set up in 1960 (Stockholm Convention) for the promotion of free trade and economic integration between its members. • EFTA is the ninth largest trader in the world in merchandise trade and fifth largest in trade in services. 												
<p>Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP)</p>	<ul style="list-style-type: none"> • United Kingdom agreed to join CPTPP. • United Kingdom will become the 12th member, and first in Europe to join since its inception. <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <thead> <tr> <th colspan="3">How CPTPP is different from Regional Comprehensive Economic Partnership (RCEP)?</th> </tr> </thead> <tbody> <tr> <td style="width: 15%;">Members</td> <td style="width: 40%;">FTA in 15 countries (largely Asia-Pacific region).</td> <td style="width: 45%;">FTA in 11 countries (has countries on either side of the Pacific Ocean).</td> </tr> <tr> <td>Size</td> <td>Accounts for 31% of global GDP.</td> <td>Accounts for 13.5% of the global GDP.</td> </tr> <tr> <td>Domain</td> <td colspan="2">The requirements in CPTPP are more comprehensive than under the RCEP. For instance, RCEP does not include disciplines on support for state-owned enterprises (SOEs) or provisions on labour and environmental issues.</td> </tr> </tbody> </table>	How CPTPP is different from Regional Comprehensive Economic Partnership (RCEP)?			Members	FTA in 15 countries (largely Asia-Pacific region).	FTA in 11 countries (has countries on either side of the Pacific Ocean).	Size	Accounts for 31% of global GDP .	Accounts for 13.5% of the global GDP .	Domain	The requirements in CPTPP are more comprehensive than under the RCEP . For instance, RCEP does not include disciplines on support for state-owned enterprises (SOEs) or provisions on labour and environmental issues .	
How CPTPP is different from Regional Comprehensive Economic Partnership (RCEP)?													
Members	FTA in 15 countries (largely Asia-Pacific region).	FTA in 11 countries (has countries on either side of the Pacific Ocean).											
Size	Accounts for 31% of global GDP .	Accounts for 13.5% of the global GDP .											
Domain	The requirements in CPTPP are more comprehensive than under the RCEP . For instance, RCEP does not include disciplines on support for state-owned enterprises (SOEs) or provisions on labour and environmental issues .												
<p>North Atlantic Treaty Organization (NATO)</p>	<p>Finland Joins NATO.</p> <ul style="list-style-type: none"> • Finland became the 31st country to join NATO. <ul style="list-style-type: none"> ○ Finland, once neutral under a "friendship agreement" with the Soviet Union, moved closer to NATO after the collapse of the Soviet Union. • As a member of the Alliance, Finland is part of NATO's collective defence and is covered by the security guarantees enshrined in Article 5 of the North Atlantic Treaty. 												

Collective Security Treaty Organization (CSTO)	<ul style="list-style-type: none"> Recently, President of Kazakhstan, called on the CSTO for help. <p>About CSTO</p> <ul style="list-style-type: none"> The Collective Security Treaty Organization originates from the conclusion of the Collective Security Treaty, which was signed in Tashkent (Uzbekistan) and entered into force in April 1994. The Organization today includes: Armenia, Belarus, Kazakhstan, Kyrgyzstan, Russia and Tajikistan. <ul style="list-style-type: none"> In 2012, membership of Uzbekistan was suspended. Objectives of the Organization: strengthening of peace, international and regional security and stability, the protection on a collective basis of the independence, territorial integrity and sovereignty of the member States.
Colombo Security Conclave (CSC)	<ul style="list-style-type: none"> Indian Coast Guard Region (North East) is conducting fourth edition of Table top exercise (simulated emergency) under Colombo Security Conclave (CSC). CSC was formed in 2011 as a trilateral maritime security grouping of India, Sri Lanka and Maldives. <ul style="list-style-type: none"> Later Mauritius joined as fourth member and Bangladesh & Seychelles participate as observer countries. Conclave underlines regional cooperation for maritime security, marine pollution response and maritime search & rescue for the Indian Ocean region.

2.6. INTERNATIONAL EVENTS IN NEWS

Raisina Dialogue 2023	<ul style="list-style-type: none"> It is a multilateral conference committed to addressing the most challenging issues facing the global community, held annually in New Delhi since 2016. <ul style="list-style-type: none"> It takes its name from Raisina Hill- the seat of the Indian government. It is hosted by the Observer Research Foundation in collaboration with the Ministry of External Affairs. It brings together global leaders in policy, business, media, civil society, defence and foreign policy.
Operation Kaveri	<ul style="list-style-type: none"> India has launched 'Operation Kaveri' to bring back its citizens stranded in war-torn Sudan.
McMohan Line	<ul style="list-style-type: none"> US, in a senate resolution, recognised McMahan Line as international boundary between China and India. McMahon Line serves as de facto boundary between China and India in the Eastern Sector. <ul style="list-style-type: none"> It specifically represents boundary between Arunachal Pradesh and Tibet, from Bhutan in the west to Myanmar in the east. <ul style="list-style-type: none"> It extends from corner of Bhutan to Isu Razi Pass on the Burma border. It was drawn during the Simla Convention of 1914 (Between Great Britain, China, and Tibet).
First India-Central Asia Joint Working Group (JWG) on Afghanistan	<ul style="list-style-type: none"> It was held in New Delhi and was attended by Kazakhstan, Kyrgyz Republic, Tajikistan, Turkmenistan and Uzbekistan. Key Highlights <ul style="list-style-type: none"> India to offer customised capacity building courses for UNODC (United Nations Office on Drugs and Crime) officials. India to partner with UNWFP (UN World Food Programme) for delivery of wheat to Afghanistan via Chabahar Port.
North Sea Summit	<ul style="list-style-type: none"> European nations participated in Second North Sea Summit in Ostend, Belgium North Sea Summit aims at making the North Sea the largest powerhouse of Europe by 2050 by taking its offshore wind capacity to 120 GW by 2030 and 300 GW by 2050. <ul style="list-style-type: none"> 7 European Union (EU) countries (Belgium, Denmark, France, Germany, Ireland, Luxembourg, Netherlands), and 2 Non-EU countries Norway and United Kingdom participated in this second summit. At the end of first summit in Denmark in 2022, Belgium, Denmark, Germany and Netherlands signed the Esbjerg Declaration.



	<ul style="list-style-type: none"> ○ Esbjerg Declaration aimed at making the North Sea into the “Green Power Plant of Europe”, an offshore renewable energy system. ○ Declaration set the targets for offshore wind energy capacity of 150 GW by 2030 and 20 GW green hydrogen production capacity by 2030. 	
<p>Windsor Framework</p>	<ul style="list-style-type: none"> ● UK government reached a landmark deal with European Union on post-Brexit trade rules that will govern Northern Ireland. <ul style="list-style-type: none"> ○ Windsor Framework will replace the Northern Ireland Protocol. <p>About Northern Ireland Protocol</p> <ul style="list-style-type: none"> ● It is a part of the Brexit withdrawal agreement. ● It aims to resolve the issue of the border between Northern Ireland and the Republic of Ireland. <ul style="list-style-type: none"> ○ Northern Ireland is part of the UK and the Republic of Ireland remains part of the European Union (EU). ● Under the protocol, any inspections and document checks would be conducted at Northern Ireland's ports. It was also agreed that Northern Ireland would keep EU rules on product standards. 	
<p>Good Friday Agreement (GFA)</p>	<ul style="list-style-type: none"> ● US President is visiting Northern Ireland to mark 25th anniversary of Good Friday Agreement (GFA). ● GFA was signed in 1998, between factions of Northern Ireland, and governments of Britain and Ireland, to end 30 years of violence known as ‘The Troubles’. <ul style="list-style-type: none"> ○ Northern Ireland, created in 1921 by partitioning Ireland, remained with United Kingdom after Ireland’s independence from UK. ○ This resulted in violence between those who wished to remain with UK and those who wanted to join Ireland. 	
<p>Operation Interflex</p>	<ul style="list-style-type: none"> ● Operation Interflex is a part of United Kingdom’s (UK) commitment of £2.3 billion for military aid and support to Ukraine. ● Under it, UK and other countries including Canada, New Zealand, Australia, Norway, Denmark, Finland, Sweden, Lithuania, and Netherlands are training Ukraine’s military. 	
<p>Stockholm Agreement</p>	<ul style="list-style-type: none"> ● A major prisoner swap is underway between warring sides in Yemen conflict. ● Deal is a follow-up to the 2018 Stockholm Agreement - an accord between the parties to the conflict in Yemen with three main components: <ul style="list-style-type: none"> ○ Hudaydah Agreement on the City of Hodeidah and Ports Hodeidah, Salif and Ras Isa. ○ A Prisoner Exchange Agreement for the exchange prisoners, detainees, missing persons, arbitrarily detained and forcibly disappeared persons, and those under house arrest. ○ The Taiz Agreement on Statement of Understanding on Ta'iz 	
<p>Declaration for the Future of the Internet</p>	<ul style="list-style-type: none"> ● Recently, the United States and 60 other partner countries signed a political declaration called the "Declaration for the Future of the Internet". ● The document is an agreement to prevent digital authoritarianism, protect human rights and fundamental freedoms of all people and ensure that Internet operate as a single, decentralised network of networks. ● India, China, and Russia are not part of this declaration. ● The Declaration and its guiding principles are not legally binding. 	

Global Terrorism Index (GTI) 2023	<ul style="list-style-type: none"> 10th edition of GTI was released by Sydney-based Institute for Economics and Peace (IEP). GTI covers global trends and patterns in terrorism. Key findings <ul style="list-style-type: none"> Afghanistan remains most impacted by terrorism for fourth consecutive year, followed by Burkina Faso and Somalia. India remained at 13th while Pakistan ranked at 6th.
UNSCR 2396 (United Nations Security Council resolution 2396)	<ul style="list-style-type: none"> Country Reports on Terrorism 2021 was released by US bureau of Counterterrorism. <ul style="list-style-type: none"> Report hails India for its efforts in 2021 to detect, disrupt, and degrade operations of terrorist organizations. Taking regional and global leadership roles against terrorism, India implemented UNSCR 2396, i.e., United Nations Security Council Resolution 2396. <ul style="list-style-type: none"> UNSCR 2396 urges member states to stem the threat posed by foreign terrorist fighters (FTFs) through measures on Border control, Criminal justice and Information-sharing and counter-extremism.
UN Democracy Fund (UNDEF)	<ul style="list-style-type: none"> India made a voluntary contribution of US \$150,000 to the UN Democracy Fund for the year 2022–23. UNDEF was created by UN Secretary-General Kofi A. Annan in 2005 as a UN General Trust Fund to support democratization efforts around the world. It funds projects that empower civil society, promote human rights, and encourage participation of all groups in democratic processes. An Advisory Board of UNDEF considers proposals, offers policy guidelines, recommends funding proposals for approval by the Secretary General. India, a founding member of UNDEF, is also current member of the Advisory Board.

2.7. OTHER IMPORTANT NEWS

India-Bangladesh Friendship Pipeline (IBFP)	<ul style="list-style-type: none"> India, Bangladesh inaugurated cross-border energy pipeline known as India-Bangladesh Friendship Pipeline (IBFP). IBFP, runs from Siliguri (India) to Parbatipur (Bangladesh), and is first cross border energy pipeline between India and Bangladesh and second in South Asia . <ul style="list-style-type: none"> In 2019, India-Nepal opened South Asia's first cross-border oil pipeline i.e., Motihari (Bohar)-Amlekhgunj (Nepal) oil pipeline. It has a capacity to transport 1 Million Metric Ton Per Annum (MMTPA) of High-Speed Diesel (HSD) to Bangladesh and therefore enhances energy cooperation between two countries.
Bay of Bengal Industrial Growth Belt (BIG-B) initiative	<ul style="list-style-type: none"> Japan is supporting Bangladesh in development of Matarbari port and improve connectivity in region through Bay of Bengal Industrial Growth Belt (BIG-B) initiative. BIG-B aims to accelerate industrial agglomeration along Dhaka-Chittagong-Cox's Bazar belt area and beyond, encompassing developing economic infrastructure, improving investment environment and fostering connectivity.
China Plus One Strategy (C+1)	<ul style="list-style-type: none"> Parliamentary panel on Commerce has highlighted the limited positive impression of India among businesses to take benefits of C+1 Strategy. C+1 refers to multinationals strategy of avoiding investing only in China or moving away from China and diversifying their businesses into other countries. <ul style="list-style-type: none"> First traced to 2013, the pace of it has increased since supply chain disruptions due to Covid-19 pandemic.
Asia Initiative	<ul style="list-style-type: none"> India stressed the need to check tax evasion while addressing the meeting of the Asia Initiative of Global Forum. Asia Initiative (aka Bali Declaration) <ul style="list-style-type: none"> It is focused on developing solutions to ensure the implementation of tax transparency standards across Asia. Members: 17 countries including India.
Free and Open Indo Pacific (FOIP)	<p>Japan announced new plan for Free and Open Indo Pacific (FOIP)</p> <ul style="list-style-type: none"> FOIP is an initiative aimed at curbing China's growing assertiveness in Indo-Pacific region. Japan's concept of FOIP is akin to India's concept of Indo-Pacific Oceans Initiative (IPOI). Core principles of FOIP include defending freedom and rule of law and respecting diversity, inclusiveness, and openness.
Asia Energy Transition Initiative (AETI)	<ul style="list-style-type: none"> Japan looks forward to supporting India's clean energy transition by including the country in the AETI.

	<p>About AETI</p> <ul style="list-style-type: none"> Japan announced AETI in 2021 which includes a variety of support for the realisation of various and pragmatic energy transitions in Asia. It initially supported the Association of Southeast Asian Nations (ASEAN) countries towards achieving net zero emissions, including financial assistance of \$10 billion for renewable energy.
IAEA's Incident and Trafficking Database (ITDB)	<p>As per latest data from IAEA's Incident and Trafficking Database (ITDB) , Radioactive contamination is increasingly found in scraps for recycling.</p> <p>About ITDB</p> <ul style="list-style-type: none"> ITDB was established by IAEA Secretariat in 1995 to: <ul style="list-style-type: none"> Assist States on incidents involving illicit trafficking and other related unauthorized activities involving nuclear and other radioactive materials. Maintain and analyze reported information to identifying common threats, trends, and patterns. ITDB established in 1995 and is part of the IAEA's Nuclear Security Plan that aims to <ul style="list-style-type: none"> Assist States in establishing, maintaining, and sustaining national nuclear security regimes. Contribute to global efforts to achieve effective nuclear security. Facilitate international cooperation and increasing awareness on nuclear security.
Bucharest Nine (B9)	<ul style="list-style-type: none"> The envoys to India of nine Eastern European countries jointly wrote an article to "acquaint the Indian public about unjustified Russian aggression in Ukraine". <p>About Bucharest Nine (B9)</p> <ul style="list-style-type: none"> B9 is a group of 9 NATO countries in Eastern Europe that became part of the US led military alliance after end of Cold War. It was founded in 2015, and takes its name from Bucharest, the capital of Romania. All members of B9 are part of European Union (EU) and North Atlantic Treaty Organisation (NATO). B9 members are Romania, Poland, Hungary, Bulgaria, Czech Republic, Slovakia, and three Baltic republics of Estonia, Latvia, and Lithuania.
Wagner Group	<ul style="list-style-type: none"> There are reports of systematic recruitment of prisoners across Russia by Wagner Group. Wagner Group is a private Russian military organisation, which has been used in military operations in many countries. It is owned and financed by Yevgeny Prigozhin, a businessman with ties to Vladimir Putin and is playing a major role in the fighting in Ukraine.
Global Security Initiative	<ul style="list-style-type: none"> China, recently proposed a Global Security Initiative, at the Boao Forum in China, warning against "hegemonism, power politics and bloc confrontation". The initiative will look to counter the U.S. Indo-Pacific strategy and the Quad .
Cri-MAC	<ul style="list-style-type: none"> Recently, India has launched an online platform called Crime Multi Agency Centre (Cri-MAC) portal. The Crime Multi Agency Centre (Cri-MAC) was launched in 2020 by the Ministry of Home Affairs (MHA) to share information on crime and criminals 24x7 with various law enforcement agencies and ensure a seamless flow of information among them.
Macolin Convention	<ul style="list-style-type: none"> CBI participated in the 12th meeting of Interpol's Match-Fixing Task Force (IMFTF). The meeting called for harmonized global efforts to curb competition manipulation and the establishment of national platforms, as outlined by Macolin Convention. The Council of Europe Convention on the Manipulation of Sports Competitions, known as the Macolin Convention, is a multilateral treaty entered into force in 2019 and aimed at checking match-fixing.
Vienna Convention on Road Signs and Signals Treaty	<ul style="list-style-type: none"> The recent collision between a Rawalpindi-bound passenger bus and a private car on the Karakoram Highway (KKH) near Shatial in Gilgit-Baltistan (GB) brought Vienna Convention in light. <div style="border: 1px solid black; padding: 10px; margin-top: 10px;"> <p style="text-align: center;">Vienna Convention on Road Signs and Signals Treaty</p> <p> Genesis: Entered into force in 1978</p> <p> Objective: It is designed to increase road safety and aid international road traffic by standardising the signing system for road traffic (road signs, traffic lights and road markings) in use internationally.</p> <p> Status: Signatories : 35, Parties : 72</p> <div style="text-align: right;"> <p>PARTY</p> </div> </div>

<p>International Aviation Safety Assessment (IASA) program</p>	<ul style="list-style-type: none"> • India has been kept in Category 1 of IASA, prepared by Federal Aviation Administration of USA. • IASA is compiled on the basis of the safety standards established by the International Civil Aviation Organization (ICAO) (Chicago Convention). <ul style="list-style-type: none"> ○ It focuses on a country's ability to adhere to international aviation Safety Standards • ICAO includes several critical element for safety measures such as Primary aviation legislation, Specific operating regulations, State civil aviation system and safety oversight functions etc.
---	--

2.8. PLACES IN NEWS

Places in News

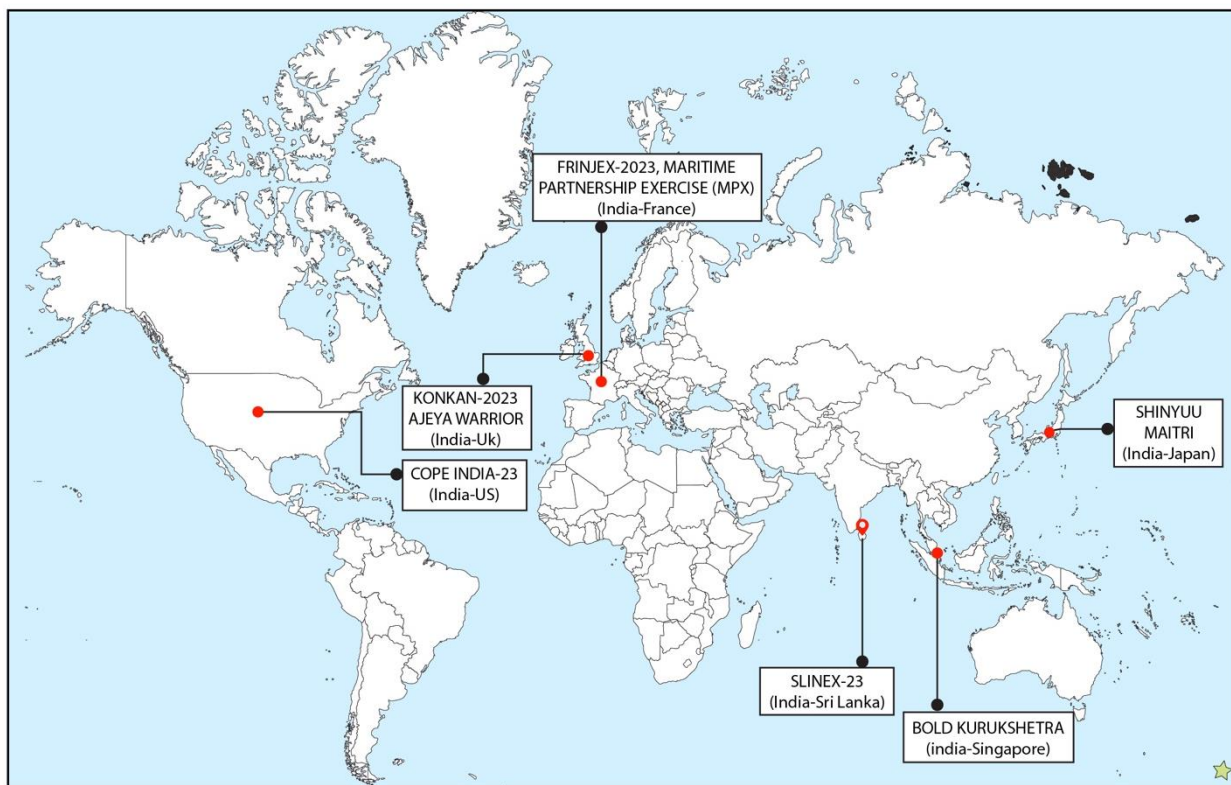


Sr. No.	Place
1.	<p>Mexico (Capital: Mexico City) Context: India and Mexico have signed a MoU on research, technology and innovation collaborations.</p> <ul style="list-style-type: none"> • Mexico is the country of southern North America and third largest country in Latin America, after Brazil and Argentina. • It is a part of circum-Pacific “Ring of Fire”.
2.	<p>Sweden (Capital: Stockholm) Context: Sweden’s Parliament formally approved a bill to allow it to join NATO.</p> <ul style="list-style-type: none"> • Sweden is the largest Nordic country located on Scandinavian Peninsula in northern Europe. • Sweden joined the European Union in 1995 but rejected Eurozone membership following a national referendum in 2003. • Sweden has instead stuck to using the Swedish Krona (SEK).
3.	<p>Jordan (Capital: Amman) Context: Second Consultative Meeting on Defence Cooperation held between India and Jordan.</p> <ul style="list-style-type: none"> • Jordan is a Middle Eastern Country located in the Arabian Peninsula. • Al-Aqabah, only port of Jordan, provides a short coastline to Jordan at the Gulf of Aqaba (Red Sea). • Lowest Point: Dead Sea lies on the border with Israel .
4.	<p>Romania (Capital: Bucharest) Context: India and Romania signed an agreement on Defence Cooperation.</p>

	<ul style="list-style-type: none"> ○ Romania is a country of south-eastern Europe. ○ It joined North Atlantic Treaty Organization (NATO) in 2004, and in 2007 it became a member of European Union (EU).
5.	<p>Vanuatu (Capital: Port-Vila)</p> <ul style="list-style-type: none"> • United Nations General Assembly (UNGA) has adopted a resolution proposed by Vanuatu to seek an opinion from the International Court of Justice (ICJ) on what legal obligations nations are under to protect climate systems and people affected by climate change. • Political Features: <ul style="list-style-type: none"> ○ Located east of Australia, in the South-western Pacific Ocean. ○ It consists of a chain of 13 principal and many smaller islands (Melanesian archipelago).
6.	<p>Spain (Capital: Madrid)</p> <p>Context: Recently, India-Spain Joint Commission (established in 1972) meeting was held.</p> <ul style="list-style-type: none"> • Spain is one of the two nations on Iberian Peninsula (other is Portugal) in South Western Europe. • Strait of Gibraltar separates Spain from Africa.
7.	<p>Uzbekistan (Capital: Tashkent)</p> <p>Context: Uzbekistan holds referendum on new Constitution that puts human rights at forefront.</p> <ul style="list-style-type: none"> • Uzbekistan is a doubly landlocked Central Asian Country <ul style="list-style-type: none"> ○ Doubly Landlocked means that it is surrounded by countries that are themselves landlocked. ○ Globally, only two nations are doubly landlocked with Liechtenstein as the other one.

2.9. DEFENCE EXERCISES IN NEWS

Bilateral Defence Exercises in News



Other Important Exercises

Nature of exercise	Name of exercise (Hosted by)	Other countries Involved
Multilateral (where India participated)	La Perouse (France)	USA, France, Japan, Australia, UK.
	Sea Dragon 23 (USA)	US, Japan, Canada and Republic of Korea.
	Cobra Warrior (UK)	Finland, Sweden, South Africa, USA, UK and Singapore.
	Cutlass Express 2023 (Djibouti)	Bahrain, Japan, Oman, Saudi Arabia, UAE, UK and USA.
	RIMPAC-22 (USA)	USA and 25 other countries.
	Orion (France)	France, Germany, Greece, Italy, Netherlands, United Kingdom, Spain and United States of America
	INIOCHOS-23 (Greece)	USA, France, Italy, Jordan, Saudi Arabia among others

Domestic	Exercise Vayu Prahar (Joint Multi Domain Air-Land Exercise of Indian Army and Air force.)	NA
	Kavach (Conducted by Andaman and Nicobar Command (ANC), it is joint military exercise involving the assets of Army, Navy, Air Force and Coast Guard)	NA

2.10. ERRATA

PT 365 International Relations (April 2022 – December 2022)

Article 8.7: NORTH ATLANTIC TREATY ORGANIZATION (NATO): The information given under Map and subheading ‘NATO members’ in ‘North Atlantic Treaty Organisation’ infographics is not correct. Kindly refer to the revised and updated infographics

Brussels, Belgium
 Est. 1949

North Atlantic Treaty Organization

NATO member countries

	Albania		Lithuania		Montenegro		Turkey
	Estonia		Portugal		Croatia		
	Finland		United States		Hungary		
	Latvia		Bulgaria		Netherlands		
	United Kingdom		Germany		Slovenia		
	Belgium		Luxembourg		Czechia		
	France		Romania		Iceland		
	Norway		Canada		Poland		
	Greece		Slovakia		Spain		
	Italy		Denmark		North Macedonia		

NATO members

● Finland becomes 31st country to join NATO
 ● US and Canada are also NATO members not shown on the map.★

About: NATO is a transatlantic political and military alliance.

Objective:

- ❖ To provide mutual defense through military and political means if a member state threatened by an external country.
- ❖ To promote democratic values, support international security, and enhance cooperation among member states and other international organizations.

Origin: It was created with the signing of the North Atlantic Treaty, popularly known as the Washington Treaty, with 12 founding members.

Key features:

- ❖ Derives its authority from Article 51 of the United Nations Charter.
- ❖ NATO Treaty established a system of collective defense, stating that an attack against one member country is considered an attack against all member countries.
- ❖ NATO's Open-door policy allows any European country that can enhance and contribute "to the security of the North Atlantic area" to join.

Not a member

Major Non-NATO Ally Status: It is a designation given by the US government to close allies that have strategic working relationships with the US Armed Forces but are not members of the NATO.

- ❖ The US has designated 30 other countries including Japan, S.Korea, Japan, Israel etc. as major non-NATO allies.

★ India is not a Major Non-NATO Ally.

PT 365 Updated 1 (January 2023-February 2023)

Article 2.14: PLACES IN NEWS: The information given in first point is incorrect. First subpoint misprinted as Croatia. Replace Croatia with Austria. Kindly refer to the correct information

1.	<p>Austria (Capital: Vienna) Context: India will sign a Comprehensive Migration and Mobility Partnership Agreement (MMPA) with Austria.</p> <ul style="list-style-type: none">• Austria is a mountainous landlocked country of south-central Europe.• It is the leading producer of natural magnesite, magnesium carbonate used extensively in chemical industry.
----	--

“You are as strong as your Foundation”
FOUNDATION COURSE
GENERAL STUDIES
PRELIMS CUM MAINS
2024

Approach is to build fundamental concepts and analytical ability in students to enable them to answer questions of Preliminary as well as Mains Exam

- ▶ Includes comprehensive coverage of all the topics for all the four papers of GS Mains, GS Prelims & Essay
- ▶ Access to LIVE as well as Recorded Classes on your personal student platform
- ▶ Includes All India GS Mains, GS Prelims, CSAT & Essay Test Series
- ▶ Our Comprehensive Current Affairs classes of PT 365 and Mains 365 of year 2024

ONLINE Students
NOTE - Students can watch LIVE video classes of our COURSE on their ONLINE PLATFORM at their homes. The students can ask their doubts and subject queries during the class through LIVE Chat Option. They can also note down their doubts & questions and convey to our classroom mentor at Delhi center and we will respond to the queries through phone/mail.

DELHI

15 JUNE, 5 PM | 30 MAY, 1 PM | 16 MAY, 9 AM
28 APR, 9 AM | 14 APR, 1 PM | 31 MAR, 1 PM

AHMEDABAD: 22 May, 8:30 AM | **CHANDIGARH:** 1 June, 5 PM | 19 Jan, 5 PM
HYDERABAD: 12 June, 8 AM & 4 PM | **LUCKNOW:** 25 May, 5 PM | 18 Jan, 5 PM
JAIPUR: 15 May, 7:30 AM & 5 PM | **PUNE:** 14 May, 8 AM | **BHOPAL:** 1 June, 5 PM

Live - online / Offline Classes

Scan the QR CODE to download VISION IAS app

3. ECONOMY

3.1. GROWTH, DEVELOPMENT AND POVERTY ALLEVIATION

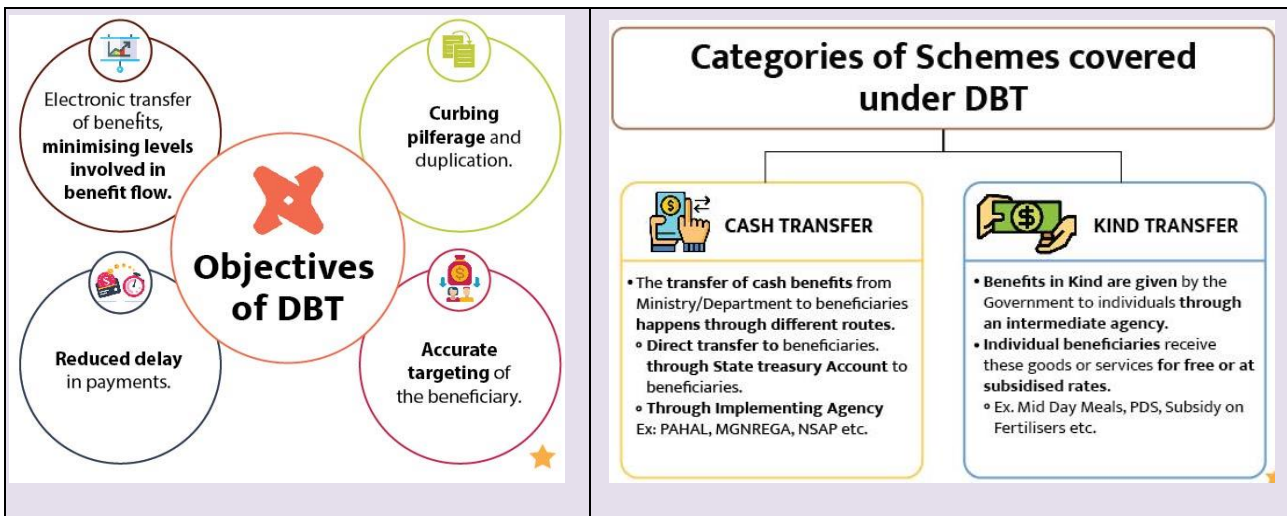
3.1.1. DIRECT BENEFIT TRANSFERS (DBT)

Why in News?

India saved over \$27 bn in key central government schemes through Direct Benefit Transfers (DBT).

About Direct Benefit Transfers (DBT)

- **Launch:** DBT was launched in 2013, to transfer Government benefits directly into the Citizen’s Aadhaar-seeded bank accounts.
- **Aadhaar is not mandatory in DBT:** Aadhaar is useful in targeting the intended beneficiaries, and is thus encouraged but it is not mandatory.
- **DBT Mission:** The Mission and matters related thereto have been placed with Cabinet Secretariat under Secretary (Co-ordination & PG) since 2015.

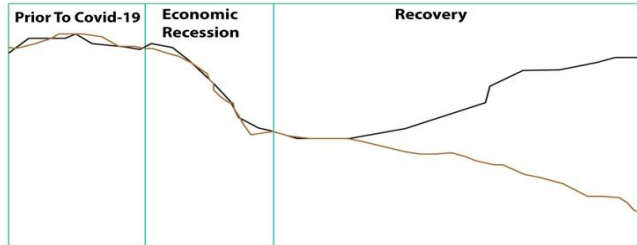
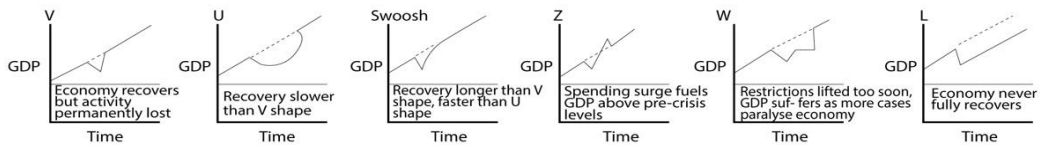


3.1.2. KEY TERMS AND CONCEPTS IN GROWTH AND DEVELOPMENT

Hindu rate of growth	<ul style="list-style-type: none"> • An Indian Economist Raj Krishna coined the term “Hindu Rate of Growth” in 1982. • It was then used to refer to the growth rate of period, which was stagnant at 3.5-4% for a long period. <ul style="list-style-type: none"> ○ This rate of growth remained steady through changes in governments, wars, famines, and other crises, making it for him an inherently cultural phenomenon—hence the name.
Multiple Indicator Survey (MIS)	<ul style="list-style-type: none"> • National Sample Survey Office (NSSO) carried out MIS in its 78th round (2020-21) for collecting information for SDG indicators, on migration etc.

K shaped recovery

SHAPE OF RECOVERY



K-Shaped Recovery

Recovering Industries

Technology Retail
Software Services

Industries Needing Assistance

Travel Entertainment
Hospitality Food Services

3.2. FISCAL POLICY

3.2.1. DIRECT TAX

Why in News?

The Ministry of Finance has said that the introduction of **new tracking features** had helped the **income tax department** widen the tax base.

More on News

- **Tax base** is the **total value** of all of the **assets, income, and economic activity** that can be taxed by a taxing authority.
- **Direct Tax** is the tax where the **incidence and impact** of taxation fall on the same entity.
- It is a **progressive tax** (the proportion of tax liability rises as an individual or entity's income increases).

Central Board of Direct Taxes (CBDT)

New Delhi

Genesis: CBDT came into existence in 1964 after the split of Central Board of Revenue with the enactment of Central Board of Revenue Act, 1963.

About: It deals with matters relating to levy and collection of direct taxes.

Mandate:

- Formulation of various policies.
- Supervision of the entire Income Tax Department
- Suggests legislative changes in Direct Tax Enactments
- Suggests changes in tax rates

Members: It consists of a chairman and six Members.

Other Key Information: It associated with the Department of Revenue, Ministry of Finance.

Direct tax collection in India

<p>> Direct and Indirect tax contribution in total tax collection (FY 2021-22) is about 52 % and 48%, respectively.</p>	<p>> 2021-22 recorded the highest tax-GDP ratio of 11.7%.</p> $\text{Tax to GDP Ratio} = \frac{\text{Tax Revenue of the Nation During the Period}}{\text{Gross Domestic Product of the Nation}}$	<p>Composition of Tax Profile of Union Government (FY23 BE)</p>
<p>> Personal Income Tax (PIT) to GDP ratio has been steadily increasing from 2.11% in F.Y. 2014-15 to 2.94% in F.Y. 2021-22.</p>	<p>> The tax buoyancy (a measure of growth in tax revenues compared to GDP growth) is at 1.9.</p> <p>> A tax buoyancy greater than 1 signifies that tax revenues grow faster than national income growth.</p>	

New Tracking Features Which Broadened Tax Base

- **Reform in Statement of Financial Transactions (SFT):** CBDT introduced **new data sources** in the SFT, such as dividends, interest, details of shares and mutual funds as well as information from the Goods and Services Tax Network (GSTN).
- **New Tax Deductions at Source (TDS) Codes:** Finance Act 2021 introduced new TDS codes.
 - It is **levied on payment that exceeds a certain due limit**. It aims to deduct and collect tax from the **very source of income** to avoid tax evasion.

Related Information

Vijay Kelkar Committee Report (2002) on Direct Taxes is one of the key documents on Tax reform in India.

Related News: Supreme Court (SC) Judgement on Re-opening of Completed Assessments

- SC said that the **income tax (I-T) department** cannot **reopen completed assessments**, unless “**incriminating material**” is unearthed **during search and seizure operations**.
 - Any other **material emerging** from the **search** cannot be relied on for **issuing re-assessment orders**.
- SC delivered judgment in the backdrop of a number of appeals filed by the **revenue department**, which were dismissed by the apex court.
 - Judgment will reduce the scope for **arbitrary re-assessments** by the taxman.
- **However**, SC provided that **completed** or “**unabated**” assessment can be **reopened** if “**any other material proof**” recovered by the assessing officer (AO) indicates certain income has escaped assessment.

3.2.2. TRANSFER PRICING

Why in news?

Supreme Court altered the approach to resolving transfer pricing disputes in India.

More in news

- **Supreme Court set aside an earlier Karnataka High Court ruling** which held that in transfer pricing matters, the determination of the arm's length price (ALP) by the Income Tax Appellate Tribunal (ITAT) is final and cannot be subject to judicial scrutiny.
- The apex court **now held that any ALP determined outside the purview of relevant transfer pricing (TP) provisions** in the Income Tax Act can be considered as ‘**perverse (unjust)**’ and in such cases, the decision of the tribunal is not final.
 - In such cases, both, the Indian Revenue Authorities (IRA) as well as taxpayers, can approach a HC after a decision by the ITAT.
- The SC ruling has **restored TP issues to the same pedestal as other tax issues in India**.

About ITAT

- ITAT is a **quasi-judicial institution** set up in 1941.
- It **specializes in dealing with appeals under the Direct Taxes Acts**.
- The **orders passed by the ITAT are final**, an appeal lies to the High Court only if a substantial question of law arises for determination.
- **Starting with three Benches** at Delhi, Kolkata and Mumbai, the numbers of Benches have progressively increased and **presently ITAT has 63 Benches** in 27 different stations.

Understanding TP to reduce tax burden through an example-

- Let's say that an automobile manufacturer has two divisions: Division A, which manufactures software, and Division B, which manufactures cars.
- **Division A is in a higher tax country than Division B.**
- Division A decides to charge a lower price to Division B instead of using the market price. As a result, Division A's sales or revenues are lower because of the lower pricing resulting in lower taxes.
- On the other hand, Division B's costs of goods sold are lower, increasing the division's profits, resulting in higher taxes. But, Division B will be taxed at a lower rate than division A.
- Therefore, the **overall company can save on taxes by making Division A less profitable and Division B more profitable.**

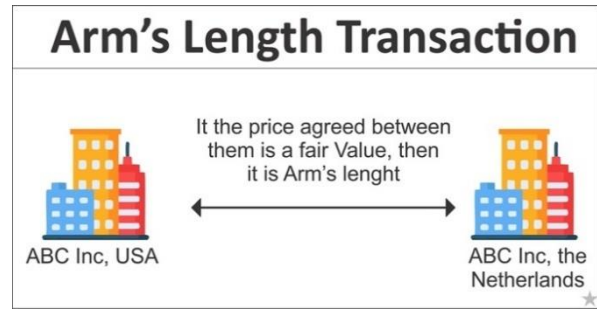
About Transfer Pricing

- Transfer pricing is an **accounting practice that allows for the establishment of prices for the goods and services exchanged between, divisions, subsidiaries or affiliates** that are part of the larger enterprise.
- **Usually, Companies use transfer pricing to reduce the overall tax burden** of the parent company.
 - This is done by charging a higher price to subsidiaries in high-tax countries (reducing profit) while charging a lower price (increasing profits) for subsidiaries in low-tax countries.

About Arm's Length Principle (ALP)

- ALP was **agreed upon by all OECD member countries** and adopted as an **objective guideline for use by multinational companies and tax administrations** in international taxation.

- It means that the price a company pays to purchase goods or services from a related company entity should be the same as if the two entities were unrelated (known as arm's length price).
 - There should be no price adjustment or special conditions for the transaction simply because the parties are related legal entities.
- Its objective is to avoid the erosion of the tax base or the transfer of profits to low tax jurisdictions.
- In India, Transfer Pricing and ALP provisions are contained in Chapter X of Income-tax Act, 1961 and arm's length price is determined by the Assessing Officer.



Related News

Advance Pricing Agreement (APA)

- In 2022-23, Central Board of Direct Taxes (CBDT) created a milestone by entering into the highest ever Advance Pricing Agreements (APAs) in a year.
- It is an agreement between a taxpayer and tax authority, determining the transfer pricing methodology for pricing the taxpayer's international transactions for future years.
- It can be Unilateral, Bilateral APA (BAPA), or Multilateral APA (MAPA).
- Income-tax Act, 1961 provides for APA.

3.2.3. KEY TERMS AND CONCEPTS IN FISCAL POLICY

<p>City Financing Ranking 2022</p>	<ul style="list-style-type: none"> 'City Finance Rankings 2022' portal has been made live by Ministry of Housing and Urban Affairs (MoHUA). About City Financing ranking 2022: <ul style="list-style-type: none"> It will provide critical insights to policy makers into state of finances of urban local bodies (ULBs). ULBs will be evaluated across three key municipal finance assessment parameters: Resource Mobilization, Expenditure Performance and Fiscal Governance. Cities will be ranked under four different population categories. Top 3 cities in each population category will be recognized and rewarded.
<p>Cost Inflation Index (CCI)</p>	<ul style="list-style-type: none"> Income Tax Department has notified CCI for current fiscal beginning April 2023. CCI is notified under Income-Tax Act, 1961 every year. <ul style="list-style-type: none"> It is popularly used to calculate "indexed cost of acquisition" while calculating capital gains at time of sale of any capital asset. Normally, an asset is required to be retained for more than 36 months (24 months for immovable property and unlisted shares) to qualify as Long-Term Capital Gains (LTCG). CCI is used to arrive at inflation adjusted purchasing price of assets so as to compute taxable LTCG.

3.3. BANKING, ASSET QUALITY, RESTRUCTURING AND MONETARY POLICY

3.3.1. MARKETS IN CRYPTO ASSETS (MiCA)

Why in News?

The European Parliament has recently passed the Markets in Crypto Assets (MiCA) legislation, which is expected to regulate the Crypto industry.

About Markets in Crypto Assets (MiCA)

- It is considered as the first set of regulations in the world establishing a legal framework for crypto-asset services providers as well as consumer protection.
- MiCA will apply directly across the European Union (EU) without any need for national implementation laws.



- MiCA regulation focuses on certain categories of crypto-assets which are currently out of scope of existing regulations - i.e., **it does not apply to non-fungible tokens (NFTs), DeFi (Decentralized Finance) & Central bank digital currencies (CBDCs).**
- **MiCA distinguishes between different types of cryptoassets** and provides regulatory requirements specific to each category. **Sub-Categorisation of Crypto assets:**
 - **Electronic Money Tokens (EMTs),**
 - **Asset Referenced Tokens (ARTs)**
 - **Utility Tokens (UTs).**
- MiCA is part of the **European Commission's digital finance strategy**, which also includes the DLT Pilot Regime and the Digital Operational Resilience Act (DORA).

Crypto-assets
Crypto-assets can be defined as a digital representation of value or rights which may be transferred and stored electronically, using distributed ledger technology or similar technology.

Different types of Tokens under Crypto Assets

- **Stablecoin (also known as electronic money tokens):** These are tokens whose values are fixed; often they are pegged to a currency such as the US dollar.
- **Security tokens :** These are tokens that indicate that the owner possesses a stake in some real world asset or enterprise.
- **Asset tokens:** These are tokens that represent real-world assets such as gold or real estate.
- **Utility tokens:** These tokens provide users with special access to a product, service, or offer, and are often issued as part of a project or company's initial coin offering (ICO).
- **Non-fungible tokens (NFT):** It is a unique token that corresponds to a specific and unique digital item (or a digital representation of a physical item).

Crypto Assets Regulation in India

- **2019:** RBI held that trading/holding/ mining of Crypto coins in India as illegal and imposed a fine of 10 Lakhs.
- **2020:** The Supreme Court nullifies the ban by RBI and advocated the Government to take a decision over the same.
- **2022:** A 30% tax was levied on the income earned from the transfer of Virtual Asset, by the Finance Ministry.
- **2023:** All transactions involving Virtual Digital Assets are brought under the purview of Prevention of Money Laundering Act.

3.3.2. KEY TERMS AND CONCEPTS IN BANKING AND MONETARY POLICY

Bank run	<ul style="list-style-type: none"> • Silicon Valley Bank is the largest bank to fail in the USA, after the 2008 financial crisis, due to consistent increases in interest rates by Federal Reserve led to a bank run situation. • Bank run is the time when a large number of people simultaneously take out their money deposited with a bank or any other financial institution over fears that it could go out of business.
Zombie Bank	<ul style="list-style-type: none"> • In backdrop of challenges posed by zombie firms to financial system, experts have suggested to identify zombie banks as well. <ul style="list-style-type: none"> ○ Zombie firms/companies survive on borrowing as they do not have enough profits to cover debt-servicing costs. • About Zombie Banks: <ul style="list-style-type: none"> ○ It is a bank that is practically insolvent but continues to exist through hiding bad loans on their balance sheet. ○ These are kept afloat to prevent panic from spreading to healthier banks. • Zombie banks resort to forbearance lending i.e., allows a borrower to temporarily stop or suspend payments of the loan.
Liberalised Remittance Scheme (LRS)	<ul style="list-style-type: none"> • Indians have invested all their surplus LRS fund in various securities overseas in past few months. <ul style="list-style-type: none"> ○ In August 2022, RBI had directed that any money that is remitted overseas by Indian residents and remains unutilised for more than 180 days needs to be repatriated back into India. • Reserve Bank of India introduced LRS in 2004. Under LRS, an individual can send a maximum of \$250,000 to an overseas jurisdiction in a year. <ul style="list-style-type: none"> ○ It is not available to corporations, partnership firms, Hindu Undivided Family (HUF), Trusts etc. • Outward remittances are discouraged as it can add pressure to forex reserves of country.
Sticky Inflation	<ul style="list-style-type: none"> • Inflation being sticky essentially means that inflation is taking longer than expected to fall. • Essentially, higher food and fuel prices have seeped into the broader economy and made other things costlier.



3.4. PAYMENT SYSTEMS AND FINANCIAL MARKETS

3.4.1. REGULATIONS BY THE SECURITIES AND EXCHANGE BOARD OF INDIA (SEBI)

Why in News?

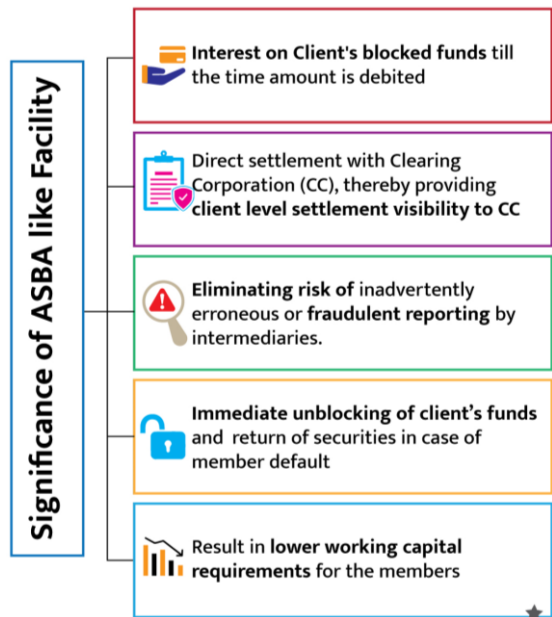
The Securities and Exchange Board of India (SEBI) Board took various decisions regarding the **regulatory environment of the secondary market**.

To fulfil its mandate of market regulation and the welfare of the investor community, **SEBI has initiated a series of reforms**.

3.4.1.1. INVESTOR PROTECTION AND PARTICIPATION

Reforms by SEBI

- **Application Supported by Blocked Amount (ASBA) - like facility** for investors to trade in the Secondary Market.
 - The facility is based on the **blocking of funds for trading** in the secondary market through UPI.
 - It will be **optional for investors** as well as stock brokers.
- **Fraud prevention: Amendment to Stock Broker Regulations 1992** to institute a formal mechanism for prevention and detection of fraud or market abuse by stock brokers.
- **Strengthening Grievance Redressal Mechanism: Amendments to Regulations to Operationalize Online Dispute Resolution (ODR) Mechanism** for investors across registered intermediaries / regulated entities:
 - **Extended the MII (Market Infrastructure Institution) administered conciliation and arbitration mechanism** to registered intermediaries / regulated entities and their investors/clients.
 - Streamlined the dispute resolution process and adopted measures to **strengthen the enforcement of awards**.



KNOW THE TERM

- **Market Infrastructure Institution (MII):** A financial entity that provides **essential infrastructure** for running the daily operations in the **Stock Market / Capital Markets**. Stock exchanges, depositories and clearing houses are all MIIs.

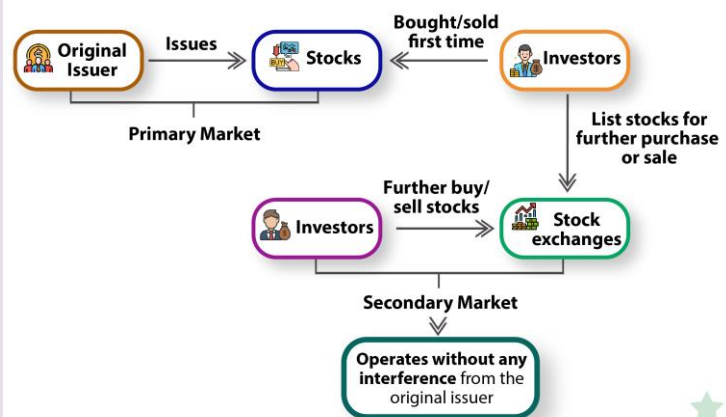
Updated Classroom Study Material

3.4.1.2. STRENGTHENING SECONDARY MARKET

Secondary Market

- The secondary market is where **investors buy and sell securities, they already own**.
 - Investors **exchange with each other rather than with the issuing entity**.
- When a company **issues stock or bonds for the first time** and sells those securities directly to investors, that transaction occurs on the **primary market**.
 - Some common primary market transactions are **Initial Public Offering (IPO), Private Placement, Rights Issue** etc.
- If these initial investors **later decide to sell their stake** in the company, they can do so on the **secondary market**.

What is a Secondary Market?



Reforms by SEBI

- **Framework for Corporate Debt Market Development Fund (CDMDF)**
 - **CDMDF as AIF:** SEBI Board approved the amendments to **SEBI (Alternative Investment Funds (AIF)) Regulations, 2012** for setting up of CDMDF as an AIF.
 - **Backstop Facility:** CDMDF will act as a **Backstop Facility** (short-term lending arrangement) for the purchase of investment-grade corporate debt securities during times of stress to **instil confidence** amongst the participants and to **enhance secondary market liquidity**.
 - **Function:** CDMDF, based on a **guarantee to be provided by the National Credit Guarantee Trust Company (NCGTC), may raise funds**, for the purchase of corporate debt securities during market dislocation.
- **Timely disclosures to empower shareholders: Amendments to SEBI (Listing Obligations and Disclosure Requirements (LODR)) Regulations** to facilitate more comprehensive and timely disclosure of material events or information by listed entities.
- **General Information Document (GID) and Key Information Document (KID)** for issuance of Bonds/Commercial Paper.
 - A **GID** shall be filed with the stock exchanges **at the time of first issuance** while **for subsequent private placements**, a **KID** shall be filed.

3.4.1.3. ESG

Reforms by SEBI

- **Balanced Framework for ESG (Environmental, Social and Governance) Disclosures, Ratings and Investing**
 - **ESG Disclosures:** It prescribed a glide path for introducing the **BRSR (Business Responsibility and Sustainability Report) Core**.
 - **ESG Ratings:** ESG Rating Providers (ERPs) shall be required to consider **India/Emerging Market parameters** in ESG Ratings.
 - ✓ In order to facilitate the credibility of ESG Ratings, ERPs shall offer a **separate category of ESG Rating called as ‘Core ESG Rating’**, based on the assured parameters under BRSR Core.
 - **ESG Investing:** These measures shall be introduced in order to **address the risk of miss-selling and greenwashing**, to **enhance stewardship reporting** requirements and to promote ESG investing.
 - ✓ **Mis-selling:** It is a sales practice in which a product or service is deliberately or recklessly misrepresented or a customer is misled about its suitability for the purpose of making a sale.
 - ✓ **Greenwashing:** Greenwashing is the process of conveying a false impression or misleading information about how a company’s products are environmentally sound.
- **Regulatory framework for ERPs in the Securities Market** by introducing a new chapter in the SEBI (Credit Rating Agencies) Regulations, 1999.



3.4.1.4. REGULATORY FRAMEWORK FOR INDEX PROVIDERS

Reforms by SEBI

- **Introduction of Regulatory Framework for Index Providers:** In December 2022, SEBI mooted a **draft regulatory framework** for index providers, whose provisions included:
 - **Registration:** The index providers offering indices for use in India will be required to **register with SEBI**.

KNOW THE TERM

- **Index Provider:** An index provider is a specialized firm that is **dedicated to creating and calculating market indices**. These measure market movements and provide benchmarks for measuring investment performance. **Index Providers in India** include NSE Indices and the Asia Index Pvt. Ltd.

- **Oversight:** The index provider will have to constitute an **oversight committee** for reviewing existing index design and benchmark methodology.
- **Protecting independence:** The index provider must have **policies and procedures to manage conflicts of interest** and ensure **integrity and independence**.
- **Adherence to international principles:** The index providers must be **assessed by independent external auditors** to evaluate **adherence to International Organization of Securities Commissions (IOSCO) principles** once in two years.

3.4.2. KEY TERMS AND CONCEPTS IN PAYMENT SYSTEMS AND FINANCIAL MARKETS

Interchange Fee on UPI Transactions	<ul style="list-style-type: none"> • The National Payments Corporation of India (NPCI) has introduced interchange fees on merchant UPI transactions done using prepaid payment instruments from April 1, 2023. • An interchange fee is paid by a merchant's bank (the acquirer and QR code provider) to the customer's wallet issuer for the acceptance of UPI payments. • The interchange fee will not be applicable to <ul style="list-style-type: none"> ○ Bank account to bank account-based UPI payments (i.e., normal UPI payments) ○ Peer-to-peer (P2P) transactions ○ Peer-to-peer-merchant (P2PM) transactions between a bank and the prepaid wallet.
Mission 'Har Payment Digital'	<ul style="list-style-type: none"> • It was launched by the Reserve Bank of India (RBI) during Digital Payments Awareness Week (6th to 12th of March) 2023 to encourage digital payments adoption. • RBI also launched '75 digital villages programme' to adopt 75 villages and convert them into digital payment-enabled villages.
Green deposits	<ul style="list-style-type: none"> • RBI issued framework for acceptance of 'green deposits' • About Green deposits: Green deposit means an interest-bearing deposit, received by regulated entities (REs) for a fixed period and proceeds of which are earmarked for being allocated towards green finance. • Key highlights of the framework for acceptance of green deposits <ul style="list-style-type: none"> ○ Applicability: <ul style="list-style-type: none"> ✓ Scheduled Commercial Banks including Small Finance Banks (excluding Regional Rural Banks, Local Area Banks, and Payments Banks) ✓ All Deposit-taking Non-Banking Financial Companies (NBFCs) registered with RBI including Housing Finance Companies (HFCs). ○ Green deposits shall be denominated in Indian Rupees only.
Green Shoe Option	<ul style="list-style-type: none"> • Ministry of Finance decided to exercise the green shoe option as the offer-for-sale of Hindustan Aeronautics Ltd has received a good response. • Also called an overallotment option, the Green shoe option is an option to sell additional shares during an Initial Public Offering (IPO). <ul style="list-style-type: none"> ○ An IPO is the selling of securities to the public in the primary market.
Surety Bonds	<ul style="list-style-type: none"> • Recently, New India Assurance announced the launch of its surety bond business. • A surety bond is a promise to be liable for debt, default, or failure of another. • It is a three-party contract by which one party (surety) guarantees performance or obligations of a second party (principal) to a third party (obligee). <ul style="list-style-type: none"> ○ Surety can be insurance/banks, Principal any contractor and obligee a government. • A surety is not a bank guarantee and is not an insurance policy.
Chinese wall policy	<ul style="list-style-type: none"> • SEBI has amended rules governing stock exchanges and clearing corporations to follow a "Chinese Wall policy" to separate the functions under a vertical. • Chinese wall policy is a virtual information barrier erected between those who have material, non-public information, and those who don't, to prevent conflicts of interest. • It is intended to prevent misuse of inside information in securities trading by limiting availability of material, non-public information to departments of firm that might misuse such information
Dabba (box) trading	<ul style="list-style-type: none"> • National Stock Exchange (NSE) issued notices naming entities involved in dabba trading. • Dabba trading is informal trading that takes place outside the purview of stock exchanges. <ul style="list-style-type: none"> ○ Traders bet on stock price movements without incurring a real transaction to take physical ownership of a particular stock as is done in an exchange. • Since there are no proper records of income or gain, it helps dabba traders escape taxation. • It is recognised as an offence under Securities Contracts (Regulation) Act (SCRA), 1956.
Short Selling	<ul style="list-style-type: none"> • Short selling is one of many investment strategies in which an investor bets on a stock or assets in the expectation that its price will fall in the future.

- The investor borrows (rather than purchasing) shares of stock/ asset from a lender and sells them in the market. If the price falls, the investor can repurchase it at the lower price, return them to the original lender, and **pocket the difference as profit.**

Short Selling

The diagram illustrates the short selling process in five steps: 1. Short seller borrows 10 shares of ABC stock from a Broker. 2. Short seller sells 10 shares of ABC stock for \$500 in the Market. 3. Stock loses value. 4. Short seller buys 10 shares of ABC stock for \$400 in the Market. 5. Short seller returns 10 shares of ABC stock and keeps \$100 to the Broker.

3.5. FOREIGN TRADE POLICY 2023

Why in News?

The **Union Ministry of Commerce and Industry** notified the Foreign Trade Policy 2023.

About FTP 2023

- Notification:** FTP 2023 is notified by Central Government, in the exercise of powers conferred under **Section 5 of the Foreign Trade (Development & Regulation) Act, 1992.**
- Principles:** It is based on the **continuity of time-tested schemes**, adopting principles such as **responsiveness to the requirements of trade** and **'trust' and 'partnership' with exporters.**
- FTP 2015-20:** It was **extended** due to the COVID-19 pandemic and volatile geo-political scenario **till March 2023.**
 - India has reached **record high Export Performance** and India's Merchandise and Services exports are expected to **cross record USD 760 Billion** in FY 2022-23.
- Need for the policy:** A clearly demarcated FTP is required for **promoting exports** through collaboration, ease of doing business, identifying potential areas of trade relations and **beneficial integration into the global economy.**

India's Trade Profile (FY 2022-23)

India's Exports

Fiscal Year	Exports (US\$ Bn)	Change (%)
FY 2016	435	-
FY 2022	676	55.4%
FY 2023	760	74.7%

India's Trade Balance

Category	FY 2021-22 (USD Bn)	FY 2022-23 (USD Bn)
Merchandise Trade Deficit	191.05	266.78
Services Trade Surplus	107.52	144.78
Overall Trade Deficit	83.53	122

India's Export Target

2 Trillion Dollars for Goods and Services by 2030

India's Top Export Commodities

- Petroleum
- Electronic Goods
- Rice
- Chemicals
- Drugs and Pharmaceuticals

India's top import source nations

- China
- UAE
- USA
- Russia

India's top export destinations

- USA
- UAE
- Netherlands
- China

Four Pillars of New FTP Approach

- From Incentives to Tax Remission**
- Greater Trade facilitation** through technology, automation, and continuous process re-engineering
- Export promotion** through collaboration: Exporters, States, Districts
- Focus on Emerging Areas** – E-Commerce Exports, Developing Districts as Export Hubs, Streamlining SCOMET policy

3.5.1. TRADE FACILITATION AND EASE OF DOING BUSINESS (EODB)

Initiatives taken

- **National Committee on Trade Facilitation (NCTF):** To facilitate coordination and implementation of WTO's Trade Facilitation Agreement (TFA).
 - **WTO's TFA** came into force in **2017** to **address the issue of "red tape" across borders** and streamline the movement of goods.
- **Initiatives by Directorate General of Foreign Trade (DGFT):** Facilitator of exports and imports. It also consults various Export Promotion Councils and Trade and Industry Bodies.
 - **Niryat Bandhu:** Being implemented for mentoring new and potential exporters.
 - **Issuance of e-IEC (Electronic-Importer Exporter Code):** IEC is a 10-character alpha-numeric number allotted to an entity and is **mandatory for undertaking any export/import activity**.
 - **e-Certificate of Origin (e-CoO):** Online facility for CoO. e-CoO has a unique number i.e., **UDIN (Unique Document Identification Number)** and a **QR code** for validation.
 - **Online facility to file Quality Control and Trade Disputes (QCTD).**
- **Initiatives for Trade facilitation at customs:**
 - **E-Sanchit** – enabling paperless clearance environment
 - **TURANT Customs** and **TURANT Suvidha Kendras** for contactless Customs clearance processes
- **Towns of Export Excellence (TEE):** For development and growth of export production centres.
 - Selected towns **producing goods of Rs. 750 Crore or more** may be notified as TEE based on the potential for growth in exports (TEE in Handloom, Handicraft, Agriculture and Fisheries sector, **threshold limit would be Rs.150 Crore**).
- **Rationalization of the criteria of Status Holder Certification:** "Status Holder" certificate is to recognize exporter firms as **business leaders** who have excelled in international trade and have contributed to the country's foreign trade.



3.5.2. EXPORT PROMOTION INITIATIVES BY FTP 2023

About Export Promotion

Export Promotion refers to initiatives which enhance the potential of export activities at the company, industry, state or national level. The following initiatives have been taken to fulfil this objective-

Districts as Export Hubs Initiative

- **Institutional Mechanism:** At the State and District level to strategize exports (**State Export Promotion Committee & District Export Promotion Committee (DEPC)**).
 - Preparation of **District Export Action Plans (DEAPs)** by DEPCs and their online monitoring.
 - **Export promotion outreach programs** in districts to focus on branding, packaging, design and marketing of identified products & services.
 - Districts to focus on the **development of logistics, testing facilities, connectivity for exports** and other export-oriented ecosystems.
 - **Convergence of ongoing schemes** to support these initiatives.

KNOW THE TERM

- **Capital Goods:** It means any **plant, machinery, equipment** or **accessories** required for **manufacture** or **production**, either directly or indirectly, of **goods** or for **rendering services**, including those required for **replacement, modernisation, technological** up-gradation or expansion.
- **Export Obligation:** It means obligation to **export products** covered by **Authorisation** or **permission** in terms of **quantity, value** or both, as may be specified by **Regional** or **competent** authority.
- **Manufacturer Exporter:** A person who **exports goods manufactured** by him or intends to export such goods.
- **Merchant Exporter:** A person engaged in **trading activity** and **exporting** or in tending to export goods.

Export Promotion of Capital Goods (EPCG) Scheme

- **Objective:** To facilitate the import of capital goods for producing quality goods and services and enhance India's manufacturing competitiveness.
 - It allows the **import of capital goods at zero customs duty**.
- **Eligibility:** It covers **manufacturer exporters, merchant exporters, and service providers** who are certified as Common Service Providers (CSP) by the DGFT.
- **Export Obligation:** Imports under EPCG are subject to Average Export Obligation (AEO). However, some sectors have been **exempted from AEO requirements**.

Export Promotion Units

- **Eligible units:** Units which **export their entire production of goods and services**, may be set up under the **Export Oriented Unit (EOU) Scheme, Electronics Hardware Technology Park (EHTP) Scheme, Software Technology Park (STP) Scheme or Bio-Technology Park (BTP) Scheme** for the manufacture of goods.
 - **Trading units are not covered** under these schemes.
- **Objective:** To **promote exports, enhance foreign exchange earnings, and attract investment** for export production and employment generation.

Deemed Exports

- **Definition:** Deemed Exports refer to those transactions in which **goods supplied do not leave the country, and payment for such supplies is received either in Indian rupees or in free foreign exchange**.
 - In simpler terms, under deemed export, the goods can be sold within India to anybody who holds a licence for the import of these very goods. The seller selling the said goods against an import licence is the deemed exporter and the buyer is the deemed importer.
- **Objective:** To provide a **level-playing field to domestic manufacturers** and to promote Make in India.



3.5.3. OTHER INITIATIVES BY FTP 2023

Quality Complaints and Trade Disputes

- **Committee on Quality Complaints and Trade Disputes (CQCTD):** CQCTD will be constituted in the Regional Authorities (RAs) of DGFT.
 - CQCTD will be responsible for **enquiring and investigating all Quality related complaints and other trade-related complaints** falling under the jurisdiction of the respective RAs.
- **Coverage:** Under this mechanism, **complaints/disputes between two or more Indian entities are not covered**. Similarly, complaints/disputes between two or more foreign entities are also not covered.
- **Nature:** CQCTD proceedings are **conciliatory in nature** and the aggrieved party is free to pursue any legal recourse against the other erring party.

Promoting Cross Border Trade in Digital Economy

- **Promotion of e-commerce exports: Niryat Bandhu Scheme (NBS)** shall have a component for the **promotion of e-Commerce** and other emerging channels of exports.
 - DGFT shall organise **outreach activities/workshops** in partnership with Customs Authorities, the Department of Post, 'Industry Partners' and 'Knowledge Partners' for the promotion of e-Commerce exports.
- **E-Commerce Export Hubs (ECEHs):** To establish designated areas as ECEHs, which would act as a **centre for favourable business infrastructure and facilities** for Cross Border E-Commerce activities.
- **Promotion of e-commerce exports through postal route: Dak Ghar Niryat Kendras** shall be operationalised throughout the country to work in a **hub-and-spoke model** with Foreign Post Offices (FPOs) to facilitate cross-border e-Commerce.

Duty Exemption / Remission Schemes

- **Advance Authorisation (AA):** Imports under AA are exempted from payment of Basic Customs Duty, Additional Customs Duty, Education Cess, Anti-dumping Duty, Countervailing Duty, Safeguard Duty, Transition Product Specific Safeguard Duty, wherever applicable.

- **Duty-Free Import Authorization (DFIA):** Duty-Free Import Authorisation shall be **exempted only from payment of Basic Customs Duty (BCD).**
- **Schemes for Remission of Duties and Taxes on Exported Products (RoDTEP):** Its objective is to **refund, currently unrefunded duties/taxes/levies**, at the Central, State and local level, **borne on the exported product.**
 - It was **notified by the Department of Commerce, Ministry of Commerce and Industry** and is administered by the **Department of Revenue, Ministry of Finance.**

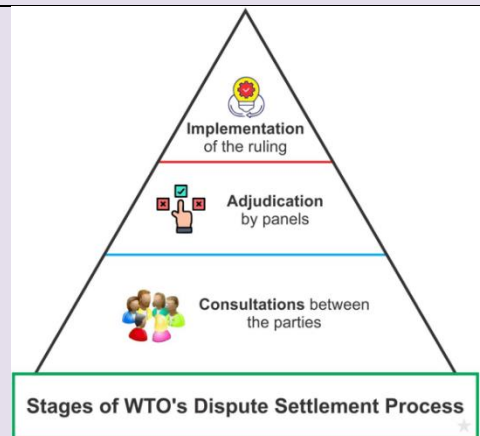
SCOMET: Special Chemicals, Organisms, Materials, Equipment and Technologies

- **Regulation of dual use items:** In consonance with the guidelines and control lists of international conventions and obligations as well as Multilateral Export Control Regimes (MECRs), India has **regulated the exports of dual-use items**, nuclear-related items, including software and technology viz. SCOMET.
 - It is **either prohibited or permitted under an authorization** unless specifically exempted.
- **SCOMET list: It is India's National Export Control List** and is aligned to the control lists of all the MECRs and conventions.
 - SCOMET items are regulated under the **Weapons of Mass Destruction and their Delivery Systems (Prohibition of Unlawful Activities) Act, 2005.**
 - Imported goods covered under the SCOMET list are **not permitted for export.**

SCOMET Category	SCOMET items	Jurisdictional Licensing Authority
0	Nuclear materials, nuclear-related other materials, equipment and technology	Department of Atomic Energy (DAE)
1	Toxic chemical agents and other chemicals	Directorate General of Foreign Trade (DGFT)
2	Micro-organisms, Toxins	DGFT General
3	Materials, Materials Processing Equipment and related Technologies	DGFT
4	Nuclear-related other equipment and technology, not controlled under Category '0'	DGFT
5	Aerospace systems, equipment, including production and test equipment, and related Technology and specially designed components and accessories thereof.	DGFT
6	Munitions List	Department of Defence Production (DDP)/ Ministry of Defence
7	'Reserved'	DGFT
8	Special Materials and Related Equipment, Material Processing, Electronics, Computers, Telecommunications, Information Security, Sensors and Lasers, Navigation and Avionics, Marine, Aerospace and Propulsion.	DGFT ★

3.5.4. KEY TERMS AND CONCEPTS IN THE EXTERNAL SECTOR

<p>Amnesty scheme</p>	<ul style="list-style-type: none"> • Ministry of Commerce stated that cases under investigation for fraud, and misdeclaration of capital goods will be excluded from coverage of the amnesty scheme. • Amnesty scheme was announced under new foreign trade policy (FTP). <ul style="list-style-type: none"> ○ Scheme offers a one-time settlement of default in export obligation (EO) by the holders of advance and EPCG (export promotion for capital goods) authorizations. ○ However, no interest is payable on the portion of additional customs duty and special additional customs duty.
<p>WTO Dispute Settlement System (DSS)</p>	<ul style="list-style-type: none"> • Recently, WTO panel has observed that India had violated global trading rules in an ongoing dispute with European Union (EU), Japan and Taiwan over import duties on IT products such as mobile phones • WTO Dispute Settlement System (DSS) came into force on 1 January 1995. It was created by implying several modifications and improvements to GATT 1947. • There are two main ways to settle a dispute once a complaint has been filed in WTO <ul style="list-style-type: none"> ○ Parties find a mutually agreed solution, particularly during phase of bilateral consultations; ○ Through adjudication, including subsequent implementation of panel and Appellate Body reports, which are binding upon parties once adopted by Dispute Settlement Body (DSB).



Investment Facilitation Agreement (IFA)	<ul style="list-style-type: none"> Due to logjam in World Trade Organization (WTO), there is prolific activity taking place with regards to IFA. Launched in 2017 by a group of developing and least-developed WTO members, joint initiative aims at developing a multilateral agreement on Investment Facilitation for Development that will improve investment and business climate. Backed by more than 100 countries, proposed IFA is meant to create legally binding provisions aimed at facilitating investment flows. <ul style="list-style-type: none"> It does not include India.
Global Sovereign Debt Roundtable (GSDR)	<ul style="list-style-type: none"> GSDR has agreed on improving information sharing, including on macroeconomic projections and sustainability assessments, at an early stage of debt restructuring processes. Objective of GSDR is to build greater common understanding (by focussing on process and standards) among key stakeholders involved in debt restructurings processes. GSDR is co-chaired by IMF, World Bank and India (G20 Presidency). <ul style="list-style-type: none"> It comprises of official bilateral creditors (both traditional creditors members of the Paris Club and new creditors), private creditors and borrowing countries.

3.6. LABOUR AND EMPLOYMENT

3.6.1. GIG ECONOMY

Why in news?

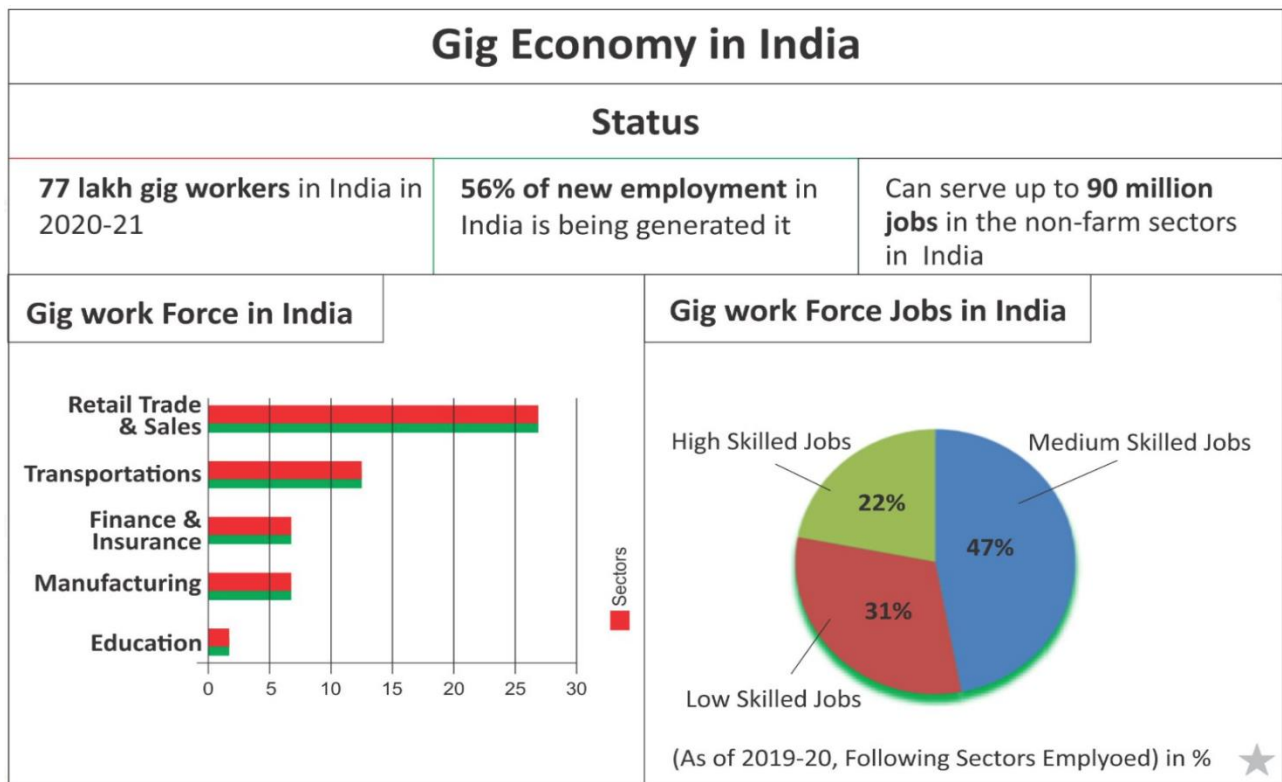
Recently, **Blinkit delivery agents went on strike** as a reaction to changes in their pay structure.

More about news

- The protests are primarily happening at **dark stores.**
 - A dark store is a **brick-and-mortar location that has been shut down** and turned into a centre for fulfilment operations.
- These protests show **the rising conflict between workers and firms in the gig economy.**

What is Gig Economy and Gig Worker?

- A **Gig economy** is a free market system in which temporary positions are common and organizations contract **with independent workers for short-term engagements.**
- Gig Workers** are those engaged in livelihood outside the traditional employer-employee arrangement. **They can be broadly classified into-**
 - Platform Gig Workers:** Those whose work is based on online software, apps, or digital platforms such as food aggregator platforms- Zomato, Swiggy, Ola, and others.
 - Non-Platform Gig Workers:** They are generally casual waged and own-account workers in the conventional sector, engaged part-time or full-time.



3.6.2. KEY TERMS AND CONCEPTS IN LABOUR AND EMPLOYMENT

<p>Captive Employment</p>	<ul style="list-style-type: none"> • Union Ministry for Rural Development (MoRD) has initiated ‘Captive Employment’ under the Deen Dayal Upadhyaya Kaushalya Yojana (DDU-GKY). • A Captive Employer is any Employer or Industry that provides employment to candidates in their own organization or one of its subsidiaries after training. • DDU-GKY is a placement-linked skilling program of the MoRD under the aegis of the National Rural Livelihood Mission (NRLM).
----------------------------------	---

3.7. INNOVATION, SKILL DEVELOPMENT AND ENTREPRENEURSHIP

3.7.1. START-UP FUNDING ECOSYSTEM

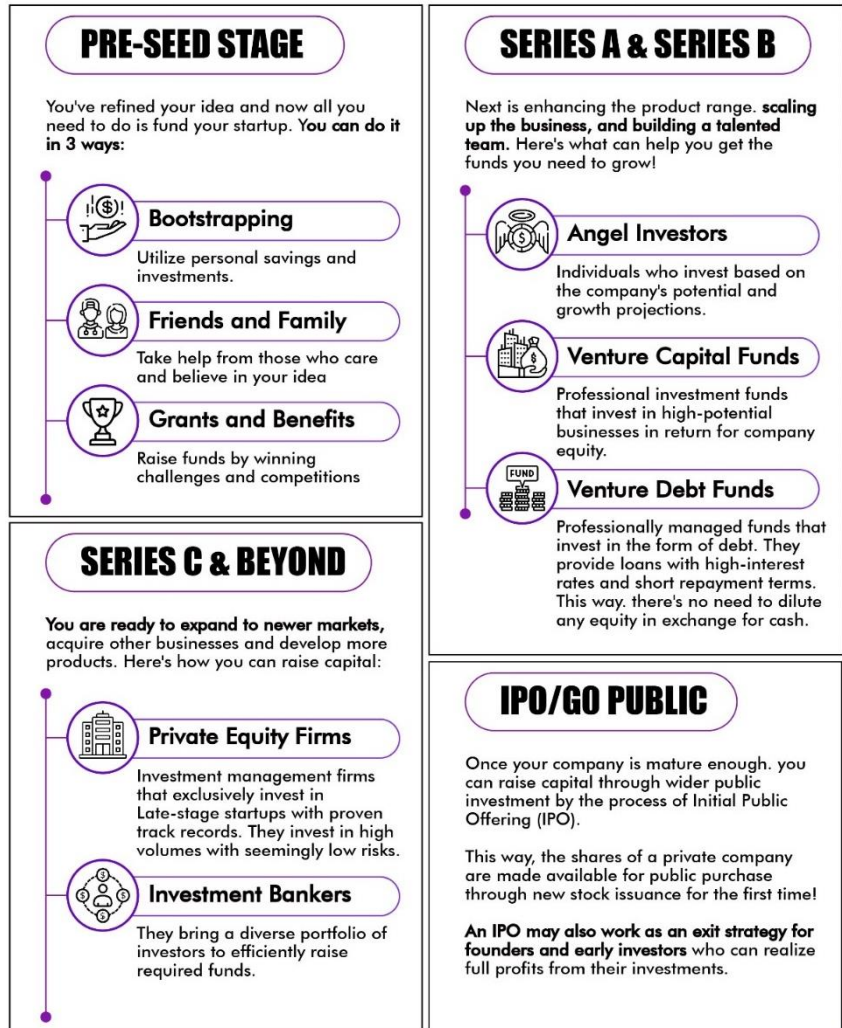
Why in news?

In the recent past, several reports have highlighted that the availability of funding has significantly decreased.

More on news

- **Markers showing funding unavailability:**
 - Indian startups are seeing job losses and delayed IPOs
 - India Q1 2023 startup funding stood at \$2 In, 75% lower than 2022
- Global factors such as **high rates and inflation** have weighed on the investment climate in India (as **Indian Startups are heavily reliant on foreign capital**).

Start-up Funding Ecosystem

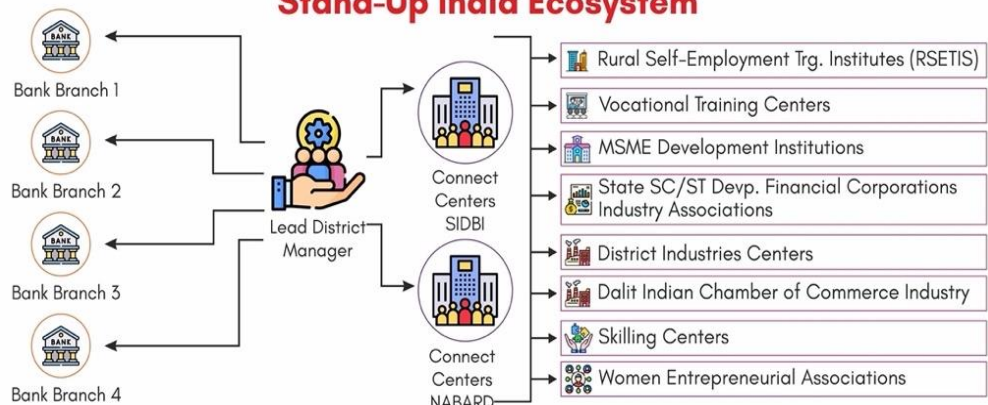


3.7.2. STAND-UP INDIA

Why in news?

Recently, **Prime Minister** acknowledged **Stand-Up India's** role in empowering the SC/ST communities, women, and job creation at the completion of 7 years of the Scheme.

Stand-Up India Ecosystem



About the scheme

- **Ministry:** It was launched in 2016 under the **Ministry of Finance, Government of India.**
 - This scheme has been **extended up to 2025.**
- **Objective:** To **promote entrepreneurship** among **Scheduled Castes (SCs)/Schedule Tribes (STs) and Women.**
- **Features:**
 - It covers all branches of **Scheduled Commercial Banks** (bank loans of **₹10-100 lakh to at least one SC/ST and one-woman borrower** per branch).
 - Applicants can draw up to **₹10 lakhs as working capital by an Overdraft.**
 - **The government does not allocate funds** for loans under the Stand-Up India Scheme. **It can be accessed in three potential ways:**
 - ✓ Directly at the branch
 - ✓ Through Stand-Up India Portal
 - ✓ Through the Lead District Manager (LDM)

Eligibility Criteria



3.7.3. KEY TERMS AND CONCEPTS IN INNOVATION AND ENTREPRENEURSHIP

<p>Evergreening</p> <ul style="list-style-type: none"> • India rejected Johnson & Johnson’s (J&J’s) attempt to extend its monopoly on the lifesaving TB drug Bedaquiline’. • Patent Evergreening refers to the practice used by pharmaceutical firms to extend the patent life of a drug through minor reformulations or other iterations of the drug, without necessarily increasing the therapeutic efficacy. • Section 3(d) of the Indian Patent Act (IPA), 1970 stops the evergreening of patents as it bars patents to the mere discovery of a new form of a known substance with no known efficacy enhancement. • Term of every patent in India is twenty years from the date of filing of the patent application. 	
---	--

3.8. AGRICULTURE

3.8.1. PRIMARY AGRICULTURAL CREDIT SOCIETIES

Why in news?

The Cabinet cleared a plan for setting up 2 lakh Primary Agricultural Credit Societies (PACS), dairy, and fisheries cooperatives in the country in the next five years.

More on news

- It will **establish**
 - **PACS** and viable **dairy cooperatives** in each uncovered panchayat/village and
 - **Viable fishery** cooperatives in each **coastal** panchayat/village as well as panchayat/village having large **water bodies.**
- PACS / dairy/fishery cooperative societies would be **linked with their respective District and State level Federations.**

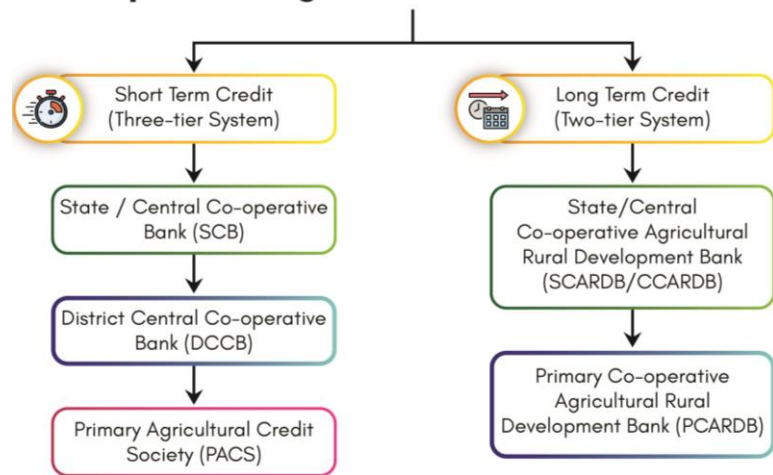
DO YOU KNOW?

- **Co-operative societies are not banks** and they cannot use the words “bank”, “banker” or “banking” as part of their names except as permitted by the RBI.
- Additionally, the insurance cover from **Deposit Insurance and Credit Guarantee Corporation (DICGC) is also not available** for deposits placed with these societies.

About PACS

- PACS constitute the **lowest tier of the short-term cooperative credit (STCC) structure** in the country (refer to infographics).
- **Regulation:** They are outside the purview of the Banking Regulation Act, 1949 and are **not regulated by the RBI.**
 - However, SCBs/DCCBs are registered under the provisions of the **State Cooperative Societies Act** of the State concerned and are **regulated by the RBI.**
 - PACS are **refinanced by NABARD** through DCCBs and SCBs.
- **Functions:** Other than short-term credit, they can also provide other **input services**, like seed, fertilizer, and pesticide distribution to member farmers.
- **Significance:** They ensure **financial inclusion** of the most vulnerable rural population.

Co-operative Agricultural Credit Structure



3.8.2. SATHI (SEED TRACEABILITY, AUTHENTICATION AND HOLISTIC INVENTORY) PORTAL

Why in news?

Ministry of Agriculture & Farmers Welfare (MoA&FW) launched SATHI Portal and mobile app.

About SATHI

- **SATHI (Seed Traceability, Authentication and Holistic Inventory) Portal and Mobile App** is a Centralized Online System.
- It is created for **seed traceability, authentication and inventory** designed to **deal with challenges of seed production, quality seed identification and seed certification.**
 - **Seeds' authenticity can be traced through a QR code system.**
 - Portal has been **developed by National Informatics Centre** in collaboration with **MoA&FW** on the theme of **'Uttam Beej – Samridh Kisan.**
 - **It'll consist of integrated 7 verticals of the seed chain** - Research Organisation, Seed Certification, Seed Licensing, Seed Catalogue, Dealer to Farmer Sales, Farmer Registration and Seed DBT.

Seed Certification in India

- **Seed certification** is a process designed to **maintain and make available to the general public continuous supply of high-quality seeds.**
- Seeds with valid certification can **only be sold by valid licensed dealers to centrally registered farmers** who will receive subsidy through DBT directly into their pre-validated bank accounts.
- In India, **legal status to seed certification** was given by **Enactment of Seeds Act, 1966.** Seed certification is **voluntary but labelling is compulsory in India.**
- **IPR in agriculture in India**
 - **India Patent Act 1970** provides **patents for agricultural tools and machinery or processes of development** of agricultural chemicals.
 - **Protection of Plant Varieties and Farmers' Rights (PPV&FR) Act, 2001** provides rights to farmers who have **bred or developed a new variety.**
 - It's the world's only IPR legislation which **grants IPR to plant breeders and farmers by protecting new, extant and farmers' varieties.**

Related News

Open-Source Seeds Movement (OSSM)

- OSSM affirms that **plant genetics and their physical traits cannot/shouldn't be owned by individuals or corporations.**

- Genetics of open-source seeds are protected and pledged to forever remain in the public domain.
- This is done by providing new varieties with an open-source licence.
- No one is allowed to privatise the seed and its further developments; patent and plant-variety protection are thus excluded.

3.8.3. PRICES OF TOPS

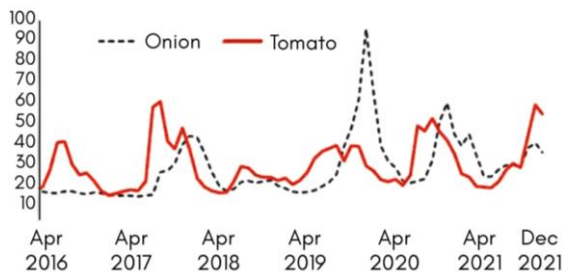
Why in news?

The kharif onion crop prices have seen a sharp decline due to surplus production.

About the price of TOPs

- Tomatoes, onions and potatoes, popularly known as the TOP vegetables, are the three largest cultivated, produced and consumed vegetables in India.
- India is the second-largest producer of all three vegetables in the world after China.
- However, prices of these commodities have seen many fluctuations in agriculture commodities among all crops for multiple reasons (refer to the graph).

Retail Prices of tomato and onion



Reasons for volatility in price of TOPs

- **Production challenges**
 - **Seasonality:** Harvest season puts downward pressure on the price whereas the sowing season puts upward pressure on the price for TOP.
 - **Erratic weather:** Irregular weather shocks like hailstorms, heat waves, heavy rainfall, etc.
 - **Poor extension services:** Gaps in extension services such as technical advice to farmers.
- **Storage and processing**
 - **Inadequate storage facilities**
 - **Disparity in storage facilities:** Around 60% of the capacity of cold storage is concentrated in the states of Uttar Pradesh, West Bengal and Bihar.
- **Administrative issues**
 - **Ineffective implementation of schemes** like Operation Greens
 - **Limited Institutional credit**

Key Conditions of Growth of TOPs

Specification	🍅 Tomato	🧅 Onion	🥔 Potato
Ideal Temperature	21-24°C and bright sunshine at the time of fruit set	13-25°C	20°C-24°C
Ideal Rainfall	600mm-1500 mm	650-750 mm	1200 - 2000 mm per annum
Season	May - June Nov - Dec	April - May and October - November	Hills- Jan-Feb Plains- Oct-Nov
Soil	Well drained loamy soils rich in organic matter with a pH range of 6.5-7.5.	Deep, friable loam and alluvial soils. With pH range of 6-7	Any type of soil except saline and alkaline soils. The pH range is 4.8 to 5.4.
Leading producers	Andhra Pradesh, Madhya Pradesh, Karnataka	Maharashtra, Karnataka, Madhya Pradesh	Himachal Pradesh, Punjab, Uttar Pradesh

Initiatives taken for stability in prices of TOPs

- **Operation Greens:** It was launched on the lines of Operation Flood to address price volatility of TOPs and it was extended to all fruits & vegetables (TOTAL) in 2020.
- **Gramin Agricultural Markets (GRAMs):** Rural haats (village markets) are being developed into Gramin Agricultural Markets (GRAMs) for farmers to directly sell their produce.
- **Mission for Integrated Development of Horticulture (MIDH):** For holistic development of horticulture and low-cost onion storage structure.
- **Agricultural Marketing Infrastructure (AMI) for rural godowns:** It enables small farmers to enhance their holding capacity to sell their produce at remunerative prices and avoid distress sale.
- **Price Stabilisation Fund (PSF):** To undertake market intervention operations to regulate the price volatility of important agri-horticultural commodities like onion, potatoes, and pulses.
 - Provides interest free advance of working capital to Central Agencies, State/UT Governments/Agencies.

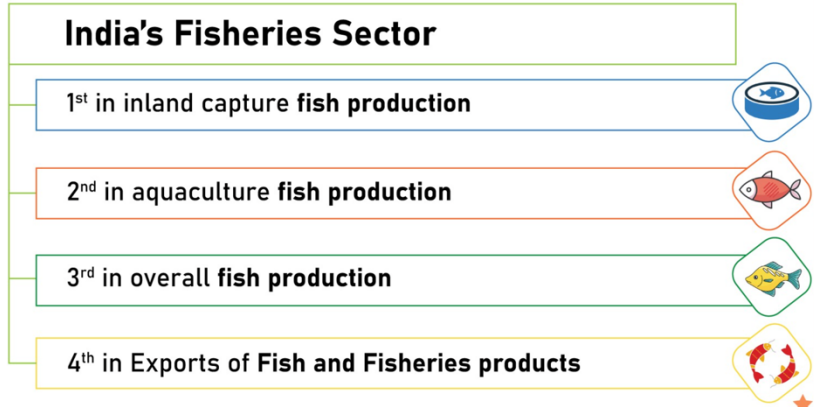
3.8.4. AQUACULTURE SECTOR

Why in News?

The Ministry of Fisheries, Animal Husbandry and Dairying introduced the **Coastal Aquaculture Authority (Amendment) Bill, 2023**.

More on News

- The bill seeks to **amend** certain provisions of the **Coastal Aquaculture Authority (CAA) Act, 2005** and **decriminalise offences** under it.
 - This 2005 act **established the Coastal Aquaculture Authority** for regulating coastal aquaculture.
- It aims at promoting **ease of doing business** and **fine-tuning the operational procedures** of the Coastal Aquaculture Authority.



Features of the Bill

- Definitions:**
 - Aquaculture:** It basically refers to the **breeding, rearing, and harvesting** of fish, shellfish, algae, and other organisms in all types of water environments.
 - Coastal Aquaculture:** The Amended Bill defines “Coastal Aquaculture” as the **rearing and cultivation of any life stages of fish**, including crustaceans, molluscs, finfish, seaweed or any other **aquatic life under controlled conditions**, either indoor or outdoor, in saline or brackish water in coastal areas.
 - It also includes activities such as the production of broodstock, seed, and grow-out, but does **not include freshwater aquaculture**.

Coastal Aquaculture Authority (CAA)

Chennai, Tamil Nadu

Genesis: It is a **statutory body**, established under the **Coastal Aquaculture Authority Act, 2005**. It functions under the **Ministry for Fisheries, Animal Husbandry and Dairying**.

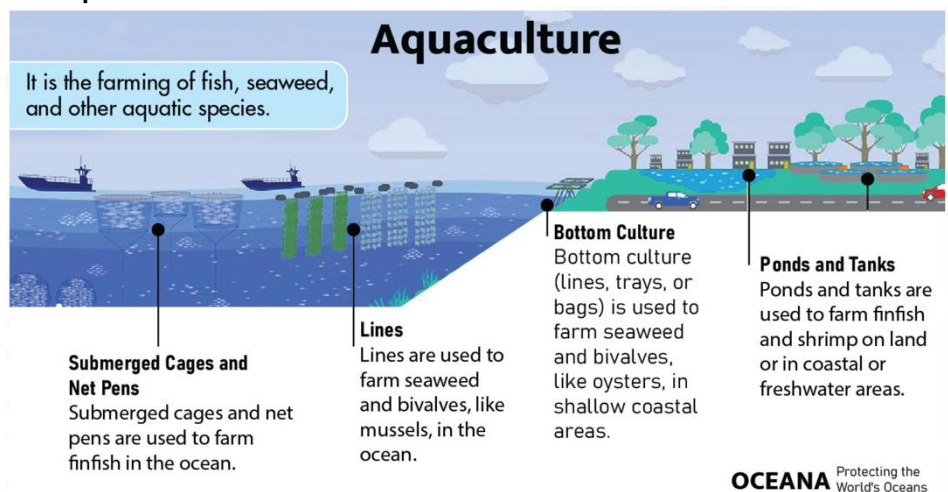
Objective: To **regulate coastal aquaculture activities** in coastal areas in order to **endure sustainable development** without causing damage to the coastal environment.

Functions:

- Regulating the **construction and operation** of aquaculture farms in coastal areas,
- Inspection** of farms to ascertain their environmental impact,
- Registration** of aquaculture farms,
- Fixing standards** for inputs and effluents,
- Removal or demolition** of coastal aquaculture farms, which **cause pollution** etc.

Composition: It comprises of **11 members** including the Chairperson, who is, or has been, a Judge of a High Court.

- Scope:** It expands the scope of the CAA Act **beyond coastal aquaculture ‘farms’ to cover all the verticals and activities of coastal aquaculture** for its sustainable development.
- Regulation of allied coastal aquaculture activities:** The Bill prohibits **coastal aquaculture activities** in Ecologically sensitive areas, No-Development Zones (NDZs) and within Coastal Regulation Zones (CRZs).
- Changes to Coastal Aquaculture Authority:**



- **Composition of CAA:** The Bill adds a representative from the Ministry of Fisheries, Animal Husbandry and Dairying as a member.
- **Increased scope and expanded functions:** The Bill enhances the scope of regulation.
- **Decriminalization:** The Bill removes the imprisonment provisions of the Act for its contravention and replaces them with suitable monetary and other penalties.
- **Adjudication and Appeals:** Under the Bill, the central government may **authorise an officer of at least Under Secretary level** to adjudicate penalties.

3.8.5. KEY TERMS AND CONCEPTS IN AGRICULTURE

Basic Animal Husbandry Statistics 2022	<ul style="list-style-type: none"> ● It provides production estimates of four Major Livestock Products (MLPs) Milk, Egg, Meat and Wool. ● It also contains information like livestock population as per the latest 20th Livestock Census, import and export data of livestock etc. ● Released by: Department of Animal Husbandry and Dairying (Ministry of Agriculture and Farmer's Welfare).
CRISP (Comprehensive Rubber Information System Platform)	<ul style="list-style-type: none"> ● Rubber Board has launched a mobile app-CRISP-to inform growers about rubber cultivation and provides solutions online. ● CRISP has been developed by the Rubber Research Institute of India (RRII) in collaboration with the Digital University of Kerala. ● With the help of CRISP, farmers will now be able to receive recommendations from RRII on production and productivity enhancement, reduction of cultivation cost, maintenance of soil fertility, disease control measures, etc.
Animal Pandemic Preparedness Initiative (APPI)	<ul style="list-style-type: none"> ● Union Government has recently launched Animal Pandemic Preparedness Initiative (APPI). APPI includes: <ul style="list-style-type: none"> ○ Integrated disease surveillance & monitoring (built on National Digital Livestock Mission). ○ Creating disease modelling algorithms and early warning systems. ○ Strengthening Regulatory system (e.g., Nandi online portal and Field trial guidelines) ○ Initiate targeted R&D to develop vaccines/diagnostics/therapies for priority diseases.
World Bank-funded Animal Health System Support for One Health (AHSSOH)	<ul style="list-style-type: none"> ● AHSSOH aims to create an ecosystem for a better animal health management system using One Health approach. ● Will be implemented over a 5 year period as a Central sector scheme ● It will initially cover five states – Assam, Odisha, Madhya Pradesh, Maharashtra and Karnataka. <div style="text-align: center;"> <p>Aims of AHSSOH</p> <ul style="list-style-type: none"> Upgrade dispensaries and hospitals Provide mobile veterinary units Strengthen district laboratories </div>
Canalisation	<ul style="list-style-type: none"> ● Centre has extended tenure of Indian Potash Limited (IPL) as a canalising agency for import of urea. <ul style="list-style-type: none"> ○ Rashtriya Chemicals Fertilizers (RCF) and National Fertilizers Limited (NFL) are other canalising agencies for urea import. ● Canalisation of import and export refers to importing and exporting commodities through specified government agencies. ● Purpose: Price stabilization, ensure availability of supplies for domestic consumers, Improve bargaining power, Boost exports, Eliminate under invoicing etc. ● Major Canalised Commodities: Precious Metals, Arms/Ammunitions, agricultural products like onion etc.
DigiClaim	<ul style="list-style-type: none"> ● It is National Crop Insurance Portal's digitized claim settlement module, under Pradhan Mantri Fasal Bima Yojana (PMFBY).

	<ul style="list-style-type: none"> PMFBY provides comprehensive crop insurance against non-preventable natural risks at a premium rate of <ul style="list-style-type: none"> 2% for Kharif crops, 1.5% for rabi crops and 5% for Horticulture and commercial crop.
National Agricultural Higher Education Project's (NAHEP)	<ul style="list-style-type: none"> Indian Council of Agricultural Research (ICAR) and World Bank have issued 'Delhi Declaration' on Modernisation of Agricultural Education System (AES) at International Conference on Blended Learning Ecosystem. Conference was held as part of NAHEP's Resilient Agricultural Education System (RAES) development initiative. <ul style="list-style-type: none"> NAHEP is a five-year project initiated in 2018 by World Bank and Central Government to strengthen National AES. ICAR (HQ: New Delhi) is an autonomous organisation for coordinating, guiding and managing research and education in agriculture including horticulture, fisheries and animal sciences in India.
International Fund for Agricultural Development (IFAD)	<ul style="list-style-type: none"> IFAD and Japan announced the launch of the Enhanced Linkages between Private Sector and Small-scale Producers initiative (ELPS). IFAD will set up a new framework to facilitate cooperation between small agricultural producers in developing nations and businesses in Japan and elsewhere. IFAD is an international financial institution and specialized United Nations (UN) agency based in Rome. <ul style="list-style-type: none"> It was one of the major outcomes of 1974 World Food Conference. IFAD has 177 Member States including India. IFAD invest in rural people, empowering them to increase their food security, improve the nutrition of their families and increase their incomes.
Pashudan Jagruty Abhiyaan	<ul style="list-style-type: none"> Ministry of Fisheries, Animal Husbandry and Dairying is aiming to ramp up milk and cattle productivity in aspirational districts of the country through Pashudhan Jagriti Abhiyan-Intensive Awareness in Aspirational Districts. About Pashudan Jagruty Abhiyaan <ul style="list-style-type: none"> It is designed to help farmers to gain a better understanding of the latest practices and techniques in animal husbandry and dairy farming. It is aimed at improving and transforming the livelihood and of the farmers of the 112 most under developed districts of the country.

3.9. INDUSTRY

3.9.1. VEHICLE SCRAPPAGE

Why in news?

Centre has earmarked ₹3,000 crores for scrapping old vehicles as incentives to states under the 'Scheme for Special Assistance to States for Capital Investment' in the fiscal year 2023-24.

PROCESS OF VEHICLE SCRAPPAGE



About Vehicle scrappage

- Vehicle scrappage outlines **the elimination of end-of-life vehicles (ELVs).**
- Objectives: Threefold-**
 - Reduction** in on-road emissions,
 - Transition to better emission standard vehicles,** and
 - Close monitoring** of the in-use vehicle fleet.

Vehicle scrappage policy landscape in India

- Automotive Industry Standard-129 (AIS-129), 2016:** It places requirements for the **collection and dismantling centres and vehicle manufacturers** to comply with the **reusability, recyclability, and recoverability (RRR) calculations.**
- Guidelines for Environmentally Sound Facilities for Handling, Processing and Recycling of ELV, 2019:** It mentions procedures for removal of common hazardous substances, environmentally sound dismantling and processing of residues of ELVs.

- **Voluntary Vehicle Fleet Modernisation Programme or Vehicle Scrappage Policy 2021:**
 - Under the new scheme, **private vehicles older than 20 years and commercial vehicles older than 15 years will need to undergo a mandatory “fitness” test.**
 - Such vehicles will be **scrapped if they fail the test.**
- **Motor Vehicles (Registration and Functions of Vehicle Scrapping Facility) Rules, 2021:** It explicates the eligibility, registration process, and procedures to be followed for setting up the **Recognised Vehicle Scrapping Facility (RVSF).**
- **The Central Motor Vehicles (Amendment) Rules: 23rd Amendment** incorporated an **upward revision of registration, fitness testing, and fitness certification fee** for vehicles.
- **Recognition, Regulation & Control of Automated Testing Stations (ATS) Rules:** ATS authorized by the state governments conduct vehicle fitness tests through ATS.

INCENTIVES AND DISINCENTIVES UNDER VEHICLE SCRAPPAGE POLICY

Incentives

Scrap Value for the old vehicle given by the scrapping centre, approximately 4-6% of ex-showroom price of a new vehicle

Draft rules notified for **state governments** to offer concession on motor vehicle tax of

- Up to 25% for non-transport vehicles
- Up to 15% for transport vehicles.

Registration fees to be waived off for purchase of new vehicle against the certificate of deposit - draft notification issued

Auto OEMs have been advised to provide **5% discount** on purchase of new vehicle against the certificate of deposit

Disincentives

Increased fees for fitness test and issuance of fitness certificate for commercial vehicles which are more than 15 years old

Increased re-registration fees for private vehicles which are more than 15 years old

- Draft notification issued for higher fees. for fitness certificate, fitness test, and re-registration

3.9.2. E-PHARMACY SECTOR

Why in News?

Recently, a show cause notice was issued by **Central Drugs Standard Control Organisation (CDSCO)** to all e-pharmacy companies highlighting concerns on the legitimacy of their operations.

More on News

- A **Parliamentary panel** has now asked the Ministry of Health to **finalise the draft e-pharmacy rules** and implement them without any further delay.

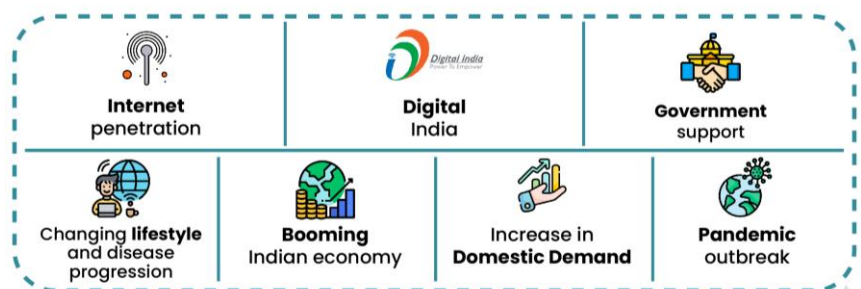
About Draft e-Pharmacy rules, 2018

- **“e-pharmacy” definition:** It means business of distribution or sale, stock, exhibit or offer for sale of drugs through web portal or any other electronic mode.
- **Privacy:** Information generated through e-pharmacy portal should not be disclosed.
- **Registration:** E-pharmacies will need grant of registration to the Central Licensing Authority.
- **Adherence to Act:** An e-pharmacy registration holder shall comply with provisions of Information Technology Act, 2000.
- **Inspection:** The premises from where the e-pharmacy business is conducted shall be inspected, every two years.
- **Advertisement:** No e-pharmacy shall advertise any drug on radio or television or internet or print or any other media for any purpose.

About e-Pharmacy Sector in India

- **Rapidly growing industry:** The online pharmacy market in India has been growing rapidly (at a **CAGR of about 22%**).
- **Part of large pharmaceutical landscape:** India is the **world’s largest supplier of generic**

Driving factors of the E-pharmacy in India



medications, accounting for 20% of the worldwide supply by volume and supplying about 60% of the global vaccination demand.

Existing E-Pharmacy Models		
<p>Inventory-based Model of e-Pharmacy: e-Pharmacy holds the stock of medicines/drugs stored in warehouses/ fulfilment centres across geographic locations. Registered pharmacists deliver them to customers. E.g., Medlife and Netmeds.</p>	<p>Generic E-Commerce Marketplace: These are digital establishments that supply a wide range of products including Pharmaceuticals. Examples of this marketplace are Flipkart and Amazon.</p>	<p>Marketplace-based Model of e-Pharmacy: Technology companies act as facilitators between a buyer and a seller. In this Model, the e-Pharmacy plays the role of an aggregator. Example-Tata 1Mg.</p>
<p>Inventory-based Model of e-Pharmacy</p>		<p>Marketplace-based Model of e-Pharmacy</p>

Related News
<p>National Institutes of Pharmaceutical Education and Research (NIPERs)</p> <ul style="list-style-type: none"> • Union Minister of Chemicals & Fertilizers, chairs the First Governing Council meeting of the of NIPERs. • About NIPER <ul style="list-style-type: none"> ○ It is an autonomous body established under the aegis of the Department of Pharmaceuticals, Ministry of Chemicals & Fertilizers. ○ It is a Centre of Excellence for higher education, research, and development in pharmaceutical sciences. ○ It has been declared an "Institute of National Importance" by an Act of Parliament.

3.9.3. NATIONAL DEVICES POLICY, 2023

Why in news?
Cabinet approved National Medical Devices Policy, 2023.
Policy aims to-

- **Make India a global leader in manufacturing and innovation of medical devices** over next 25 years.
- **Help the medical devices sector grow** from the present \$11 Bn to \$50 Bn by 2030.
- **Facilitate an orderly growth** of the medical device sector to meet public health objectives of access, affordability, quality and innovation.

Salient Features of Policy

Regulatory Streamlining	• By creation of a Single Window Clearance System for Licensing, enhancing Role of Indian Standards like BIS and designing a coherent pricing regulation.
Enabling Infrastructure	• Establishment and strengthening of large medical device parks, clusters equipped with world class common infrastructure facilities in proximity to economic zones.
Facilitating R&D and Innovation	• Establishing Centres of Excellence in academic and research institutions , innovation hubs, 'plug and play' infrastructures and support to start-ups.
Attracting Investments in the Sector	• Encouraging private investments , series of funding from Venture Capitalists , and also Public-Private Partnership (PPP).
Human Resources Development	• Leveraging available resources in Ministry of Skill Development and Entrepreneurship for skilling, reskilling and upskilling of professionals. • Develop partnerships with foreign academic/industry organizations. • Multidisciplinary courses for medical devices in existing institutions.
Brand Positioning and Awareness Creation	• Creation of a dedicated Export Promotion Council for the sector. • Learning from best global practices of manufacturing and skilling system.

3.9.4. KEY TERMS AND CONCEPTS IN INDUSTRY

Trade Receivables Discounting	• RBI Governor recently said that the TREDS platform financed around 35000 factoring units (FU) monthly.
--------------------------------------	--

System (TReDS)	<ul style="list-style-type: none"> An FU is a standard nomenclature used in TReDS for invoices or bills of exchange containing details related to the sale of goods or services by an MSME seller to the buyer. TReDS is a digital platform initiated by the Reserve Bank of India (RBI) in 2014 for facilitating MSMEs by financing their trade receivables. <ul style="list-style-type: none"> Only MSMEs can participate as sellers in TReDS. Corporates, Government Departments, PSU and Others can participate as buyers. Banks and NBFC can participate as financiers.
Kolar Gold Fields (KGF)	<ul style="list-style-type: none"> Australian renewable-energy company's unique scheme to generate electricity may resuscitate the fortunes of one of India's iconic but defunct gold mines, namely KGF in Karnataka. Operated by Bharat Gold Mines Limited (BGML), a public sector undertaking under the Ministry of Mines, KGF was one of the world's deepest gold mines at a depth of 3,000 metres. <ul style="list-style-type: none"> Goldfields lie in the Kolar schist belt estimated to be about 80 km long and 3-4 km wide. The history of gold mines at KGF dates back to the Chola dynasty (3 BC).

3.10. INFRASTRUCTURE

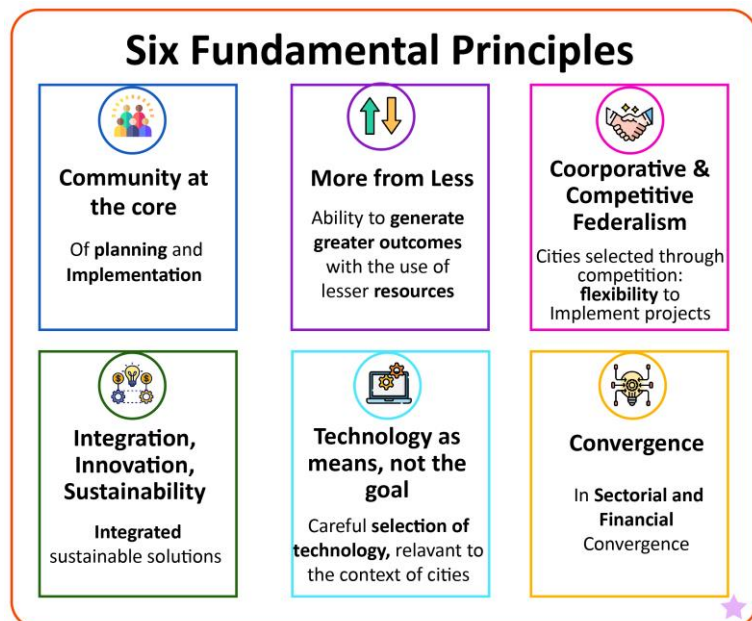
3.10.1. SMART CITIES MISSION

Why in News?

Recently, the **Ministry of Housing and Urban Affairs** informed that **86% of funds have been utilised and 69% of projects completed under the Smart Cities Mission.**

About Smart Cities Mission

- Smart Cities Mission is **Centrally Sponsored Scheme** launched in 2015 under the **Ministry of Housing and Urban Affairs.**
- The **main objective** of the Mission is to promote cities that provide **core infrastructure, clean and sustainable environment** and give a decent quality of life to their citizens through the application of **'smart solutions'**.
- 100 cities** have been selected to be developed as Smart Cities.
- The mission comprises 3 models:
 - City improvement (**retrofitting**)
 - City renewal (**redevelopment**)
 - City extension (**greenfield development**)
- The **Special Purpose Vehicle (SPV)** is created by each city to implement the Smart Cities Mission (SCM) at the city level.
 - The SPV will be a limited company incorporated under the Companies Act, 2013 at the city level, in **which the State/UT and the ULB will be the promoters having 50:50 equity shareholding.**
 - The **private sector or financial institutions could be considered for taking equity stake in the SPV,** provided the shareholding pattern of 50:50 of the State/UT and the ULB is maintained and the State/UT and the ULB together have majority shareholding and control of the SPV.



3.10.2. KEY TERMS AND CONCEPTS IN INFRASTRUCTURE

Infrastructure Finance Company (IFC)	<ul style="list-style-type: none"> RBI has granted IFC status to Indian Renewable Energy Development Agency (IREDA). IFC is a non-deposit-accepting loan company that has a minimum of 75% of the total assets of the company deployed as infrastructure loans. <ul style="list-style-type: none"> Exposure to sub-sectors like Transport, Energy, Water and Sanitation, Communication, Social and commercial etc. is considered as Infrastructure loan. Also, IFC should have a minimum net worth of Rs 300 crore and a minimum credit rating of the company should be at 'A' or equivalent of CRISIL, FITCH, CARE etc.
---	---

Ports and Shipping	
National Logistics Portal Marine (NLPM)	<ul style="list-style-type: none"> The Ministry of Ports, Shipping and Waterways launched the Sagar Setu Mobile App of NLPM. NLPM is a national maritime single window platform encompassing complete end-to-end logistics solutions. <ul style="list-style-type: none"> It helps exporters, importers, and service providers exchange documents seamlessly and transact business.
Civil Aviation	
Digi Yatra	<ul style="list-style-type: none"> Ministry of Civil Aviation has clarified that in the Digi Yatra process, there is no central storage of passenger's Personally Identifiable Information data and all passengers' data is encrypted and stored in the wallet of their smartphone. Digi Yatra was introduced by the Ministry of Civil Aviation and Digi Yatra Foundation. <ul style="list-style-type: none"> It uses facial recognition technology to make terminal entry & security clearance at the airport a seamless, hassle-free, and paperless process. It is voluntary.
Railways	
Chenab railway bridge	<ul style="list-style-type: none"> Chenab Railway Bridge, being claimed as world's highest railway bridge by India, is expected to become operational by 2024. <ul style="list-style-type: none"> Chenab River originates from Lahaul valley of Himachal Pradesh and is a tributary of Indus River. Bridge will allow trains to run along Udhampur-Srinagar-Baramulla Rail Link (USBRL) project, and will connect Jammu & Kashmir with the rest of India. <ul style="list-style-type: none"> It'll be 35 meters higher than Eiffel Tower in Paris (France). In related development, India's first cable-stayed rail bridge - Anji Khad Bridge - over Anji River (tributary of Chenab) is nearing completion.
Roadways	
Dakar Declaration	<ul style="list-style-type: none"> Dakar Declaration has been adopted in principle by 21 African countries after the first African sub-regional conference on implementing Global Plan for Road Safety. It is a guiding document to support the implementation of Decade of Action for road safety 2021-2030. <ul style="list-style-type: none"> It sets the ambitious target of preventing at least 50% of road traffic deaths and injuries by 2030.
Waterways	
Kochi Water Metro	<ul style="list-style-type: none"> Recently, India's first water-based metro, Kochi Water Metro (KWM), was formally inaugurated by Prime Minister. The Kochi Water Metro is an innovative and sustainable mode of transportation that connects various parts of the city through its intricate network of waterways. Innovative Boat Technology: The boats use Lithium Titanate Oxide (LTO) batteries that can be charged in 15 minutes using a specially built charging system. <ul style="list-style-type: none"> LTO batteries are not only the safest commercially accessible batteries in the world, but they are also the longest-lasting, with a life cycle of 7-10 years. <p>Other such Inland Water Transport (IWT) services in India</p> <ul style="list-style-type: none"> Ro-Ro (roll-on, roll-off) ferry service in various locations such as Mumbai, Goa, Kerala, and the Brahmaputra River in Assam. Ro-Pax (Roll on-roll off cum passenger) ferry service between Mumbai and Mandwa (Maharashtra) developed under Eastern Waterfront Development. River Cruise Service: World's longest river cruise 'Ganga Vilas'. It will go across 27 river systems in 5 states in India and Bangladesh.

3.11. POWER SECTOR

3.11.1. NATIONAL ELECTRICITY PLAN 2022-27

Why in News?


The Central Electricity Authority has prepared a **draft National Electricity Plan (NEP) for 2022-27.**

More on News

- Section 3(4) of the **Electricity Act, 2003** stipulates that the Central Electricity


Authority (CEA) shall prepare a National Electricity Plan in accordance with **the National Electricity Policy** and **notify such plan once in five years.**

- The NEP includes a **review** of the period 2017-22, **detailed capacity addition requirements** during the years 2022-27 and **Perspective Plan projections** for the years 2027-32.



**केविका
CEA**

Central Electricity Authority (CEA)



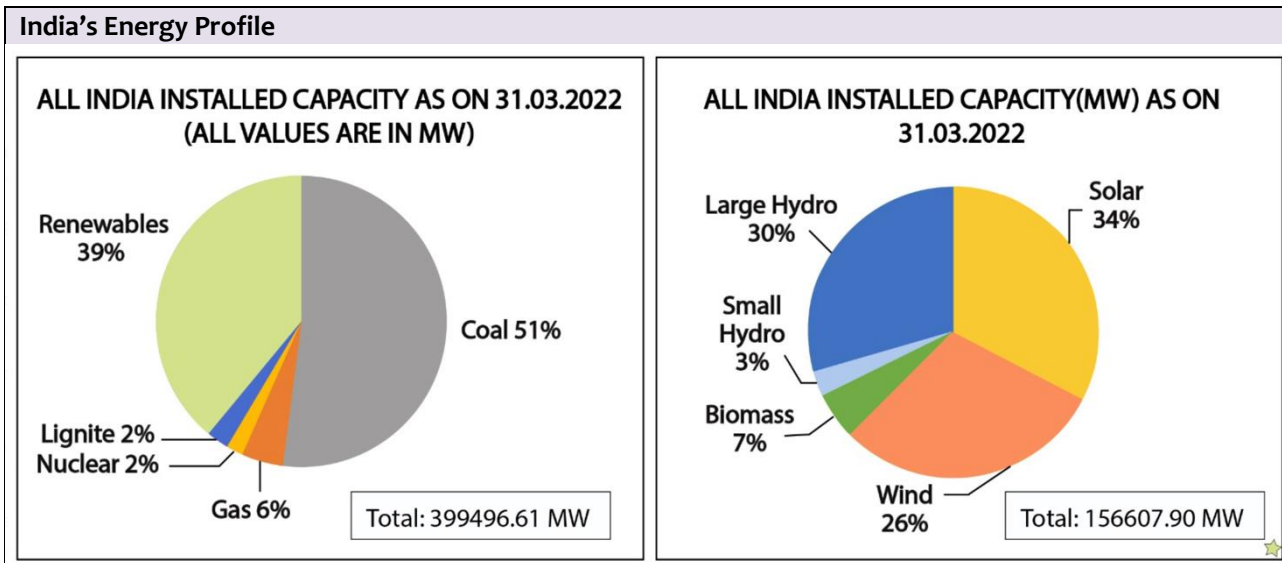
HQ
New Delhi

Genesis: It is a statutory body, under Ministry of Power, which has been constituted under the **Electricity Act, 2003.**

Functions: It **advises the central government** on the matters relating to the national electricity policy, and formulate short-term and prospective plans for the development of the electricity system.

- It also specifies **technical standards and safety requirements** for electrical plants and electric lines.
- It also specifies **grid standards and collects and records data** concerning the generation, trading, distribution and utilization of electricity.

Members: It consists of **not more than 14 members** including the Chairperson, who holds office during **the pleasure of the Central Government.**



Key Highlights of the Plan

- Demand:** It is projected that the increase in electricity demand is likely to be 6 % per year for the next decade (compared to 4.1% last decade).
- Utilization of installed capacity:** It stipulates that in addition to enhancing the overall availability of installed capacity to 85%, a reserve of at least 5% at the national level would be needed to be created to **ensure grid security, quality, and reliability of power supply.**
- Technology:** It states that efficient technologies, like super-critical technology, Integrated Gasification Combined Cycle (IGCC) etc. and large-size units would be gradually introduced for the generation of electricity.

3.11.2. NATIONAL GAS GRID

Why in News?

The Bihar portion of the **Barauni - Guwahati pipeline** which connects Bihar to National Gas Grid was completed recently.

About the National Gas Grid

- It is a **33,764 Kms long, Natural Gas pipeline network** that the Centre has started to connect all major supply and demand centres in the country **under the purview of Petroleum and Natural Gas Regulatory Board (PNGRB).**
- The **national gas grid** covers all the interconnected pipeline networks owned and operated by entities viz. IOCL, ONGC, GAIL (India) Limited.
- The Grid when fully established **will ensure easy availability of Natural Gas across all regions of the country** and reduce our reliance on Crude oil.
- Out of this, around **21,500 km Natural Gas Pipelines are operational** and a total of around 13,500 km length of pipelines is under various stages of construction.

Other Measures to develop National Gas Grid

- **Pradan Mantri Urja Ganga project (2016):** It is a gas pipeline project that aims to provide **uninterrupted cooking gas to households in U.P, Bihar, Jharkhand, West Bengal and Odisha.**
 - It is also known as **Jagdishpur- Haldia & Bokaro-Dhamra pipeline project.**
 - The 2,655 km long pipeline project **connects the eastern states to the National Gas Grid.**
- **North East Gas Grid (2020):** It is a 1,656 km long pipeline, which aims to connect the **eight north eastern states to the National Gas Grid.**
- **City Gas Distribution Network:** The Network **Currently covers more than 400 districts in 27 States/UTs.**
 - It consists of four distinct segments namely **delivery of CNG for automobile usage in cities, delivery of PNG for domestic, commercial and industrial usage.**

Related News

Revised gas pricing norms

- Recently, Cabinet approved **revised domestic gas pricing guidelines** based on Kirit Parek committee.
- These guidelines would be **applicable to gas produced from**
 - Nomination fields of **ONGC/OIL.**
 - **New Exploration Licensing Policy (NELP) and Pre-NELP blocks.**

Old pricing system	New pricing System
<ul style="list-style-type: none"> • Prices were benchmarked to the rate of gas in the international market. • The prices were revised on a half yearly basis. • There was no floor or ceiling mechanism. • No premium was allowed to be charged in the old regime. 	<ul style="list-style-type: none"> • The price would be 10 % of the monthly average of Indian Crude Basket. • The prices are notified on a monthly basis. • The Administered Price Mechanism (APM) will be subjected to a floor and ceiling price. • The new guidelines allow a 20 percent premium over APM for gas produced from new wells.

3.11.3. KEY TERMS AND CONCEPTS IN POWER SECTOR

<p>High Price Day Ahead Market (HP-DAM) and Surplus Power Portal (PUSHp) launched</p>	<ul style="list-style-type: none"> • Initiatives were launched by Ministry of Power. • HP-DAM segment, on power exchanges, will offer costly power from gas-based and imported-coal-based power plants. <ul style="list-style-type: none"> ○ HP-DAM is part of the overall strategy to ensure that all available power capacity is utilised. • PUSHp will ensure greater availability of power during the peak demand season. <ul style="list-style-type: none"> ○ It aggregates excess power generation capacity on a national basis, offering Discoms a view of the supply and demand scenario.
<p>Smart Metering</p>	<ul style="list-style-type: none"> • COAI has recommended that the Ministry of Power use licensed spectrum bands for smart grid meters due to security concerns. <ul style="list-style-type: none"> ○ Unlicensed spectrum is considered as an inexpensive and barrier-free option for meeting communication requirements. ○ Currently, the use of the 865-868 MHz band for “Tracking, Tracing and Data Acquisition Devices” and “Radio Frequency Identification (RFID) Applications” is permitted without acquiring a license. • Smart meters are part of the Advanced Metering Infrastructure (AMI) solution that records consumers’ electricity usage at different times of the day and sends it to energy supplier. <ul style="list-style-type: none"> ○ Technology used for this is radio frequency mesh technology which is an over-the-air communication technology and works like Wi-Fi.
<p>Nuclear Liability</p>	<ul style="list-style-type: none"> • Recently, Electricite de France (EDF) submitted its offer for construction of six nuclear power reactors in Maharashtra’s Jaitapur. <ul style="list-style-type: none"> ○ However, issues regarding India’s Civil Liability for Nuclear Damage Act (CLNDA) continue to hold up project.

	<ul style="list-style-type: none"> • Laws on civil nuclear liability ensure that compensation is available to victims for nuclear damage caused by a nuclear incident or disaster and set out who will be liable for those damages. • India enacted CLNDA in 2010, to put in place a speedy compensation mechanism for victims of a nuclear accident. <ul style="list-style-type: none"> ○ Act was also meant to facilitate India becoming a State Party to Convention on Supplementary Compensation (CSC) • CSC is based on principle of exclusive liability of the operator of a nuclear installation and no other person. It lays down conditions under which national laws can extract liability from the supplier. • However, India, going beyond these conditions, introduced the concept of supplier liability over and above that of the operator's in CLNDA. <ul style="list-style-type: none"> ○ This has make suppliers of nuclear equipment wary of operationalising nuclear deals with India.
--	--

3.12. KEY REPORTS IN NEWS

Logistic Performance Index 2023	<ul style="list-style-type: none"> • Released by: World Bank • About the index: <ul style="list-style-type: none"> ○ LPI is a benchmarking tool created to help countries identify challenges and opportunities they face in their performance on trade logistics. ○ LPI 2023 ranks countries on six dimensions of trade -- including customs performance, infrastructure quality, and timeliness of shipments. • Key findings: <ul style="list-style-type: none"> ○ India improved its rank to 38 (from 44 in 2018) in Logistic Performance Index (LPI) 2023. <ul style="list-style-type: none"> ✓ Significant investments in both soft and hard infrastructure as well as technology has led to an improvement in India's port performance. ○ Singapore topped the index.
Future of Jobs Report 2023	<ul style="list-style-type: none"> • Released by: World Economic Forum • About the report: <ul style="list-style-type: none"> ○ It tracks the labour-market impact of the Fourth Industrial Revolution, green and energy transitions, supply-chain shifts etc. ○ Fourth edition (first edition in 2016) of this bi-annual series explores how jobs and skills will evolve over the next five years (2023-2027).
Global Trade Outlook and Statistics 2023	<ul style="list-style-type: none"> • It was released by World Trade Organization (WTO). • Key highlights <ul style="list-style-type: none"> ○ World merchandise trade volume is projected to grow 1.7% in 2023 before picking up to 3.2% in 2024. ○ The value of world commercial services trade increased by 15% in 2022 to US\$ 6.8 trillion. ○ Risks to the forecast are tilted to the downside, including geopolitical tensions, food insecurity, potential financial instability stemming from monetary policy tightening, and increasing levels of debt.
Business Environment Rankings (BER)	<ul style="list-style-type: none"> • BER, by Economist Intelligence Unit (EIU), measures the attractiveness of the business environment in 82 countries on a quarterly basis across 91 indicators. <ul style="list-style-type: none"> ○ Singapore topped the latest rankings. • India improved its ranking by six spots due to its improved score in parameters like technological readiness, political environment, and foreign investment among others.

3.13. MISCELLANEOUS

SWAYATT (Start-ups, Women and Youth Advantage Through eTransactions)	<ul style="list-style-type: none"> • A function was held to commemorate the success of "SWAYATT", an initiative on Government e-Marketplace (GeM). • About SWAYATT: <ul style="list-style-type: none"> ○ The initiative was first launched in 2019. ○ It aims to promote the inclusiveness of various categories of sellers and service providers on GeM portal.
Miniratna Category-I status	<ul style="list-style-type: none"> • Solar Energy Corporation of India (SECI) gets 'Miniratna Category-I' status. <ul style="list-style-type: none"> ○ SECI is a central government PSU under the administrative control of the Ministry of New and Renewable Energy.

- **Miniratna-I status:** CPSEs which have made a profit in the last three years continuously, pre-tax profit is Rs.30 crores or more in at least one of the three years and have a positive net worth are eligible.
- **Benefits:** Greater autonomy in operations, increased financial powers for investments, improved corporate governance, competitive advantage etc.

3.14. ERRATA

PT 365 Economy (April 2022-December 2022)

- **Article 5.4.2 World Bank Group:** The sub-heading of the second point (Genesis section) of the infographic was miswritten as International Finance Corporation (IFC). The correct sub-heading is **International Development Association (IDA)**. Kindly refer to the corrected infographic.



WORLD BANK GROUP

WORLD BANK GROUP



Washington DC, USA



Genesis: It is a specialized UN Agency conceived along with International Monetary Fund (IMF), also known as Bretton Woods Twins in July 1944 at the United Nations Bretton Woods Conference in New Hampshire, USA. Today, it consists of five organizations as:

- ✦ **International Bank for Reconstruction and Development (IBRD):** Established in 1944, it lends to middle-income and creditworthy low-income countries.
- ✦ **International Development Association (IDA):** Established in 1960, it gives interest-free loans and grants to poorest countries. Together, IBRD and IDA form the World Bank.
- ✦ **International Finance Corporation (IFC):** Established in 1956, it largest global development institution focused exclusively on the private sector.
- ✦ **Multilateral Investment Guarantee Agency (MIGA):** Created in 1988, it promotes FDI into developing countries for economic growth, poverty reduction etc.
- ✦ **International Centre for Settlement of Investment Disputes (ICSID):** Established in 1966, it provides international facilities for conciliation and arbitration of investment disputes.



Objective: To end extreme poverty and to promote shared prosperity.



Membership: IBRD: 189, IDA: 174, IFC: 186, MIGA: 182 and ICSID: 158 member countries



Other key information:

- ✦ **Flagship Publications:** Global Financial Development Reports, World Development Reports, Global Economic Prospects.

India is member of all World Bank organizations except ICSID



ALL INDIA TEST SERIES

Get the Benefit of Innovative Assessment System from the leader in the Test Series Program

PRELIMS

- **General Studies** (हिन्दी माध्यम में भी उपलब्ध)
- **CSAT** (हिन्दी माध्यम में भी उपलब्ध)
- VISION IAS Post Test Analysis™
- Flexible Timings
- ONLINE Student Account to write tests and Performance Analysis
- All India Ranking
- Expert support - Email/ Telephonic Interaction
- Monthly Current Affairs

for **GS 2023: 30 April**

सामान्य अध्ययन 2023: 30 अप्रैल

for **GS 2024: 30 April**

सामान्य अध्ययन 2024: 30 अप्रैल

MAINS

- **General Studies** (हिन्दी माध्यम में भी उपलब्ध)
- **Essay** (हिन्दी माध्यम में भी उपलब्ध)
- **Philosophy • Sociology • Political Science & IR**
- **Anthropology • Essay**

4 JUNE

for **GS 2023: 4 June**

सामान्य अध्ययन 2023: 4 जून

for **GS 2024: 30 April**

सामान्य अध्ययन 2024: 30 अप्रैल

Scan the QR CODE to download **VISION IAS app**



4. ENVIRONMENT

4.1. CLIMATE CHANGE

4.1.1. DRAFT CARBON CREDITS TRADING SCHEME (CCTS)

Why in News?

Ministry of Power in consultation with the Bureau of Energy Efficiency (BEE) issued draft scheme as a part of its process to establish framework for Indian Carbon Market.

About the Draft Carbon Credits Trading Scheme (CCTS)

- Energy Conservation (Amendment) Act, 2022, empowers the central government to "specify CCTS", in consultation with Bureau of Energy Efficiency (BEE).
- Aims for reduction or removal of greenhouse gas (GHG) emissions.
- Mainly consists of the structure of the proposed Indian Carbon Market, for both voluntary trading and compliance.
 - Provides that an 'Accredited Carbon Verifier' means an agency accredited by the BEE to carry out validation or verification activities in respect of the CCTS.

Role of Bureau of Energy Efficiency

- It would be the **administrator for carbon market** and operate as **secretariat for ICMGB**.
- Issue **CCC as recommended by the ICMGB** and develop market stability mechanism for carbon credits.
- Bureau would **maintain the IT infrastructure** including the knowledge platform required for the carbon market.



Role of Central Electricity Regulatory Commission (CERC)

- As **regulator of trading activity** in in the carbon market.
- Safeguard **interest of both sellers and buyers**
- **Regulate matters** relating to trading of CCC.
- Take **corrective actions to prevent frauds**.



Other Key provisions of draft scheme




Role of the Grid Controller of India Limited

- It shall be the **registry for the Indian Carbon Market**.
- Maintain records of all transactions.




Set up an Indian Carbon Market Governing Board (ICMGB)





- For governance of the **Indian Carbon Market (ICM)**.
- To recommend **procedures for institutionalizing the ICM**
- Recommend **methodologies** to be used under **voluntary mechanism**
- Recommend **guidelines regarding sale of carbon credit certificates (CCC)** to outside India.




Bureau of Energy Efficiency



New Delhi

-  **Genesis:** Statutory body established under provisions of the Energy Conservation Act (ESA) 2001.
-  **Ministry:** Ministry of Power
-  **Objectives:** Reducing energy intensity of the Indian economy.
-  **Key functions/Initiatives**
 - Create awareness and disseminate information on energy efficiency and conservation.
 - Promote innovative financing of energy efficiency projects.
 - Energy Conservation Building Code (ECBC) sets minimum energy standards for certain new commercial buildings.
 - Perform Achieve and Trade (PAT) scheme under National Mission for Enhanced Energy Efficiency.

KNOW THE TERM



- 'Carbon Credit Certificate' (CCC) means the certificate issued to the registered entity by the central government, or any agency authorised by it, in the CCTS where each certificate issued shall represent reduction or removal of one tonne of CO2 equivalent (tCO2e).

Related News

European Union (EU) lawmakers adopt carbon market reform

- These adopted measures are part of the EU's **Fit for 55 package**.
 - **Fit for 55** refers to the EU's target of reducing net greenhouse gas emissions by **at least 55% by 2030 from 1990 levels** and achieve net zero emissions by 2050.
- **Measures adopted**
 - **Social Climate Fund** will support people in Europe with the costs of transitions.
 - **Reforming Emission Trading System (ETS):** European industries and energy companies should cut emissions by 62 % by 2030 compared to 2005 levels, compared to previous target of 43%.
 - **Carbon Border Adjustment Mechanism (CBAM):** To put a **tax on foreign company imports** which does not meet EU's climate protection standards.
 - ✓ **Goods covered by CBAM** are iron, steel, cement, aluminium, fertilisers, electricity and hydrogen etc.
 - ✓ Under this, **importers must purchase carbon certificates equivalent** to the EU's carbon pricing rules.
 - ✓ EU importers can **claim CBAM liability deductions** if **non-EU producers** have already paid emissions fees in their respective countries.

India's reasons to oppose carbon border tax

- Against **Common But Differentiated Responsibilities (CBDR)** principle.
- Discriminatory** as it will ramp up prices of Indian goods in Europe and shrink demand.
- Could result in **market distortion**
- Potential economic risks to the Global South**, developing countries may struggle to decarbonise fast enough to remain competitive in the global market.
- Other developed economies may follow suit** of carbon border tax and in the short run, this will be harmful to industries in developing countries. ★

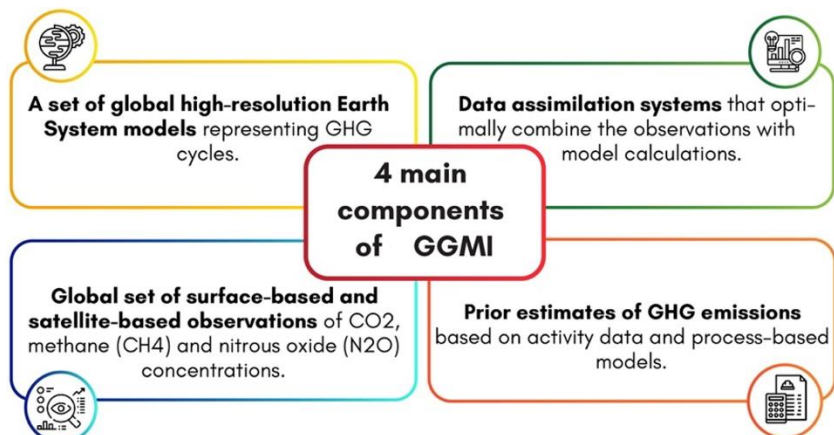
4.1.2. GLOBAL GREENHOUSE GAS MONITORING INFRASTRUCTURE (GGMI)

Why in news?

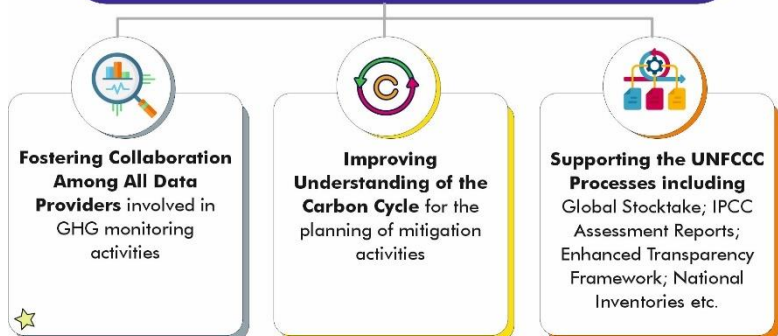
Recently, the **World Meteorological Organization (WMO)** launched the **Global Greenhouse Gas Monitoring Infrastructure (GGMI)**.

About GGMI

- Aims to **provide better ways of measuring planet-warming pollution** and help inform policy choices.
 - Will integrate **space-based and surface-based observing systems**, and seek to clarify uncertainties about where greenhouse gas emissions end up.
- Will leverage **WMO's experience in coordinating global collaboration in weather prediction, climate analysis, and greenhouse gas monitoring**.
 - GGMI will build on and expand WMO's long-standing activities in GHG monitoring, implemented as part of the **Global Atmosphere Watch (GAW)** and the **Integrated Global Greenhouse Gas Information System (IG3IS)**.
 - ✓ **GAW** focuses on building a single coordinated global understanding of atmospheric composition, its change, and helps to improve the understanding of interactions between the atmosphere, the oceans and the biosphere.
 - ✓ **IG3IS** is an observation-based information system for determining trends and distributions of greenhouse gases (GHGs) in the atmosphere and the ways in which they are consistent or not with efforts to reduce GHG emissions.



Significance of GGMI



4.1.3. OTHER IMPORTANT NEWS

News	Details
35 th Meeting of the Green Climate Fund (GCF)	<ul style="list-style-type: none"> • Rwanda has been selected to host 35th meeting of Board of GCF (B.35) which will be held in Incheon, South Korea. <ul style="list-style-type: none"> ○ Board of GCF generally holds three meetings per year. ○ Board is independent and guided by Conference of Parties (COP) to Convention. • Meetings are attended by more than 300 participants, including National Designated Authorities (NDAs), and Accredited Entities and other partners who assist in delivering climate finance to developing countries. <ul style="list-style-type: none"> ○ NDAs for India: Ministry of Environment, Forest and Climate Change. ○ Direct access accredited entities: IDFC Bank, Yes Bank, NABARD, SIDBI, IESIL (IL&FS Environmental Infrastructure and Services Limited). • GCF was established in 2010 under UN Framework Convention on Climate Change (UNFCCC) to help developing countries reduce their GHG emissions and adapt to impact of climate change. <ul style="list-style-type: none"> ○ It is governed by a 24 member Board. ○ Secretariat is located in Songdo, Incheon- South Korea. • Key features of GCF <ul style="list-style-type: none"> ○ Country-driven approach i.e., developing countries lead GCF programming and implementation. ○ Balanced allocation i.e., GCF is mandated to invest 50% of its resources to mitigation and 50% to adaptation in grant equivalent. ○ Provide financial support through flexible combination of grant, concessional debt, guarantees or equity instrument.
India to join international climate action in civil aviation from 2027	<ul style="list-style-type: none"> • Ministry of Civil Aviation (MoCA) has announced that India will start participating in International Civil Aviation Organisation's (ICAO) Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA) and Long-Term Aspirational Goals (LTAG) from 2027. <ul style="list-style-type: none"> ○ In order to mitigate carbon emissions from aviation, ICAO has adopted goals of 2% annual fuel efficiency improvement through 2050, carbon neutral growth and net zero by 2050. • About CORSIA <ul style="list-style-type: none"> ○ Offers a harmonised way to reduce emissions from international aviation, minimising market distortion, while respecting special circumstances and respective capabilities of ICAO Member States. ○ Implemented in 3 phases: a pilot phase (2021-2023), a first phase (2024-2026), and a second phase (2027-2035). <ul style="list-style-type: none"> ✓ For the first two phases (2021-2026), participation is voluntary. ○ Applicable only to international flights. • About LTAG <ul style="list-style-type: none"> ○ 41st ICAO Assembly adopted LTAG for international aviation of net-zero carbon emissions by 2050 in support of UNFCCC Paris Agreement. ○ LTAG does not attribute specific obligations or commitments in form of emissions reduction goals to individual States, but each state will contribute within its own national timeframe and circumstances.
Centre sets 2030 as target to become global hub for green shipping	<ul style="list-style-type: none"> • Ministry of Ports, Shipping and Waterways has launched the Green Tug Transition Programme (GTTP) and inaugurated India's first Centre of Excellence in Green Port & Shipping (NCoEGPS). • Programme will start with 'Green Hybrid Tugs', which will be powered by Green Hybrid Propulsion systems, and subsequently adopting non-fossil fuel solutions like (Methanol, Ammonia, Hydrogen). <ul style="list-style-type: none"> ○ Target has been set for initial Green Tugs to start working in all major ports by 2025. At least, 50% of all Tugs are likely to be converted into Green Tugs by 2030. ○ Tug Boats or Tugs are small but powerful ships which are used to pull or push other large ships for maneuvering or salvage purposes. • Benefits <ul style="list-style-type: none"> ○ Reduce emission as country moves towards achieving sustainable development. ○ In line with India's Mission LiFE movement and to become carbon neutral by 2070. • NCoEGPS (in Gurugram) is result of collaboration between Ministry of Ports, Shipping & Waterways and The Energy and Resources Institute (TERI). <ul style="list-style-type: none"> ○ It aims at empowering 'Make in India' in Port, Coastal and Inland water transport. • Other initiatives for Green Shipping <ul style="list-style-type: none"> ○ India has been selected as first country under IMO Green Voyage 2050 project to conduct a pilot project related to Green Shipping.

	<ul style="list-style-type: none"> ○ Maritime Vision Document 2030 for sustainable maritime sector and vibrant blue economy. ○ Paradip Port, Deendayal Port and V.O. Chidambaram Port to be developed as Hydrogen Hubs - capable of handling, storing and generation of green hydrogen by 2030.
C40	<ul style="list-style-type: none"> ● Bengaluru hosted a conference to help cities mainstream climate action. ● It was organized by C40 Cities Climate Leadership Group, together with Ministry of Housing and Urban Affairs (MoHUA) and was part of series of events organised under the ambit of the Urban 20 (U20). ● C40 is a network of nearly 100 mayors of the world's leading cities to deliver urgent action needed to confront climate crisis. <ul style="list-style-type: none"> ○ Other cities from India under C40 are Ahmedabad, Delhi, Mumbai, Chennai, and Kolkata. ● U20 is a city diplomacy initiative, convened by C40 Cities and United Cities and Local Governments, that brings together cities from G20 member states to discuss global economic, climate and development issues.
Net-Zero Asset Owner Alliance	<ul style="list-style-type: none"> ● The UN-convened Net-Zero Asset Owner Alliance is a member-led initiative of 84 institutional investors, with over US\$11 trillion in assets under management, committed to transitioning their investment portfolios to net-zero GHG emissions by 2050. ● The members of the Alliance commit to transitioning their investment portfolios to net-zero GHG emissions by 2050 consistent with a maximum temperature rise of 1.5°C above pre-industrial temperatures. ● The Alliance members are the finance industry's first to set intermediate targets, which include CO2 reduction ranges for 2025 (22 – 32%) and for 2030 (40% – 60%).

4.2. POLLUTION

4.2.1. UN 2023 WATER CONFERENCE

Why in News?

The United Nations 2023 Water Conference was held in **New York** on March 22-24, **co-hosted by the Netherlands and Tajikistan**.

About UN water conference

- Most important United Nations-hosted event on water supply, sanitation and hygiene in some 50 years.
 - **Only the second UN Conference dedicated to water**, following the **Conference in Mar del Plata, Argentina in 1977**.
- **Aim:** To promote a comprehensive understanding and appreciation of the **importance of water, sanitation, and hygiene**, and to **facilitate effective management of these critical resources**.
- Will provide a unique opportunity to **undertake commitments and accelerate action towards achieving SDG 6 and other internationally agreed water-related goals and targets**, including those set out in the 2030 Development Agenda.
- **Embraces the principles of inclusion, cross-sectoral responsibility, and action orientation**.

Key outcomes of the conference

- **A new Water Action Agenda:** It's the **collection of all voluntary commitments to accelerate progress** in the second halves of both the Water Action Decade 2018-2028 and 2030 Agenda for Sustainable Development.
 - Included a **\$50-billion commitment from the Indian government** to improve rural drinking water services under its Jal Jeevan Mission.

Five themes of UN 2023 water conference

	Water for Health
Access to 'WASH' (Global Water, Sanitation, & Hygiene) including the Human Rights to Safe Drinking Water and Sanitation.	
	Water for Sustainable Development
Valuing water, the water-energy-food nexus and sustainable economic and urban development.	
	Water for Climate, Resilience and Environment
Source to sea, biodiversity, climate resilience and disaster risk reduction .	
	Water Action Decade
Accelerating the implementation of the objectives of the Decade for Action , including through the UN Secretary-General's Action Plan .	
	Water for Cooperation
Transboundary and international water cooperation , cross sectoral cooperation and water across the 2030 Agenda. ★	

- **Capacity building:**
 - Efforts like the **Making Rights Real initiative** offered to help marginalised communities and women understand how to exercise their rights.
 - **Water for Women Fund** offered support mechanisms for more effective and sustainable water, sanitation, and hygiene outcomes for women.
- **Knowledge sharing:** Cross-learning tool **W12+ Blueprint** is a UNESCO platform that hosts city profiles and case studies of programs, technologies, policies that addresses common water security challenges.
- **Demand for formal agreement**, like the 2015 Paris climate accords.
- **Environmental, social, and corporate governance:** The conference concluded that both farmers and industries are not incentivized enough to be more water efficient.

Water Action Decade 2018-2028

- The United Nations General Assembly has declared the period between 2018 and 2028 as the International Decade for Action on "Water for Sustainable Development" in order to expedite initiatives aimed at addressing water-related challenges.
- It pursues two main goals:
 - To improve knowledge sharing related to water and water pollution control, including information on the water-related SDGs outlined in the 2030 Agenda for Sustainable Development.
 - To improve communication to achieve the water-related SDGs.

Related news

The United Nations World Water Development Report (UNWWDR) 2023: Partnerships and cooperation for water

- The report was released during the United Nations 2023 Water Conference.
- **Released by: UNESCO, on behalf of UN-Water** and its production is coordinated by the UNESCO World Water Assessment Programme.
- Published annually on **World Water Day (WWD), celebrated on 22 March.**
- Focuses on a **different theme each year and gives policy recommendations to decision-makers by offering best practices and in-depth analysis.**
- Theme of WWD 2023 is **"Accelerating the change to solve the water and sanitation crisis"**.
- **Key findings of report**
 - At current rates, **progress towards all targets of SDG 6 is off-track.**
 - **10% of global population** lives in countries with **high or critical water stress.**

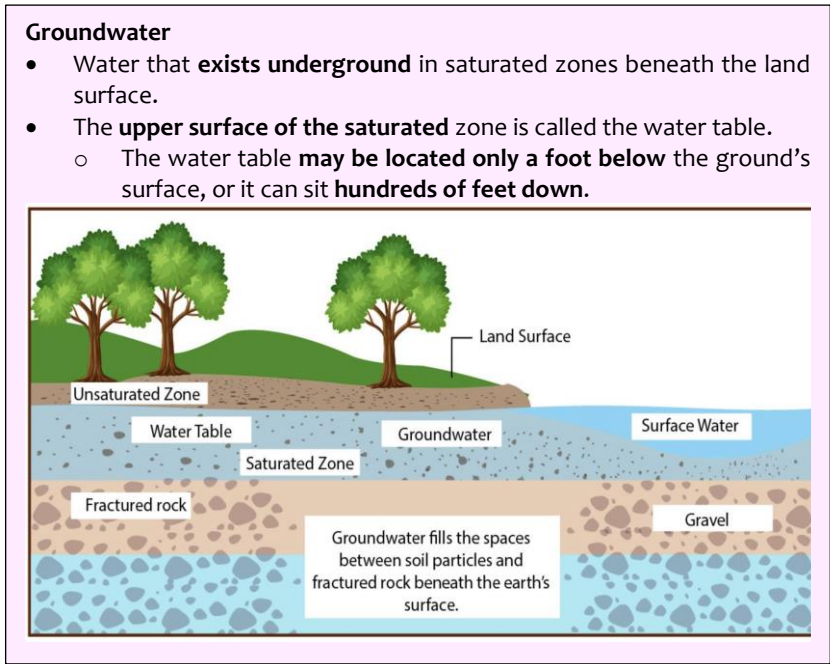
4.2.2. 'GROUNDWATER: A VALUABLE BUT DIMINISHING RESOURCE' REPORT

Why in news?

Parliamentary Standing Committee on Water Resources presented its report on **'Groundwater: A Valuable but Diminishing Resource'**.

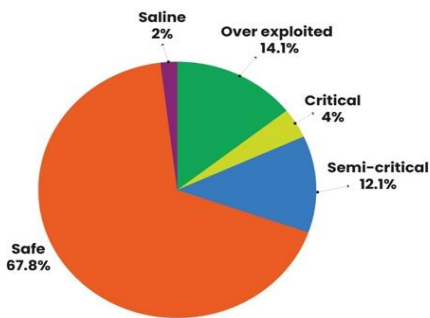
Key highlight of the report

- Noted that the **progress made in terms of bringing down the groundwater use is "minimal."**
- As per the 2020 assessment, **61.6% of India's annual extractable groundwater resource of 398 billion Cubic Meter (BCM) was being utilized**, with 245 BCM being extracted for all uses.
- **Over-extraction of groundwater for meeting irrigation needs is prevalent mainly in northern states**, particularly in Punjab, Haryana, and Rajasthan.
- Regional distribution of Ground water varied-
 - **Northern mountainous terrain of Himalaya** (from Kashmir to Arunachal Pradesh) being **major source of recharge** for the vast Indo- Gangetic and Brahmaputra alluvial plains.
 - **Peninsular Shield** located south of Indo-Gangetic-Brahmaputra plains **has limited Ground water potential** while **coastal tracts have potential multi-aquifer systems** in the States.

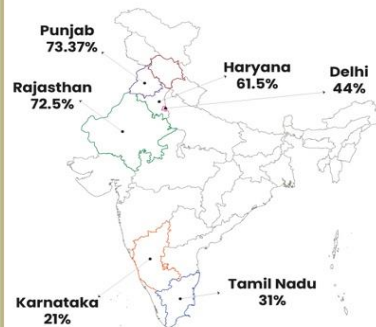


Groundwater Extraction Scenario in India (2022)

Status of units



States with highest 'Over-exploitation' percentage



- ⇨ **Safe:** Ground water extraction is **less than 70%**.
- ⇨ **Semi-critical:** Ground water extraction is **between 70% and 90%**.
- ⇨ **Critical:** Ground water extraction is **between 90-100%**.
- ⇨ **Over-exploited:** Ground water extraction exceeding the annually replenishable ground water recharge.
- ⇨ **Saline:** Major part of the ground water in these aquifers is **brackish or saline**.

4.2.3. OTHER IMPORTANT NEWS

News	Details
Ethylene Oxide	<ul style="list-style-type: none"> • European commission classified ethylene oxide as a pesticide residue (earlier classified as fumigant). <ul style="list-style-type: none"> ○ This means agricultural products being exported to European Union will now be mandatorily tested. • About Ethylene oxide <ul style="list-style-type: none"> ○ A flammable colorless gas with a sweet odour. ○ Used primarily to produce other chemicals, including antifreeze. ○ In smaller amounts, ethylene oxide is used as a pesticide and a sterilizing agent. ○ Classified as carcinogenic and mutagenic.
Polycyclic aromatic hydrocarbons (PAHs)	<ul style="list-style-type: none"> • Researchers at the Council of Scientific & Industrial Research-Indian Institute of Petroleum (CSIR-IIP), Dehradun, have identified a white-rot fungus <i>Trametes maxima</i> IIPLC-32, which has the potential to cause microbial remediation (bioremediation) of pyrene. • Pyrene belongs to the highly toxic class of Polycyclic aromatic hydrocarbons (PAHs), with carcinogenic and mutagenic properties. <ul style="list-style-type: none"> ○ It gets lodged into the environmental matrices like soil, water and atmosphere, resulting in widespread environmental pollution. • PAHs are a class of chemicals that occur naturally in coal, crude oil, and gasoline. <ul style="list-style-type: none"> ○ They result from burning coal, oil, gas, wood, garbage, and tobacco.
Liquid Tree/LIQUID 3	<ul style="list-style-type: none"> • Belgrade (Serbia) has introduced liquid tree, an urban photo-bioreactor, to combat air pollution. • LIQUID 3 contains water and uses microalgae to reduce greenhouse gas emissions and improve air quality by binding carbon dioxide and producing pure oxygen through photosynthesis. • It is more efficient than trees, replacing two 10-year-old trees or 200 square meters of lawn.
Plastic Rocks	<ul style="list-style-type: none"> • Researchers have found plastic rocks on Trindade island in Brazil. <ul style="list-style-type: none"> ○ Trindade island is an important conservation spot for one of the largest sea turtles - Green Turtles (<i>Chelonia Mydas</i>), (IUCN Status: Endangered). • Plastic was found in the rocks called plastiglomerates - a mixture of sedimentary granules and other debris held together by plastic. • This intertwining of plastic with rocks is evidence of humans' pollution reaching earth's geological cycles
Calcium carbide	<ul style="list-style-type: none"> • FSSAI has urged states and UTs to act against unauthorised use of artificial fruit ripening agents like Calcium carbide. • Calcium carbide is commonly used in mining and metal industries as well as in production of acetylene gas.

	<ul style="list-style-type: none"> It is a highly reactive compound and releases acetylene gas which is used to artificially ripen fruits. It is a highly toxic substance that can cause a range of health problems, including skin irritation, respiratory problems and even cancer. Regulation: Banned under the Prevention of Food Adulteration (PFA) Act, 1954 and Food Safety and Standards (Prohibition and Restriction on Sales) Regulation, 2011. Use of calcium carbide is prohibited as per the provision of Food Safety and Standards (Prohibition and Restriction on Sales) Regulation, 2011.
Sodium cyanide (NaCN)	<ul style="list-style-type: none"> India has initiated an antidumping probe into imports of poisonous chemical sodium cyanide from China, European Union, Japan and Korea. <p>About Sodium cyanide</p> <ul style="list-style-type: none"> Appears as a white crystalline solid or powder. Releases hydrogen cyanide gas, a highly toxic chemical asphyxiant that interferes with the body's ability to use oxygen. Odorless when dry. Used for extraction of gold and silver from their respective ores, manufacturing insecticides, dyes, pigments, and bulk drugs.
Nitrate radicals	<ul style="list-style-type: none"> Recently, a new study published in Nature Geosciences has found that parts of India and China are hotspots for the night-time production of nitrate radicals that can increase the amount of deadly ozone and PM_{2.5} particulate matter in the atmosphere. <p>About Nitrate radical</p> <ul style="list-style-type: none"> An oxide of nitrogen that consists of three oxygen atoms bound to a nitrogen atom. Arises from the oxidation of nitrogen dioxide (NO₂) by ozone (O₃). A strong oxidant, reacting with a wide variety of volatile organic compounds, including alkenes, aromatics, and oxygenates as well as with reduced sulfur compounds, which will then generate ozone and secondary organic aerosol. Occurs principally in the night-time atmosphere due to its rapid photolysis in sunlight and its reaction with Nitric Oxide (NO).
Multi-Angle Imager for Aerosols (MAIA) missions	<ul style="list-style-type: none"> MAIA is a state-of-the-art satellite instrument producing data that will be used in health studies to examine the health effects of various types of air pollution. <ul style="list-style-type: none"> It is a joint effort between NASA and Italian space agency. Its measurements of sunlight reflecting off airborne particles will help determine abundance, size and optical properties of certain pollutants in the atmosphere. Three-year mission will focus on several primary target areas including Los Angeles, Atlanta, Boston, Spain, Beijing, New Delhi.
PRAYAG Platform	<ul style="list-style-type: none"> PRAYAG stands for Platform for Real-time Analysis of Yamuna, Ganga and their Tributaries PRAYAG is a real time monitoring centre for planning and monitoring of projects, river water quality, etc. through various online dashboards such as Ganga Tarang Portal, Ganga Districts Performance Monitoring System, etc. Launched by: Ministry of Jal Shakti, under the ambit of Namami Gange Programme.

4.3. BIODIVERSITY

4.3.1. INTERNATIONAL BIG CAT ALLIANCE (IBCA)

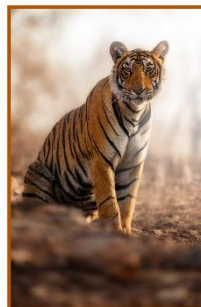
Why in news?

Prime Minister of India launched **International Big Cats Alliance (IBCA)** to mark 50 years of Project Tiger.

More on the news

- Project tiger is a **Centrally Sponsored Scheme** of the Ministry of Environment, Forests and Climate Change (MoEFCC), launched in **1973.**
- It aims to ensure the maintenance of a **viable population of tigers** in India for scientific, economic, aesthetic, cultural and ecological values.
- Implementing Agency of project tiger:** Statutory body, **National Tiger Conservation Authority (NTCA).**
 - Overarching supervisory/coordination role and approves the Tiger Conservation Plan prepared by the State Governments.

TIGER PROTECTION STATUS



About IBCA

- First proposed by India at an **international group against poaching and illegal wildlife trade in 2019.**
- **Aim: To protect and conserve seven major big cats** — tiger, lion, leopard, snow leopard, puma, jaguar and cheetah - in collaboration with **membership of 97 range of countries** harbouring these species.
 - **India is the only country in world to 5 big cats in wild** (except pumas and jaguar).
 - **IUCN Status: Endangered** (Royal Bengal Tiger, Asiatic Lions); **Vulnerable** (Snow Leopards, African Cheetahs); **Least Concerned** (Common Leopard).
- **Funding: Assured support over 5 years with guaranteed funding of over Rs. 800 crores.**
- **IBCA's governance structure:**
 - **General Assembly** consisting of all member countries.
 - **Council of at least seven but not more than 15 member countries** elected by General Assembly for 5 years term.
 - **Secretariat:** Upon recommendation of Council, **General Assembly will appoint IBCA Secretary General for a specific term.**
- **Rational behind protecting big cats-**
 - Apex predators whose loss can set off **“trophic cascade,”** wherein prey populations may explode, resulting in overgrazing and degrading health of landscape.
 - **Protecting tiger habitats** means protecting forests which facilitates **fighting climate change.**
 - **Supports economies** through ecotourism.

National Tiger Conservation Authority (NTCA)

HQ
New Delhi

Genesis: It was constituted under provisions of the **Wildlife (Protection) Act, 1972**, as amended in 2006.

Ministry: Ministry of **Environment, Forests and Climate Change MoEFCC.**

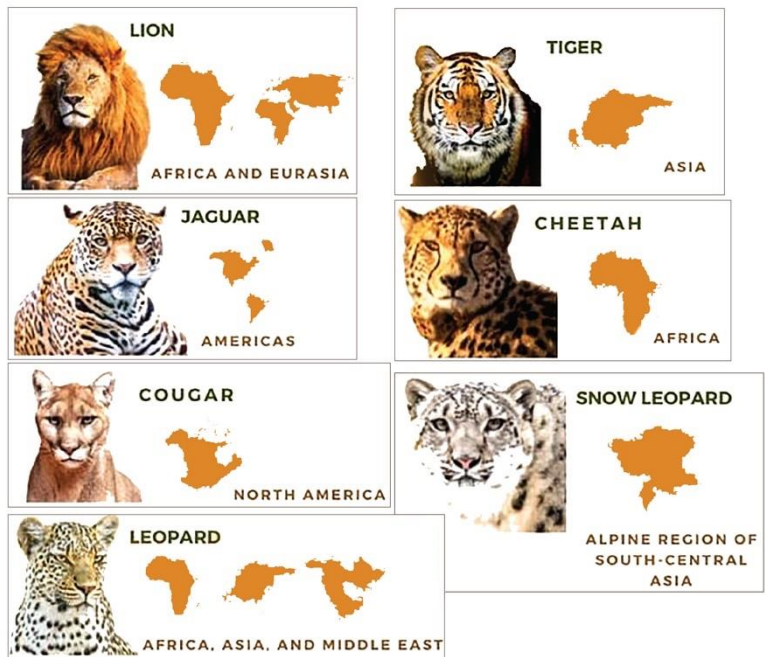
Objectives:

- Providing **statutory authority** to Project Tiger.
- **Fostering accountability** of Center-State in management of TR, by providing a basis for MoU with States within our federal structure.
- Providing for an oversight by **Parliament.**
- Addressing livelihood interests of local people in areas surrounding TR.

Other Key Information:

- It creates Annual Plan of Operations of TR.
- **All India Tiger Estimation** is conducted by it.
- It has a **Guinness book record for the largest camera-trap wildlife survey** in 2019. ★

Type of big Cats & their Locations



Related News:

5th cycle of India's Tiger Census

- The 'Amrit Kaal Ka Vision For Tiger Conservation', a summary report of the 5th cycle of **Management Effectiveness Evaluation (MEE)** of Tiger Reserves and the summary report of **All India Tiger Estimation (5th cycle)** was also released.
 - MEE is a global framework, is an evaluation of management effectiveness of protected areas based on **six main categories-** Context, Planning, Output, Input, Process and Outcomes.

Key Finding of Management Effectiveness Evaluation (MEE) Framework, 2022

- An **overall increase** of 8% in mean MEE Score (77.92%) in comparison to fourth cycle of MEE TR assessment 2018 (70%).
- **Periyar Tiger Reserve (PTR)** topped the list with a MEE score of 94.38% among the 51 reserves that were evaluated.
- **Satpura and Bandipur** came second (93.18%), while Nagarhole was ranked third (92.42%).

Key Finding of All India Tiger Estimation (5th cycle) Report

- Number of tigers in India is **3,167 in 2022**.
- Population **grew by 200 from 2018 to 2022 (6.7% growth rate)**.
- Highest number (1,161) of tigers were noted in the **Central Indian Highlands and Eastern Ghats**.
- Nilgiri cluster** (Nagarahole to Biligiriranga Hills) of the Western Ghat has the largest tiger population in the world.
- Tiger population **declined in Western Ghats**.
- Periyar Tiger Reserve (TR)**, Kerala is best-maintained of all TRs followed by Satpura TR (Madhya Pradesh), Bandipur and Nagarhole (Karnataka).

HIGHEST RISE IN SHIVALIKS

Shivalik Hills & Gangetic Plains

2018: 646
2022*: 804

Central Highlands & Eastern Ghats

2018: 1,033
2022*: 1,161

Western Ghats

2018: 981
2022*: 824

NE Hills & Brahmaputra Plains

2018: 219
2022*: 194

Sundarbans

2018: 88
2022*: 100

*Camera-trapped tigers only

Trend of Tigers Population Growth

4.3.2. PROJECT ELEPHANT

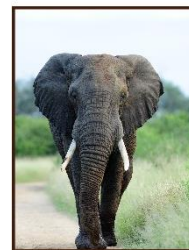
Why in news?

President of India inaugurates **Gaj Utsav at Kaziranga National Park in Assam** to mark **30th anniversary of Project Elephant (PE)**.

About Project Elephant

- Launched by:** Ministry of Environment, Forest and Climate Change (MoEF&CC) in **1992 as a Centrally Sponsored Scheme**.
- Support and Coverage:** Financial and Technical support are being provided to major **elephant-bearing States** in the country. Presently the Project is being implemented in 22 States/UTs.
- Main activities under the Project:**
 - Conserve and protect** viable populations of wild elephants in their natural habitats.
 - Conserve, protect and restore natural habitats and traditional corridors/migratory routes** used by the elephants through eco-restoration, acquisition etc.
 - Protect the elephants from poaching** and other threats by taking suitable measures like **deployment of patrolling squads, intelligence gathering**, etc.
 - Ensure inter-state and regional and national level coordination** in protecting and conserving the elephant and its ranges.
- Steering Committee:** Includes **representatives** of the Government as well as **non-government wildlife experts and scientists**.
 - It **advises** the centre on the project related issues.

ELEPHANT PROTECTION STATUS



IUCN STATUS

EN (Endangered)

Appendix I

Wildlife Protection Act

Schedule I **Schedule IV**

Success of the Project Elephant

- India is home to more than **60%** of all **wild Asian** elephants.
- As per the **Elephant Census 2017**, India had 29,964 elephants.
- Karnataka** has the highest number of elephants, followed by **Assam and Kerala**.
- Census is carried out at **every five-year interval**.

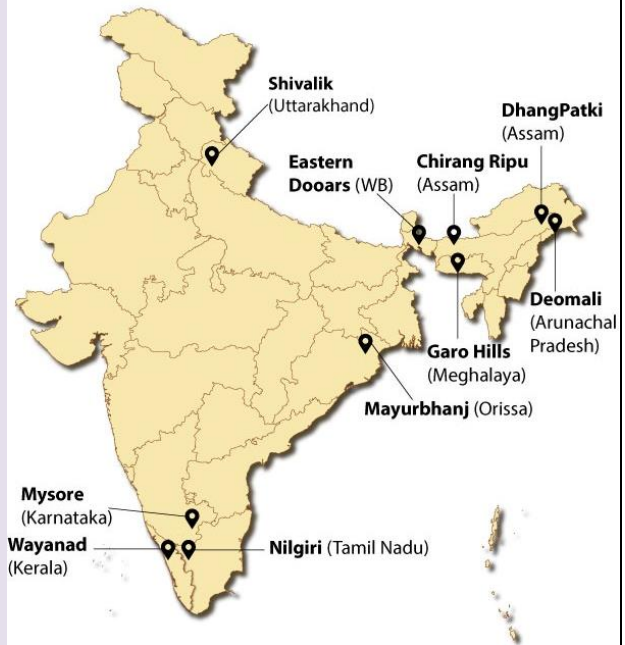
Difference between Asian Elephant and African Elephant

Indicators	Asian Elephant	African Elephant
IUCN status	Endangered	<ul style="list-style-type: none"> Savanna elephant - Endangered Forest elephant - Critically endangered
Size	Smaller, weighing between 3000-6000 kg	Larger, weighing between 4000-8000 kg
Ears	Smaller rounded ears	Large fan shaped ears
Skin	Comparatively smoother skin	Skin is more wrinkled
Forehead	Twin domed head	Single dome shape
Tusks	<ul style="list-style-type: none"> Only some male Asian elephants have tusks Tusks are absent in females (only rudimentary tusks found). 	Both male and female African elephants grow tusks.

Other Conservation measures

- **Elephant Corridor:** Formed by the **Wildlife Trust of India (WTI)** with assistance from State Forest Department of elephant range states.
- **National Awareness Program: Gaj Yatra** (launched by **NGO Wildlife Trust of India (WTI)** and **Haathi Mere Saathi**).
- **Elephant Task Force (2010)**- It was set up to review the existing policy of elephant conservation in India and formulate future interventions.
- **National Heritage Animal (2010)** – It was declared so because of its unique role in socio-religious life people.
- **RE-HAB (Reducing Elephant-Human Attacks Using Bees)** initiative launched by **Khadi and Village Industries Commission (KVIC)**.
- **Monitoring of Illegal Killing of Elephants (MIKE) sites:** India has 10 sites

MIKE Sites in India



4.3.3. GREATER PANNA LANDSCAPE COUNCIL (GPLC)

Why in news?

As part of the **Ken-Betwa Link Project (KBLP)**, GPLC has been constituted to ensure systematic and time bound implementation of the **Greater Panna Landscape Management plan**.

About GPLC

- **The broad objectives of the GPLC are:**
 - Ensure **“win-win” situation for conservation through integration** with development process based on a balanced approach.
 - **Enable betterment of habitat**, and management for flagship species viz. tiger, vulture, and gharial in the landscape;
 - Consolidate the landscape for biodiversity conservation **through spatial prioritization**;
 - Provide **species-specific and site-specific monitoring** strategies.

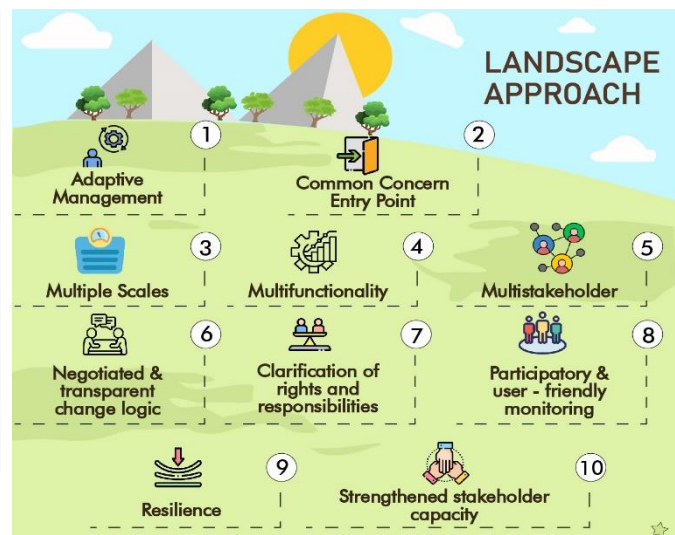
KNOW THE TERM



• **Integrated Landscape Management:** It refers to long term collaboration to achieve the objectives required from the landscape, such as **agricultural production, the delivery of ecosystem services, cultural heritage and values, and rural livelihoods.**

About Panna Tiger Reserve

- **Geographical location:** Situated in the **Vindhyan Hills** nearer to the confluence of the **Deccan Peninsula**, Upper Gangetic Plain, and Semi-Arid Gujarat Rajputana reflecting the influence of three bio-geographic regions.
- **River:** Ken passes through it.
- **Other Important features:**
 - **Formed in 1981 and in 2011** it was designated a biosphere reserve by the government.
 - The **3rd Biosphere Reserve** included in the **UNESCO’s World Network of Biosphere reserves (WNBR)** from Madhya Pradesh after Pachmarhi and Amarkantak.



4.3.4. ARAVALLI GREEN WALL PROJECT

Why in news?

Ministry of Environment, Forest and Climate Change (MoEF&CC) launched Aravalli Green Wall Project

About Aravalli Green Wall Project

- Inspired by **Africa's Great Green Wall (GGW) programme**, an initiative launched in 2007 in **Sahel region** bordering Africa's Sahara Desert, to **combat desertification and land degradation**.
 - GGW project aims to restore 100 million hectares of degraded land by 2030.
- Green Wall Project is a major initiative to create **green corridors in 5 km buffer area** around Aravalli Hill Range in **four states - Haryana, Rajasthan, Gujarat and Delhi**.
 - It'll involve **planting native species of trees and shrubs** on scrubland, wasteland and degraded forest land, along with **rejuvenating and restoring surface water- bodies** such as ponds, lakes and streams.

About Aravalli range

- Extends from **Gujarat to Delhi** passing through **Rajasthan and Haryana** in a **southwest-northeast direction**.
- Highest peak - Guru Shikhar** on Mount Abu.
- Considered the **oldest range of fold- mountains in India**.
- Gives rise to several rivers, including the **Banas, Luni and Sabarmati**.

Objectives of Aravalli Green Wall Project

- Improving **ecological health** of Aravalli range.
- Prevent **eastward expansion of Thar Desert and reduce land degradation**.
- Enhancing **India's image as a global leader** in environmental protection and green development.
- Promote **sustainable development and livelihood opportunities** by involving local communities.
- Contribute to **India's commitments under various international conventions** such as UNCCD (United Nations Convention to Combat Desertification) etc.




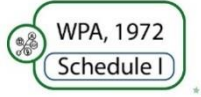
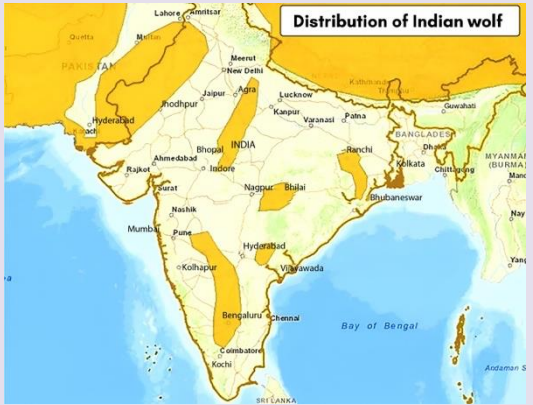


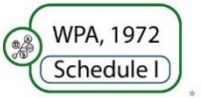



4.3.5. PROTECTED AREAS IN NEWS


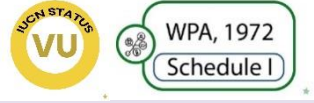


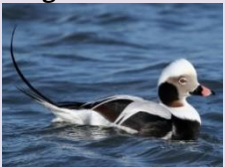


Protected Area	Details
Namdapha National Park, Arunachal Pradesh	<ul style="list-style-type: none"> A tiger was recently spotted in the national park, after a gap of eight years. Geographical location and other Important features: <ul style="list-style-type: none"> Lies on the border between India and Myanmar within Changlang District of Arunachal Pradesh. A National Park and Tiger Reserve. Namdapha is name of a river which originates from Daphabum (Dapha is name of hill, Bum means peak of hill) and meets Noa-Dihing river. Rivers: Comprises the catchment area of Noa-Dihing River, which is a tributary of the Brahmaputra. Flora and Fauna: Sumatran pine, Spruce, Orchid Bamboo etc. Barking deer, Elephants, Asiatic golden cat, Clouded leopard, snow leopard etc.
Orang National Park, Assam	<ul style="list-style-type: none"> Recently, Assam government had issued a preliminary notification for adding 200.32 sq. km to the Orang National Park, the States oldest game reserve, making it more than thrice its existing size. Geographical location and other Important features: <ul style="list-style-type: none"> Located in the Darrang and Sonitpur districts of Assam. Known as the mini Kaziranga National Park since the two parks have a similar landscape and are inhabited by the Great Indian One-Horned Rhinoceros. Identified as an Important Bird Area by Birdlife International. River: Brahmaputra Forest Type: Made up of marshes, streams and grasslands. Fauna and flora: Great Indian One-Horned Rhinoceros, pigmy hog, elephants, wild buffalo and tigers.

Barda Wildlife Sanctuary (BWS), Gujarat	<ul style="list-style-type: none"> Gujarat government has proposed a second home for Asiatic lions in Gujarat at Barda Wildlife Sanctuary (BWS). <ul style="list-style-type: none"> The central government has given in-principle approval to the project. Barda, was recommended for translocation by report on “Lion@2047: A vision for Amrutkal”, prepared by Wildlife Institute of India. <ul style="list-style-type: none"> BWS would protect lion population from extinction in case of diseases like Canine Distemper Virus; unexpected decline in prey; natural calamities or retaliatory killings. Geographical location and other Important features: <ul style="list-style-type: none"> About 100 km away from their present home at Gir National Park (GNP). Home to Maldhari, Bharvad, Rabari and Gadhvi communities. Fauna and Flora: Sambar, chital, chinkara Leopard, hyena, wild boar, wolf, jackal, bluebull etc. 	<div style="border: 1px solid black; padding: 5px;"> <p>About Project Lion</p> <ul style="list-style-type: none"> Envisages landscape ecology-based conservation of Asiatic Lion in Gujarat by integrating conservation and eco-development. Launched in 2020 on lines of Project Tiger and Project Elephant. </div> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p style="text-align: center;">Lion@47 VISION FOR AMRUTKAL</p> <ul style="list-style-type: none"> Securing & restoring Lions' habitats Engaging local communities Becoming a global hub on big cat disease diagnostics & treatment Conservation through Project Lion initiative </div>
Eravikulam National Park (ENP), Kerala	<ul style="list-style-type: none"> The ENP has got its first fernarium. Geographical location and other Important features: <ul style="list-style-type: none"> Located in Southern Western Ghats near Idukki, Kerala. Highest peak: Anamudi at 2695 meters (also the highest peak of the Indian Peninsula). Rivers: Tributaries of River Pambar in the east and tributaries of the River Periyar and Chalakuddy in the west Forest type: Grasslands, shrublands and Shola forests. Fauna and Flora: The largest population of the endangered Nilgiri Tahr, other animals include Nilgiri Marten, Ruddy Mongoose, Small Clawed Otter, etc. Neelakurunji (blooms only once every 12 years), Drosera peltate, etc. 	
Parambikulam Tiger Reserve (PTR), Kerala	<ul style="list-style-type: none"> High Court orders translocation of ‘wild tusker Arikompan’ to Parambikulam reserve. Geographical location and other Important features: <ul style="list-style-type: none"> Located in Palakkad district of Kerala. Lies between Nelliampathy Hills of Kerala and Anamalai Range of Tamil Nadu within a cluster of Protected Areas. Kariyanshola, which is a part of Sungam Range of the Tiger Reserve has been recognized as a UNESCO World Heritage Site Received the accreditation of the Global Conservation Assured Tiger Standards (CA TS). Forest Type: Evergreen, semi-evergreen, moist deciduous, dry deciduous, and shola forests. Fauna and Flora: Tiger, leopard, dhole, sloth bear, Nilgiri tahr gaur, elephant, sambar, and wild pig. 	
Gandhisagar Wildlife Sanctuary, Madhya Pradesh	<ul style="list-style-type: none"> Madhya Pradesh CM said that Gandhisagar Sanctuary will be developed as a second home for cheetahs. Geographical location and other Important features: <ul style="list-style-type: none"> Situated in northwestern Madhya Pradesh, with one of its boundaries running along the border of Rajasthan. A designated Important Bird and Biodiversity Area. River: Chambal Flora and Fauna: Khair, Salai, Kardhai, Dhawda, Tendu, Palash etc. Chinkara, Spotted Deer, Indian Leopard, Striped Hyena etc. 	
Tansa Wildlife Sanctuary, Maharashtra	<ul style="list-style-type: none"> The first-ever bird survey in Tansa Wildlife Sanctuary was conducted this weekend and the volunteers recorded 186 species of birds. Geographical location and other Important features: <ul style="list-style-type: none"> Located in the Thane District of Maharashtra, in the foothills of the Western Ghats. Known to be a paradise for birdwatchers. River: Tansa and Vaitarna Forest Type: Southern Tropical Moist Deciduous Forest, with a few patches of Evergreen forest. Fauna and flora: Trees like Kalamb, Bibla, Khair, Hed, Teak, and Bamboo etc. Panther, Barking deer, Mouse deer, Hyena, Wild boar, etc. 	

<p>Satkosia wildlife sanctuary, Odisha</p>	<ul style="list-style-type: none"> Recently, Satkosia wildlife sanctuary witnessed breeding of Indian Skimmer (IUCN status: Endangered) for the first time. Geographical location and other Important features: <ul style="list-style-type: none"> It is located around Satkosia gorge of Mahanadi river and is spread over. Angul, Cuttack, Boudh and Nayagarh districts in Odisha. River: Mahanadi Forest type: Tropical moist deciduous Forests and Moist peninsular low level sal. Flora and Fauna: Tiger, Elephant, Gaur, fresh water crocodile, gharial barking deer, bison, wild dog, sloth bear etc.
---	---

4.3.6. SPECIES IN NEWS

Species	Details
<p>Indian wolf (Canis lupus pallipes)</p> 	<ul style="list-style-type: none"> In a first, Gujarat set to shift 10 Indian grey wolves from a conservation breeding centre to forested areas in an attempt to check population of wild herbivores. Protection Status: <div style="display: flex; align-items: center; gap: 10px;">   </div> Characteristics: A subspecies of grey wolf. Threats: Habitat loss, fragmentation and degradation, retaliatory killing coupled with disease threats. Habitat: Inhabits semi-arid and arid areas extending from Indian subcontinent to Israel 
<p>Bugun Liocichla</p> 	<ul style="list-style-type: none"> Arunachal Pradesh celebrated five-day Bugun Liocichla Utsav at Eaglenest wildlife sanctuary in Arunachal Pradesh. <ul style="list-style-type: none"> The festival was organised by Singchung Bugun Village Community Reserve (SBVCR) and the Shergaon Forest Division, commemorating 15 years of the declaration of the bird as a new species. Protection status: <div style="display: flex; align-items: center; gap: 10px;">   </div> Habitat: Seen in select pockets of Eaglenest Wildlife Sanctuary in Arunachal Pradesh. <ul style="list-style-type: none"> Was the first bird discovered since India's Independence.
<p>Pygmy Hog</p> 	<ul style="list-style-type: none"> Recently, 10 captive-bred pygmy hogs have been released in Manas National Park of Assam. Protection Status: <div style="display: flex; align-items: center; gap: 10px;">   </div> Characteristics: <ul style="list-style-type: none"> World's smallest and rarest wild pigs. One of the very few mammals that build its own home, or nest, complete with a 'roof'. Habitat: Found only in tall dense alluvial grasslands.

<p>Sarus crane</p> 	<ul style="list-style-type: none"> The Forest department has filed a case and issued a notice to an Uttar Pradesh man who rescued a Sarus crane and took care of it for a year. <ul style="list-style-type: none"> No person is allowed to acquire or keep in his possession, custody, or control any wildlife which is state property, under Section 39 of the Wildlife (Protection) Act, 1972. Protection Status:  Characteristics: <ul style="list-style-type: none"> Tallest flying bird in the world. Found mainly in pairs or small groups of 3 or 4. Mate for life with a single partner. Their breeding season coincides with heavy rainfall in monsoon. They are known for their ability to live in association with humans. Diet: Omnivorous- feed on fish, insects, roots, and plants. Habitat: Typically wades in shallow wetlands or in cropped agricultural areas. Distribution: Sarus crane has 3 disjunct populations - the Indian sub-continent, south-east Asia, and northern Australia. Threats: Habitat loss and degradation due to draining the wetland and conversion of land for agriculture.
<p>Mangrove Pitta Birds (Pitta Megarhyncha)</p> 	<ul style="list-style-type: none"> A first-ever census of mangrove pitta birds was carried out in Odisha and around 179 birds were sighted. Protection Status:  Characteristics: <ul style="list-style-type: none"> They are small secretive birds, measuring 17 to 19 cm in length and weighing 45 to 65 grams. This bird usually feeds on insects and other small invertebrates. Habitat: Found in eastern part of India especially in Odisha and West Bengal along with countries like Myanmar, Bangladesh, Malaysia, Singapore etc.
<p>Long tailed ducks</p> 	<ul style="list-style-type: none"> Long-tailed duck species have been spotted at iconic Wular Lake in Kashmir after 116 years. Wular lake is designated as the Ramsar site. Protection Status  Characteristics: <ul style="list-style-type: none"> Long-tailed ducks are slim, colourful sea ducks with long tails. Diet: Marine invertebrates like crabs & molluscs. Habitat Occur all the way around Arctic and Antarctic. Prefer to spend winter near major bodies of water.
<p>Septemeranthus</p> 	<ul style="list-style-type: none"> A new genus of parasitic flowering plant called Septemeranthus has been discovered in the Nicobar group of islands. Characteristics: <ul style="list-style-type: none"> Grows on the plant species <i>Horsfieldia glabra</i> (Blume) Warb. The leaves of the plant are heart-shaped with a very long tip and the ovary, fruit and seeds 'urceolate' (earthen pot-shaped). Belongs to the family Loranthaceae, a hemi-parasite (partially dependent on their host plants for nutrition). Habitat: Endemic only to the Nicobar group of islands.
<p>Posidonia Australis</p>	<ul style="list-style-type: none"> Posidonia Australis, the world's largest plant has recently been discovered off the West Coast of Australia. <ul style="list-style-type: none"> It stretches across 180 km in length. This makes it the largest known plant on Earth.

	<ul style="list-style-type: none"> • Also known as ribbon weed is a species of seagrass. • It was discovered in the shallow waters of the World Heritage Area of Shark Bay in Western Australia.
Invasive Species in news	
Forked fanwort	<ul style="list-style-type: none"> • In some places in Kerala, the widespread growth of forked fanwort has painted the water bodies pink. • It is a submerged perennial aquatic plant that grows in stagnant to slow-flowing freshwater. • It is an invasive species that belongs to Central and South America. <ul style="list-style-type: none"> ○ The main pathways of dispersal are humans by intentional aquarium plantings and via inappropriate disposal.
Prosopis chilensis	<ul style="list-style-type: none"> • As per the study Prosopis chilensis, an alien invasive plant is threatening to pulverize native vegetation across 21 islands in the Gulf of Mannar Biosphere Reserve (GoMBR). <ul style="list-style-type: none"> ○ The GoMBR, India's first marine biosphere reserve, is one of the important habitats for coastal birds migrating from the Arctic Circle. • It is a drought-resistant plant native to the arid regions of four South American countries namely Argentina, Bolivia, Chile, and Peru. • It is a small to medium-sized legume tree that grows up to 12 m in height and 1 m in diameter. • The Prosopis chilensis is also known as Chilean mesquite.
Vilayati Kikar (Prosopis juliflora)	<ul style="list-style-type: none"> • In a pilot project, work to remove Vilayati Kikar will start at Central Ridge in Delhi in order to restore its natural biodiversity. • Vilayati Kikar is an invasive species first imported into India by British as an exotic and decorative species. <ul style="list-style-type: none"> ○ Also known as Vilayati Babool, it was imported from Mexico - where it is known as mesquite. • An important fuelwood in dry regions, it can survive hostile conditions (like drought). • Being an alien species, it killed off native species by lowering groundwater table.

4.3.7. OTHER BIODIVERSITY RELATED NEWS

News	Details
Protection of Plant Varieties and Farmers' Rights Authority (PPV and FR)	<ul style="list-style-type: none"> • Kerala Agricultural University has been notified as a centre of PPV and FR authority under Ministry of Agriculture and Farmers' Welfare to protect rights of Kerala farming communities over traditional plant varieties. • PPV and FR Act, 2001 provides for the establishment of PPV and FR authority. <ul style="list-style-type: none"> ○ Authority shall consist of a Chairperson and 15 members. ○ Members of Authority are appointed by Central Government. ○ It promotes, by such measures as it thinks fit, the encouragement for development of new varieties of plants and to protect the rights of farmers and breeders.
People's Biodiversity Register (PBR)	<ul style="list-style-type: none"> • Recently, Kolkata became first major metropolitan city to prepare a detailed register of biodiversity i.e. People's Biodiversity Register (PBR). • As per the Biological Diversity Rules 2002, one of the mandate of the Biodiversity Management Committee is to prepare People's Biodiversity Register in consultation with the local people. <ul style="list-style-type: none"> ○ The Biological Diversity Act (BDA), 2002 has made it mandatory for every local self-governing institution in rural and urban areas to constitute Biodiversity Management Committee (BMC) within their area of jurisdiction. • The Register contains comprehensive information on availability and knowledge of local biological resources, their medicinal or any other use.
Animal Birth Control Rules (ABC), 2023	<ul style="list-style-type: none"> • Ministry of Fisheries, Animal Husbandry and Dairying has notified the Animal Birth Control Rules, 2023 under Prevention of Cruelty to Animal Act, 1960. • As per rules: <ul style="list-style-type: none"> ○ Animal Birth Control (ABC) programmes for the sterilisation and immunisation of stray dogs are to be carried out by the respective local bodies/municipalities etc. ○ Animal birth control programme should be run by an Animal Welfare Board accredited organization. • Municipal Corporations need to implement the ABC and Anti Rabies Program jointly.
Butterfly Ecopark in Tripura	<ul style="list-style-type: none"> • The Butterfly EcoPark at Chottakhola, close to the Trishna WildLife sanctuary is the first butterfly park of northeast.

	<ul style="list-style-type: none"> ○ The park is dedicated to conserving and promoting the unique butterfly species found in the region. ○ It was established in 2016 and hosts around 250 species of butterflies. ● Butterflies are deemed to be indicators of a good ecological balance and healthy nature.
Hope spots	<ul style="list-style-type: none"> ● Andaman and Nicobar Islands and Lakshadweep islands have recently been named as the new "hope spots" from India. ● As per IUCN definition, a hope spot is an area of an ocean that needs special protection because of its wildlife and significant underwater habitats. ● It's a joint initiative of Mission Blue and International Union of Conservation of Nature (IUCN). <ul style="list-style-type: none"> ○ Mission Blue is a global coalition to create public awareness, to access and support for a worldwide network of Marine Protected Areas i.e., Hope Spots ○ It has partnered with the International Union for Conservation of Nature (IUCN) and receives support from National Geographic, Rolex, and Google.

4.4. SUSTAINABLE DEVELOPMENT

4.4.1. LOW TEMPERATURE THERMAL DESALINATION (LTTD) PLANTS

Why in new?

National Institute of Ocean Technology (NIOT) will set up a **green, self-powered desalination plants** in Lakshadweep.

More on the news

- Once made operational, it'll probably be the **world's first desalination plant** that will **supply power to plant** as well while **converting seawater to potable water**.
 - Current **desalination plants** are powered by **diesel generator sets** - leading to **air pollution** and **increase in operational cost** due to diesel transportation to island.
- NIOT has established **Low Temperature Thermal Desalination (LTTD) plants** on six Lakshadweep islands and one at **Northern Chennai**.



National Institute of Ocean Technology (NIOT)



Genesis: It was established in 1993 as an autonomous society.

Ministry: Ministry of Earth Sciences (MoES).

Aim: To develop **reliable indigenous technologies** to solve the various engineering problems associated with harvesting of **non-living and living resources** in the Indian Exclusive Economic Zone (EEZ).

Key Objectives:

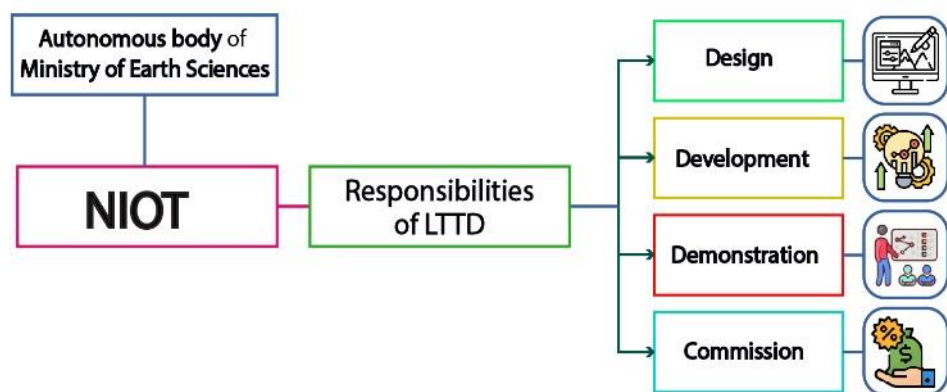
- ▶ To develop **world-class technologies** and their applications for sustainable utilization of ocean resources.
- ▶ To provide **competitive, value-added technical services and solutions** to organizations working in the oceans.
- ▶ To develop a **knowledge base & institutional capabilities** in India for **management** of ocean resources & environment.

Other Key Information: It is developing technologies for the **Deep Ocean Mission** of India. ★

About Low Temperature Thermal Desalination (LTTD) plants

- LTTD is a process in which **warm surface seawater** is **flash evaporated** at low pressure and **vapour** is **condensed** with **cold deep seawater**.

- Cold water condenses the warmer water (at the surface level) whose pressure has been lowered using vacuum pumps. **Condensed water is free of salts and contaminants** and fit to consume.



- Now, instead of diesel-powered vacuum pumps, Ocean Thermal Energy Conversion (OTEC) technology will be used to generate energy to depressurize warmer water.
- **Benefits of LTTD**
 - **Do not require any chemical pre- and post-treatment of seawater** and thus **pollution problems are minimal.**
 - Completely indigenous, robust and environment friendly.

4.4.2 OTHER IMPORTANT NEWS

News	Detail
Doha Programme of Action (DPoA)	<ul style="list-style-type: none"> ● Fifth UN Conference on Least Developed Countries (LDC5) concluded with adoption of Doha Political Declaration that focuses on DPoA. ● DPoA is a 10-year plan (2022-2031) to put the world's 46 most vulnerable countries back on track to achieving Sustainable Development Goals (SDG). ● DPoA consists of six key focus areas including eradicating poverty, addressing climate change, mobilising international partnerships etc.
Indian Renewable Energy Development Agency (IREDA)	<ul style="list-style-type: none"> ● Cabinet approved listing of IREDA on the Stock Exchanges through an Initial Public Offer. <ul style="list-style-type: none"> ○ It will help IREDA in raising a part of its capital requirement and reduce dependence on public exchequer. ● IREDA is currently a wholly owned Government of India, Mini-Ratna CPSE, engaged in financing of Renewable Energy and Energy Efficiency projects. <ul style="list-style-type: none"> ○ It is registered as a Non-banking Financial Company (NBFC) with RBI. ○ Recently, RBI has granted Infrastructure Finance Company status to IREDA.
International Day of Zero Waste (IDZW)	<ul style="list-style-type: none"> ● For the first time, International Day of Zero Waste (IDZW) has been observed to encourage everyone to prevent and minimize waste and promotes a societal shift towards a circular economy (CE). ● A zero-waste approach entails responsible production, consumption and disposal of products in a closed, circular system. <ul style="list-style-type: none"> ○ This means that resources are reused or recovered as much as possible and that we minimize the pollution to air, land or water. ● United Nations General Assembly (UNGA) adopted a resolution in 2022 to proclaim 30 March as the IDZW, to be observed annually. <ul style="list-style-type: none"> ○ It is jointly facilitated by the UN Environment Programme (UNEP) and the UN Human Settlements Programme (UN-Habitat). ○ Theme of the day was 'Achieving sustainable and environmentally sound practices of minimizing and managing waste'. ● Also, the Economic Advisory Council to the Prime Minister of India (PMEAC) released a working paper 'India's Tryst with a Circular Economy'.
Mission 50K-EV4ECO	<ul style="list-style-type: none"> ● Small Industries Development Bank of India (SIDBI) has launched a pilot scheme called Mission 50K-EV4ECO. ● The mission aims to strengthen the Electric Vehicle (EV) ecosystem in India by financing EVs purchase through direct and indirect lending to Micro, Small and Medium Enterprises (MSMEs) and NBFCs respectively. ● It will serve as precursor to SIDBI-World Bank's EVOLVE programme ● SIDBI is a statutory body established in 1990 as the principal financial institution for promotion, financing & development of the MSME sector. <ul style="list-style-type: none"> ○ It works under Ministry of Finance.
Millets And OtHer Ancient Grains International ReSearch Initiative (MAHARISHI)	<ul style="list-style-type: none"> ● Participants of G20 Meeting of Agriculture Chief Scientists on "Sustainable Agriculture and Food System for Healthy People and Planet" unanimously supported launch of MAHARISHI. <ul style="list-style-type: none"> ○ Its secretariat will be housed at Indian Institute of Millets Research (IIMR), Hyderabad with technical support from ICRISAT, One CGIAR Centres and other International organisations. ○ It will focus on Research and Awareness about agro-biodiversity, food security, and nutrition aligning with International Year of Millets 2023. ● Millets are known as nutri-cereals or superfoods, mainly grown on marginal land in dry areas of temperate, sub-tropical and tropical regions.

4.5. GEOGRAPHY AND DISASTER MANAGEMENT

4.5.1. HEATWAVE ALERT

Why in news?

India Meteorological Department (IMD) has issued an **orange alert over high temperatures in 3 states** (West Bengal, Bihar and Andhra Pradesh) and claimed that **heatwave conditions are to prevail in 4 other states** (Sikkim, Jharkhand, Odisha and Uttar Pradesh).

About Heatwave

- **A condition of air temperature which becomes fatal to human body when exposed.**
 - Defined based on **temperature thresholds over a region in terms of actual temperature or its departure from normal.**
- **Reasons for Heatwaves:** Prevalence of hot dry air over a region, Absence of moisture in upper atmosphere, Cloudless Sky, Anti-cyclonic conditions.
- **IMD criteria for Heatwaves:**
 - Heatwave is considered if maximum temperature of a station reaches at least **40°C for Plains, and at least 30°C for Hilly regions.**
 - When **normal maximum temperature** of a station is **less than or equal to 40°C:**
 - ✓ **Heatwave: Departure from normal is 5°C to 6°C**
 - ✓ **Severe Heatwave: Departure from normal is 7°C or more.**
 - When **normal maximum temperature** of a station is **more than 40°C:**
 - ✓ **Heatwave: Departure from normal is 4°C to 5°C**
 - ✓ **Severe Heatwave: Departure from normal is 6°C or more.**
 - When **actual maximum temperature remains 45°C or more** irrespective of normal maximum temperature, heatwaves should be declared.

IMD issues Colour code impact based heat warning jointly with National Disaster Management Authority:

Colour code	Alert
Green (No action)	Normal Day
Yellow Alert (Be updated)	Heat Alert
Orange Alert (Be prepared)	Severe Heat Alert for the day
Red Alert (Take Action)	Extreme Heat Alert for the day

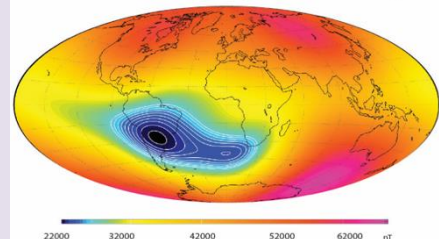
Related news: Heat Index (HI) Reading





- IMD in addition to giving out day's maximum and minimum temperatures, **will soon issue a Heat Index (HI).**
- **HI reading is a reading that gives estimation of what temperature actually feels like.**
- It **factors the day's relative humidity, wind speed, maximum temperature, and cloud cover.**
 - **A colour-based warning will also be issued,** based on the expected HI, listing precautions people can take.
- Calculation of HI **will help states in formulating better Heat Action Plans (HAPs) for heatwave assessment,** forecast, preparedness and mitigation.

4.5.2. OTHER IMPORTANT NEWS

News	Details
South Atlantic Anomaly (SAA)	<ul style="list-style-type: none"> • Actively monitored by US space agency NASA, SAA is a strange anomaly in Earth's magnetic field. • About SAA <ul style="list-style-type: none"> ○ A giant region of lower magnetic intensity in skies above planet, stretching out between South America and southwest Africa. ○ Arises from two features of Earth's core: The tilt of its magnetic axis, and the flow of molten metals within its outer core . • Similar to a dent in Earth's magnetic field or a kind of pothole in space, it can affect orbital spacecraft when passing directly through SAA. <ul style="list-style-type: none"> ○ Example, Causing short-circuit and malfunction in technological systems onboard satellites when struck by high-energy protons from the Sun. ○ It increases the risk of significant data loss and even permanent damage.
Indian National Centre for Ocean	<ul style="list-style-type: none"> • Recently, the Indian National Centre for Ocean Information Services (INCOIS) deploys two deep sea gliders into the Bay of Bengal to study climate change.

South Atlantic Anomaly



<p>Information Services (INCOIS)</p>	<div style="border: 1px solid black; padding: 10px;"> <h3 style="text-align: center;">Indian National Centre for Ocean Information Services (INCOIS)</h3> <p> Genesis - Established as an autonomous body in 1999 under the Ministry of Earth Sciences (MoES) and is a unit of the Earth System Science Organisation (ESSO).</p> <p> Mission - To provide ocean data, information and advisory services to society, industry, the government and the scientific community.</p> <p> Organizational Structure -</p> <ul style="list-style-type: none"> ○ Chaired by the Secretary of the Ministry of Earth Sciences. ○ A director along with a governing council oversees its functioning. <p> Other important functions -</p> <ul style="list-style-type: none"> ○ To establish an Early Warning System for Tsunami and Storm Surges. ○ To promote research in the field of ocean information and related services including satellite oceanography. </div>
<p>Upward lightning or upward flashes</p>	<ul style="list-style-type: none"> • Brazilian researchers recently succeeded in taking pictures of upward lightning. • Upward lightning is a phenomenon whereby a self-initiated lightning streak develops from a tall object that travels upward toward an overlaying electrified storm cloud. • For this to happen, storm electrification and the resulting presence of a cloud charge region are enabling factors: • The vertical elevation of a tall object accentuates the electric field locally on the ground. • This results in conditions favourable for the initiation of an upward streak (called a leader) from a tall object.
<p>Cyclones in news</p>	<ul style="list-style-type: none"> • Cyclone Freddy: Freddy (active for 33 days now) is on track to become the longest-lasting tropical cyclone. <ul style="list-style-type: none"> ○ Current record is held by Hurricane/Typhoon John (1994) which lasted for 31 days. ○ Long life of Freddy is fuelled by energy provided from warm ocean surface. Also, there has been not much land interaction. • Cyclone Ilsa: Tropical Cyclone Ilsa made landfall in Western Australia.
<p>National Platform for Disaster Risk Reduction (NPDRR)</p>	<ul style="list-style-type: none"> • 3rd NPDRR was jointly organized by Ministry of Home Affairs (MHA), National Disaster Management Authority (NDMA), National Disaster Response Force (NDRF), and National Institute of Disaster Management (NIDM). • Main theme of session was “Building Local Resilience in a Changing Climate”. • NPDRR is a multi-stakeholder National Platform established in 2013 by government. It offers a strategic direction and roadmap for formulation of our future National Action Plans on DRR.
<p>Farmer Distress Index (FDI)</p>	<ul style="list-style-type: none"> • FDI is an early warning system to identify stress (and its level) among farmers at least 3-4 months ahead of its actual occurrence. <ul style="list-style-type: none"> ○ Developed by: Central Research Institute for Dryland Agriculture of Indian Council of Agricultural Research (ICAR). ○ It was developed as part of NABARD-funded project on ‘Farmers Distress and Pradhan Mantri Fasal Bima Yojana (PMFBY). • It is built on questions around seven key pillars that capture their financial, emotional, and other parameters.
<p>Gaia hypothesis</p>	<ul style="list-style-type: none"> • James Lovelock, environmental scientist who created Gaia ecology theory, passed away. • It proposes that all organisms and their inorganic surroundings on Earth are closely integrated to form a single and self-regulating complex system. • It postulates that this single system as a whole maintains Earth's surface in a habitable state by self-regulating feedback mechanisms.

4.5.3. PLACES IN NEWS

4.5.3.1. INDIA

Place in News India

Zojila Tunnel

It will provide year-round connectivity between Kashmir Valley and Ladakh.

Neeru River

- Eurasian otters spotted in the Neeru stream of the Chenab catchment.
- Originates in the Kailash Lake. A tributary of Chenab.

River Hindon:

Tributary of River Yamuna.

River Kiul:

Tributary of Ganga.

River Kshipra:

Tributary of Yamuna.

Indor

Asia's largest bio-CNG plant inaugurated here

Sanchi

It is all set to become the country's first solar

Pulicat lake

- After a six-year absence, lesser flamingos found their way back to Pulicat Lake.
- A Ramsar site and second largest brackish water lake or lagoon in India

Hussain sagar, Hyderabad

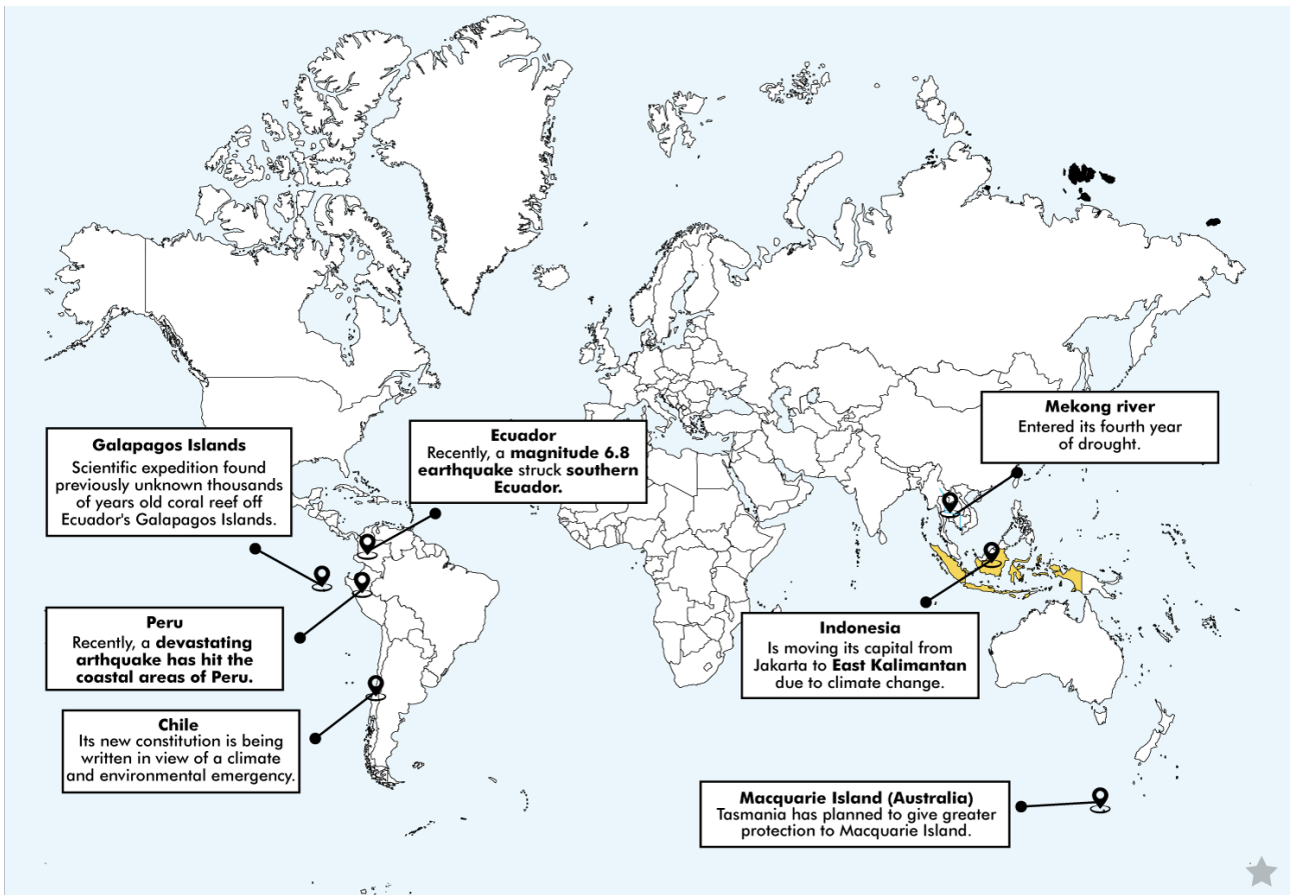
Facing issue of pollution and the reduction in its size.

Pennaiyar river (Ponnaiyar)

- Time limit fixed by SC for constitution of an inter-State River water disputes tribunal for Pennaiyar river is over.
- Rises on eastern slope of Nandidrug Mountain, in the Chennakaseva Hills of eastern Karnataka.

4.5.3.2. INTERNATIONAL

Place and details



Updated Classroom Study Material

4.6. REPORTS AND INDICES

Reports	Details
<p>AR6 Synthesis Report: Climate Change 2023</p>	<ul style="list-style-type: none"> Released by: Intergovernmental Panel on Climate Change (IPCC) It integrates the main findings of the Sixth Assessment Report (AR6) based on contributions from the three Working Groups, and the 3 Special Reports: Global Warming of 1.5°C, Climate Change and Land, The Ocean and Cryosphere in a Changing Climate. Key Findings <ul style="list-style-type: none"> Excess emissions from human activities have raised global temperature by 1.1°C above 1850-1900. Nationally Determined Contributions (NDC) announced by countries make it likely that warming will exceed 1.5°C during the 21st century. For every 1000 GtCO₂ emitted by human activity, global surface temperature rises by 0.45°C (best estimate, with a likely range from 0.27 to 0.63°C). <div style="border: 1px solid blue; padding: 5px; margin-top: 10px;"> <p style="text-align: center;">DO YOU KNOW?</p> <p>Public and private finance flows for fossil fuels are still greater than those for climate adaptation and mitigation.</p> </div>
<p>CO2 Emissions in 2022 Report</p>	<ul style="list-style-type: none"> Released by: International Energy Agency (IEA) Report is first in IEA's new series, Global Energy Transitions Stocktake- tracking progress towards Paris Agreement, provides complete picture of energy-related greenhouse gas (GHG) emissions in 2022. Key findings <ul style="list-style-type: none"> Global energy-related CO₂ emissions grew by 0.9% in 2022, reaching a new high of over 36.8 Gt. Despite the rise, CO₂ growth was well below global GDP growth of 3.2% - reverting to a decade-long trend of decoupling emissions and economic growth.

	<ul style="list-style-type: none"> ○ Emissions from oil grew even more than emissions from coal. ○ Renewables met 90% of last year's global growth in electricity. ○ Emissions from Asia's emerging market and developing economies (excluding China) grew more than those from any other region in 2022. <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>About Global Energy Transitions Stocktake</p> <ul style="list-style-type: none"> • It tracks technology, investment and people-centered progress toward Paris Agreement and supports first Global Stocktake (GST) which will conclude at COP 28 in 2023. • GST, started at COP 26, assesses world's collective progress towards Paris Agreement and long-term climate goals. • Paris Agreement is a legally binding international treaty on climate change adopted by 196 Parties at UN Climate Change Conference (COP21) in 2015. </div> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>International Energy Agency (IEA) Paris, France</p> <p>Genesis: The 1973-1974 oil crisis led to its formation in 1974 with a broad mandate on energy security and energy policy co-operation.</p> <p>Objective: Recommends policies that enhance the reliability, affordability and sustainability of energy taking an all-fuels, all-technology approach.</p> <ul style="list-style-type: none"> ○ In 2017, India joined as an associate member. ○ India was invited to become its full-time member. <p>Other key Information: IEA publishes- World Energy Outlook, Oil Market Reports etc. ★</p> </div>
<p>World Energy Transitions Outlook 2023</p>	<ul style="list-style-type: none"> • Released by: International Renewable Energy Agency (IRENA). • Key highlights <ul style="list-style-type: none"> ○ Current pledges and plans fall well short of IRENA's 1.5°C pathway and will result in an emissions gap of 16 gigatonnes (Gt) in 2050. ○ Global investment across all energy transition technologies reached a record high of USD 1.3 trillion in 2022. <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>International Renewable Energy Agency (IRENA) Bonn, Germany</p> <p>Genesis: An intergovernmental organisation, officially founded in Bonn, Germany, in 2009.</p> <ul style="list-style-type: none"> ○ Proposal for an international agency dedicated to renewable energy was made in 1981 at the UN Conference on New and Renewable Sources of Energy, held in Nairobi, Kenya. <p>Objective: Promotes the widespread adoption and sustainable use of all forms of renewable energy.</p> <p>Membership: 168 members (167 countries and EU)</p> <ul style="list-style-type: none"> ○ Membership is open to members of the UN, and to regional intergovernmental economic-integration organisations. <p>Functions:</p> <ul style="list-style-type: none"> ○ Supports countries in their transition to a sustainable energy future. ○ Serves as the principal platform for international co-operation, a centre of excellence, and a repository of policy, technology, resource and financial knowledge on renewable energy. ★ </div>
<p>Gross Domestic Climate Risk Report</p>	<ul style="list-style-type: none"> • Released by: Cross Dependency Initiative (XDI). <ul style="list-style-type: none"> ○ XDI is a global organization specializing in climate risk analysis for regions, banks, and companies. • Key findings: <ul style="list-style-type: none"> ○ Earth's climate may be on the edge of permanent change due to 'dangerous' feedback loops. ○ 9 out of 50 regions in the world facing high climate risk to a fragile physical infrastructure, fall in India.
<p>Parliamentary Standing Committee report</p>	<ul style="list-style-type: none"> • Glaciers are important components of hydrological cycles of Indian Himalayan region as these are source of three large river systems, i.e. Indus, Ganges, and Brahmaputra. <ul style="list-style-type: none"> ○ Hindu Kush Himalayan Region is also known as 'Water Towers of Asia'.

<p>on Glacier Management in the Country</p>	<ul style="list-style-type: none"> ○ Himalayan mountains are also referred to as third pole. ● Key issues highlighted ○ Majority of Himalayan glaciers are melting or retreating and this will not only severely affect flow in Himalayan river system but will also give rise to disasters like Glacier Lake Outburst Flood (GLOF), glacier avalanche etc. ○ Melting of glaciers may lead to shift of tree line in Himalaya and may also cause change in phonological behaviour of plants. ○ Lack of data sharing on hydrological information with neighbouring countries. ○ Plethora of ministries/departments/institutions with different mandates for dealing with hydro-meteorological and hydro-geological hazards of Himalayan glaciers.
<p>Striving for Clean Air: Air Pollution and Public Health in South Asia report</p>	<ul style="list-style-type: none"> ● Released by: World Bank ● The report uses Greenhouse Gas and Air Pollution Interactions and Synergies (GAINS) model to quantify particulate matter (PM) emissions and how they disperse in the atmosphere. ● Key findings <ul style="list-style-type: none"> ○ In the densely populated Indo gangetic plane, fine PM concentration such as soot and small dust (PM 2.5) is up to 20 times higher than WHO standard of 5 microgram per cubic metre in some areas. ○ Main causes behind Air Pollution in South Asia are Solid fuel combustion, small industries, municipal waste management practices (e.g. burning of plastics) etc. ○ Identifies six major airsheds in South Asia where spatial interdependence in air quality is high. <ul style="list-style-type: none"> ✓ An airshed can be defined as a region that shares a common flow of air, which may become uniformly polluted and stagnant. ✓ Bangladesh, India, Nepal, and Pakistan, share a common airshed that spans Indo Gangetic Plain <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <p style="text-align: center;">The Potential Health Effects of Air Pollution (across the lifecycle)</p> </div>
<p>World Air Quality Report</p>	<ul style="list-style-type: none"> ● Released by: Swiss air quality technology company IQAir. ● Key findings <ul style="list-style-type: none"> ○ Annual average PM_{2.5} level, as per WHO guidelines, should be 5 µg/m³ or less but India's annual average PM_{2.5} level in 2022 was 53.3 µg/m³. ○ Delhi ranked fourth on list of 50 of world's most polluted cities in terms of PM_{2.5} levels in 2022. ○ Out of 131 countries, India ranked 8th in worst air quality.
<p>Reuse of Treated Wastewater (TWW) in India report</p>	<ul style="list-style-type: none"> ● Released by: Council on Energy, Environment and Water (CEEW), a not-for-profit policy research institutions, assesses economic and market potential for reuse of TWW at national scale. ● Key highlights of report <ul style="list-style-type: none"> ○ Market value of total available TWW in 2021 is INR 630 million. ○ Nine times the area of New Delhi could have been irrigated using available TWW in 2021. ○ Reusing TWW in irrigation could have reduced greenhouse gas (GHG) emissions by 1.3 million tonnes in 2021. ○ Issues in present policies related to TWW: Only a few states identify and prioritise sectors for reuse, lack of incentives, TWW quality standards are not defined etc.
<p>All India report of the first census of Water Bodies</p>	<ul style="list-style-type: none"> ● Released by: Ministry of Jal Shakti ● Objective is to develop a national database for all water bodies by collecting information on subject including their size, condition, status of encroachments, use, storage capacity, status of filling up of storage etc. <ul style="list-style-type: none"> ○ Census was launched in convergence with 6th Minor Irrigation Census under Centrally Sponsored Scheme "Irrigation Census". ● Key highlights of the Census <ul style="list-style-type: none"> ○ 24.24 lakh water bodies have been enumerated, out of which 97.1% are in rural areas and only 2.9% are in urban areas. ○ Top 3 states with most water bodies: West Bengal, Uttar Pradesh, Andhra Pradesh. <ul style="list-style-type: none"> ✓ West Bengal's South 24 Parganas district has highest number of waterbodies.

	<ul style="list-style-type: none"> States/UTs with least water bodies: Sikkim, Chandigarh, Delhi. 78% are man-made water bodies whereas 22% are natural water bodies. 55.2% are owned by private entities whereas rest are under public ownership. Water User Associations (WUA) has helped in preventing encroachments. 	
<p>Indian States' Electricity Transition (SET) report</p>	<ul style="list-style-type: none"> Released by: Institute for Energy Economics and Financial Analysis (IEEFA) Reports provides progress and performance of Indian states on various aspects of clean electricity transition. <ul style="list-style-type: none"> It has analysed 16 states on electricity transition pathway based on four dimensions with 17 parameters. (refer image). <ul style="list-style-type: none"> These states together account for 90% of India's annual power requirement. Key findings of report <ul style="list-style-type: none"> Bihar, UP and West Bengal need to expand their potential and transition commitments. Karnataka is only state that scored well across all four dimensions followed by Gujarat. 	<p style="text-align: center;">Four dimensions of Indian States' Electricity Transition (SET) report</p> <div style="border: 1px solid black; padding: 5px;"> <p>Dimension 1: Decarbonisation</p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>Renewable Energy Mix in States' Power Supply</p> </div> <div style="text-align: center;"> <p>Renewable Energy Potential Utilised by States</p> </div> <div style="text-align: center;"> <p>Old Coal Power Capacity in Operation</p> </div> <div style="text-align: center;"> <p>Power Sector Emissions Intensity (gCO2e/GSDP)</p> </div> <div style="text-align: center;"> <p>State Energy Efficiency index (SEEI)</p> </div> </div> <hr/> <p>Dimension 2: Performance of the Power System</p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>DISCOM Performance Rating</p> </div> <div style="text-align: center;"> <p>Percentage of outstanding Payments by DISCOMs to Power Generators</p> </div> <div style="text-align: center;"> <p>GDAM Participation</p> </div> <div style="text-align: center;"> <p>Sub-national Renewable Energy Targets vs Achieved (till end of year 2022)</p> </div> </div> <hr/> <p>Dimension 3: Readiness of the Power Ecosystem</p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>Quality of Supply/Power Shortages</p> </div> <div style="text-align: center;"> <p>The Feeder Segregation</p> </div> <div style="text-align: center;"> <p>Smart Metering</p> </div> <div style="text-align: center;"> <p>Electricity Intensity of GDP (kWh/SGSDP)</p> </div> </div> <hr/> <p>Dimension 4: Policies and Political Commitment</p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>Avoiding Coal Power Lock-in</p> </div> <div style="text-align: center;"> <p>Flexibility and Battery Policy</p> </div> <div style="text-align: center;"> <p>Circular Economy</p> </div> <div style="text-align: center;"> <p>Banking Restrictions</p> </div> </div> </div>
<p>Environment Statistics 2023</p>	<ul style="list-style-type: none"> Released by: Ministry of Statistics and Programme Implementation (MoSPI). Key findings <ul style="list-style-type: none"> In 2022, annual rainfall measured in India has increased in comparison to 2021. In 2022, maximum heatwave days were reported in Rajasthan, followed by Punjab and Haryana, Jharkhand, and Delhi. <ul style="list-style-type: none"> Notably, Assam and Himachal Pradesh have not reported a heatwave day since 2010. Number of cyclonic storms experienced by North Indian Ocean (NIO) increased substantially in 2018 which persisted in subsequent year but again reduced in 2022. 	
<p>State Energy Efficiency Index (SEEI) 2021-22</p>	<ul style="list-style-type: none"> Released by: Ministry of Power Developed by: Bureau of Energy Efficiency (BEE) in collaboration with Alliance for an Energy Efficient Economy (AEEE). <ul style="list-style-type: none"> AEEE is an industry led, membership based not-for-profit organization that drives EE markets and policies in India. Assesses the annual progress of states and UTs in energy efficiency (EE) implementation. It improves data collection, enables cross-state collaboration, and develops EE program ideas. <ul style="list-style-type: none"> Index uses 51 indicators across seven sectors: buildings, industry, municipality, transport, agriculture, distribution companies (DISCOMs), and cross-sectoral initiatives. 	

	<ul style="list-style-type: none"> • Key Highlights <ul style="list-style-type: none"> ○ Categorizes states and UTs as ‘Front runner’ (>60), ‘Achiever’ (50-60), ‘Contender’ (30-49.5), and ‘Aspirant’ (<30). ○ States in Front Runner category: Andhra Pradesh, Karnataka, Kerala, Rajasthan and Telangana. ○ Telangana and Andhra Pradesh showed most improvement since the last index. 										
<p>Landslide Atlas of India</p>	<ul style="list-style-type: none"> • Released by: Indian Space Research Organisation (ISRO). • Provides the details of landslide present in Landslide provinces of India including damage assessment of specific landslide locations. • ISRO’s National Remote Sensing Centre (NRSC), Hyderabad, has created this database of landslide-prone regions of India based on events during 1998 – 2022. • The database covers landslide vulnerable regions in 17 states and 2 UTs of India in the Himalayas and Western Ghats. • Key Findings <ul style="list-style-type: none"> ○ India is among the top 4 countries with highest landslide risk ○ Rainfall variability pattern is the single biggest cause of landslides in India, with the Himalayas and the Western Ghats remaining highly vulnerable. ○ Excluding snow-covered areas, approximately 12.6% of the country's geographical land area (0.42 million sq km) is prone to landslides. ○ Number of districts with maximum landslide exposure are in Arunachal Pradesh (16), followed by Kerala (14), Uttarakhand and Jammu and Kashmir (13 each). <div style="border: 1px solid black; padding: 5px;"> <p>About Landslide</p> <ul style="list-style-type: none"> • Defined as the movement of a mass of rock, debris, or earth down a slope due to the direct the impact of gravity. • Broadly classified based on the type of materials involved (rock, debris, soil, loose mud), type of movement of the material (fall, topple, slide, rotational slide or translational slide), and type of flow of the material. </div> <div style="border: 1px solid black; padding: 5px;"> <p style="text-align: center;">Landslide Prone Areas in India</p> <table border="1" style="margin-top: 10px;"> <caption>Landslide Prone Areas in India</caption> <thead> <tr> <th>Region</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>North East Himalaya</td> <td>42.85%</td> </tr> <tr> <td>North West Himalaya</td> <td>33.33%</td> </tr> <tr> <td>Western Ghats and Konkan hills</td> <td>21.38%</td> </tr> <tr> <td>Eastern Ghats of Araku area in Andhra Pradesh</td> <td>2.38%</td> </tr> </tbody> </table> </div>	Region	Percentage	North East Himalaya	42.85%	North West Himalaya	33.33%	Western Ghats and Konkan hills	21.38%	Eastern Ghats of Araku area in Andhra Pradesh	2.38%
Region	Percentage										
North East Himalaya	42.85%										
North West Himalaya	33.33%										
Western Ghats and Konkan hills	21.38%										
Eastern Ghats of Araku area in Andhra Pradesh	2.38%										

4.7. UPDATES

4.7.1. SOLAR WASTE TREATMENT UNDER E-WASTE (MANAGEMENT) RULES, 2022

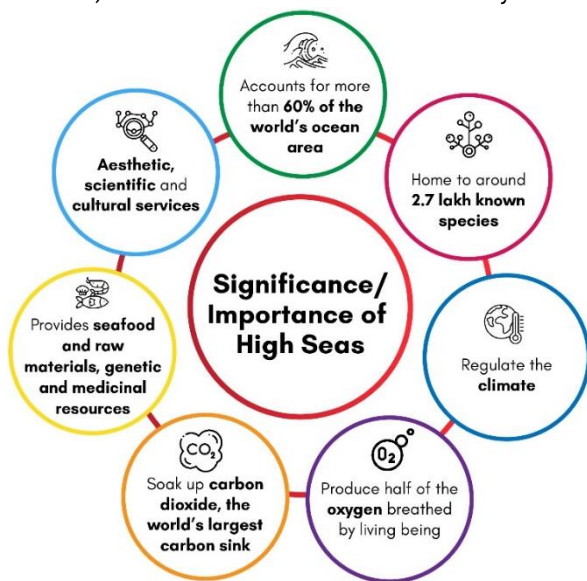
- The Union Minister of Renewable Energy & Power has shared details regarding **solar waste related provisions under e-waste (management) rules, 2022**, which were notified by MoEFCC.
- As per these rules, **every manufacturer and producer of solar photo-voltaic (PV) modules or panels or cells shall-**
 - **Ensure registration** on portal.
 - **Store solar PV modules or panels or cells waste generated up to year 2034-2035.**
 - **Ensure that processing of waste other than solar PV modules or panels or cells shall be done as per applicable rules or guidelines for the time being in force.**
 - Comply with standard **operating procedures and guidelines laid down by Central Pollution Control Board.**

About Solar wastes

- **Electronic waste generated by discarded solar panels.**
 - **International Renewable Energy Agency (IRENA)** estimated that global PV waste will touch **78 million tonnes by 2050**, with **India** expected to be **one of the top five PV-waste creators.**
- **Concerns associated with solar waste: High cost gap between recycling and discarding panels; Contain lead, cadmium and other toxic materials that are carcinogenic etc.**

4.7.2. BIODIVERSITY OF AREAS BEYOND NATIONAL JURISDICTION TREATY (UNITED NATION HIGH SEAS TREATY) HAS BEEN ADOPTED

- It was adopted at the **5th United Nation Intergovernmental Conference on Marine Biodiversity of Areas Beyond National Jurisdiction**.
- Adopted under the framework of the **United Nations Convention on Laws of the Sea (UNCLOS)**.
 - The issue of conservation of marine biodiversity beyond jurisdiction was raised in **Rio+20 summit in 2012**.
 - In **2017, UN adopted a resolution to provide for Inter-governmental conference to frame legally binding agreement**.
 - The conference met for the **first time in 2018**.
- **Legally binding** in nature.
- Will only enter into force once **60 countries have ratified** it.
- Also referred to as the **‘Paris Agreement for the Ocean’**.
- **High Ambition Coalition** played a key role in the adoption of the treaty.
- The **high seas** are all parts of the ocean that aren't included in the exclusive economic zone, the territorial sea, or the internal waters of a country.



United Nations Convention on the Law of the Sea (UNCLOS)

THE LAW OF THE SEA Hamburg, Germany

Secretariat: Division for Ocean Affairs and the Law of the Sea (DOALOS), United Nations

About: It lays down a comprehensive regime of law and order in the world's oceans and seas establishing rules governing all uses of the oceans and their resources.

Genesis: It concluded after the three **United Nations Conferences on the Law of the Sea (UNCLOS III)**, which took place between 1973 and 1982 (adopted) and came into force in **1994**.

Membership: It has been ratified by **168 parties**.

Other key information:

- It established the **International Court of the Law of the Sea**, competent to hear **disputes** relating to the **interpretation and application** of that treaty.

Draft High Seas Treaty	
Objective: Ensure the conservation and sustainable use of marine biological diversity in areas beyond national jurisdiction through international cooperation and coordination.	<div style="text-align: center; border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <h3>Major Principles and Approaches</h3> </div> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%; border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <p>Polluter-pays principle (those causing pollution in a particular region are responsible for its reduction),</p> </div> <div style="width: 45%; border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <p>Common heritage of humankind,</p> </div> </div> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%; border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <p>Traditional knowledge of Indigenous Peoples.</p> </div> <div style="width: 45%; border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <p>An ecosystem approach (holistic in nature), and</p> </div> </div>
Key Highlights	
Environmental Impact Assessments (EIA) <ul style="list-style-type: none"> • Parties obligated to conduct EIA undertaking processes of screening, scoping etc., under EIA. before implementation of the project. • EIA will be followed by an environmental management plan. 	Fair and Equitable Sharing of Benefits <ul style="list-style-type: none"> • Access- and the benefit-sharing committee will frame guidelines for sharing benefits arising from of Marine Genetic Resources (MGR) and digital sequence information on MGR of areas beyond national jurisdiction. • No State can claim its right over marine genetic resources of areas beyond national jurisdiction.

<p>Consent from Indigenous Community</p> <ul style="list-style-type: none"> • Free, prior and informed consent is necessary for accessing Marine resources in High seas areas that are held by indigenous people and local communities 	<p>Institutional Mechanism</p> <ul style="list-style-type: none"> • Conference of the Parties (CoP)- Will be set up for governance. • Clearing-house mechanism- Will enable parties to access, provide and give information on activities taking place in relation to the agreement.
<p>Other Highlights</p> <ul style="list-style-type: none"> • Area-based management tools-It is a comprehensive system, with ecologically representative and well-connected networks of marine protected areas. • Capacity Building and Technology Transfer- In marine scientific research and in the development and transfer of marine technology. • Marine Protected Areas (MPAs): Treaty will demarcate the MPA in high seas. These can be called national parks or wildlife reserves of the oceans. • Equity-Full recognition of the special circumstances of small island developing States and of least developed countries and acknowledgment of the special interests and needs of landlocked developing countries. • Global Environment Facility trust fund- It will help in mobilizing resources. • Settlement Of Disputes: Parties have the obligation to settle disputes by peaceful means. • Exceptions: Except for Part II, dealing with Marine Genetic Resources, the Agreement does not apply to any warship, military aircraft or naval auxiliary. 	

4.7.3. FOREST (CONSERVATION) AMENDMENT BILL, 2023 INTRODUCED IN LOK SABHA

- **Bill seeks to amend Forest (Conservation) Act (FCA), 1980** that was enacted to provide for conservation of forests and for matters connected therewith.
- **Need for the new bill**
 - **Addressing new developments**, such as, mitigating **impact of climate change**, achieving national targets of **Net Zero Emission by 2070** and maintaining or **enhancing forest carbon stock**.
 - **To fast track strategic and security related projects** of national importance to ensure development of vital security infrastructures, **especially along international border areas**.
 - **To prescribe extent of applicability and non-applicability of FCA** in various types of lands (**post Supreme Court’s Godavarman judgment** that expanded coverage of FCA).
- **Key features of the Bill**
 - **Clarify scope of applicability** of the Act **upon various lands**.
 - **Exempt certain categories** of lands from the purview of the Act to
 - ✓ **Fast track strategic and security related projects,**
 - ✓ **Encourage plantation** on non-forest land,
 - ✓ **Provide access to small establishments,** habitations etc.
 - **Include more activities**, which are taken up for the cause **of conservation of forest and wild life**.

4.7.4. NEW BIODIVERSITY HERITAGE SITES

<p>Gandhamardan Hill (Gandhamardan Reserve Forest)</p>	<ul style="list-style-type: none"> • Odisha government has declared the Gandhamardan Hill Range in Bargarh and Balangir district as a Biodiversity Heritage Site (BHS). • It is considered as the treasure trove of medicinal plants and an Ayurvedic paradise of Odisha. • Hosts two historical monuments: Nrusinghanath Temple located on northern slope and Harishankar Temple situated on southern slope. • In his chronicles, Hiuen Tsang had described the hill shrine as a Buddhist heritage site named Parimalagiri.
<p>West Bengal has notified four new BHS</p>	<ul style="list-style-type: none"> • Char Balidanga and state Horticulture Research and Development Station campus in Deypara. <ul style="list-style-type: none"> ○ Char Balidanga comprises two islands on the Hooghly with tropical riverine vegetation of tall grasses and swampy flat lands. • Namthing Pokhar: It is a Himalayan natural wetland. • Amkhoi Fossil Park: It has unique geological and paleo-botanical features and is the first wood fossil park in West Bengal.

4.7.5. SUPREME COURT (SC) MODIFIES ORDER ON ECO-SENSITIVE ZONES (ESZ) AROUND PROTECTED FORESTS

- **Modifying its June 2022 order** that mandated a **minimum 1-km ESZ** around national parks or wildlife sanctuaries, SC stated that **ESZ cannot be uniform across the country** and has to be **“protected area-specific”**.
 - Earlier, Centre and several States had **sought modification of the order** as it affected villages in the **peripheries of forests**.
- **Key highlights of modified order**
 - **2022 order will not be applicable:**
 - ✓ **To ESZs for which draft and final notifications have been issued** by Ministry of Environment, Forests and Climate Change (MoEF&CC) and in respect of **proposals which have been received** by Ministry.
 - ✓ **Where national parks and sanctuaries are located on inter-state borders** or share common boundaries.
 - **No mining would be allowed**, either within national parks and sanctuaries or in a 1-km radius.
 - **Any developmental activities undertaken** within ESZs **should follow the MoEF&CC 2011 guidelines** and also provisions of the 2022 Office Memorandum by MoEF&CC.

4.8. ERRATA

PT 365 Environment (April 2022-December 2022)

- On the Page 69 in the table titled **‘Difference between Asiatic and African Lions’**, due to a typographical error, the information related to African Lions and Asiatic Lions have been interchanged. The correct information has been provided in the below table-

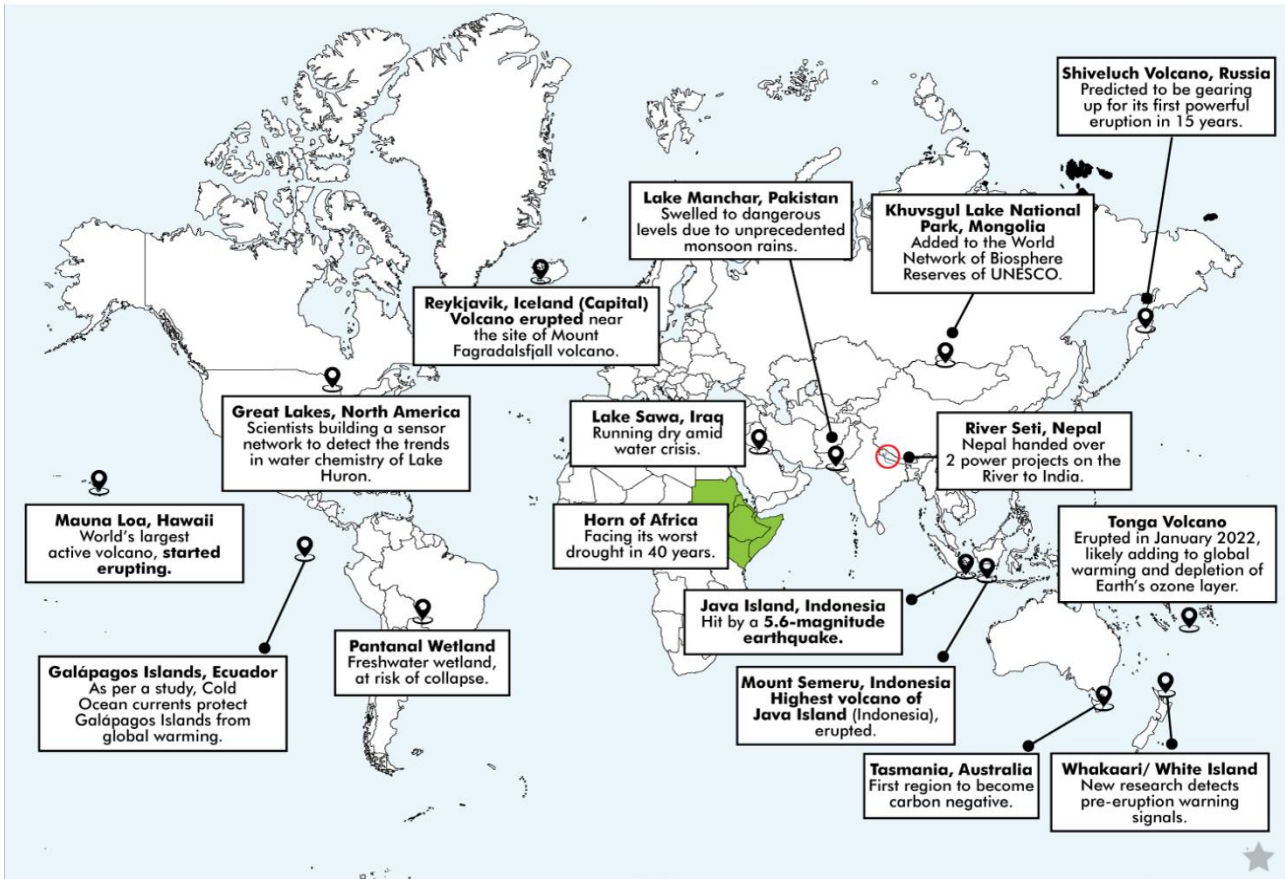
Difference between Asiatic and African Lions		
Criteria	Asian	African
Size	Smaller	Larger
Mane	Relatively short, Darker, sparse mane	Relatively dense, Lighter mane
Skin Fold	Longitudinal fold of skin that runs along the belly	Absent/Rare
Pride Size	Smaller	Larger

- On page 88, in **Article 4.1. Sustainable Development Report 2022**, the markings of the infographic ‘India's Performance on SDGs’ were incorrectly represented. The correct infographic is given below-



- On page 122, in the infographic of Article 6.9.2.1. Geographical features, **‘Mount Semeru in Indonesia’** has been **incorrectly marked as ‘Shiveluch Volcano’**. The correct location has been marked in the below infographic-

Places in news: International



“ The Secret To Getting Ahead Is Getting Started ”



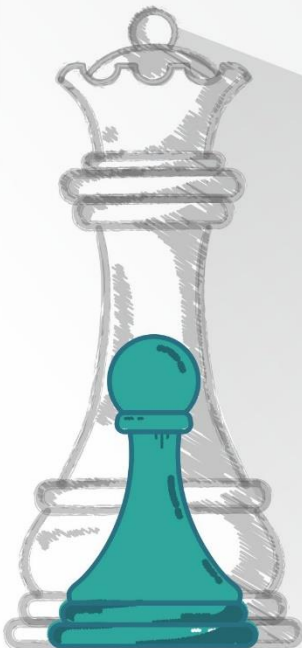
ALTERNATIVE CLASSROOM PROGRAM *for*

GENERAL STUDIES

PRELIMS & MAINS 2025 & 2026

DELHI: 15 JUNE, 5 PM | 30 MAY, 1 PM | 16 MAY, 9 AM
28 APR, 9 AM | 14 APR, 1 PM | 31 MAR, 1 PM

- Approach is to build fundamental concepts and analytical ability in students to enable them to answer questions of Preliminary as well as Mains examination
- Includes comprehensive coverage of all the topics for all the four papers of GS Mains, GS Prelims and Essay
- Includes All India GS Mains, Prelims, CSAT and Essay Test Series of 2024, 2025, 2026
- Our Comprehensive Current Affairs classes of PT 365 and Mains 365 of year 2024, 2025, 2026 (Online Classes only)
- Includes comprehensive, relevant and updated study material
- Access to recorded classroom videos at personal student platform



5. SOCIAL ISSUES

5.1. DRAFT NATIONAL CURRICULUM FRAMEWORK FOR SCHOOL EDUCATION (NCFSE)

Why in News?

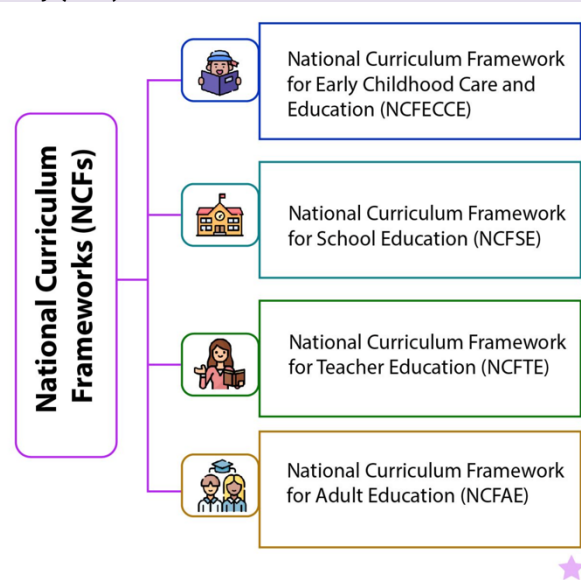
The **Ministry of Education (MoE)** released the **pre-draft of the National Curriculum Framework for School Education (NCFSE)** for public feedback.

About Proposed National Curriculum Framework for School Education (NCFSE)

- It will guide the **development of textbooks and curriculum in accordance with the National Education Policy (NEP) 2020.**
 - The **NCFSE was last revised in 2005** and the existing sets of NCERT text books were prepared using it.
- Target **age group is 3 to 18 years.**
- The NCFSE, will also **restructure various other aspects of the classroom, including choice of subjects, pattern of teaching, and assessment of students.**

National Curriculum Framework (NCF) & National Education Policy (NEP) 2020

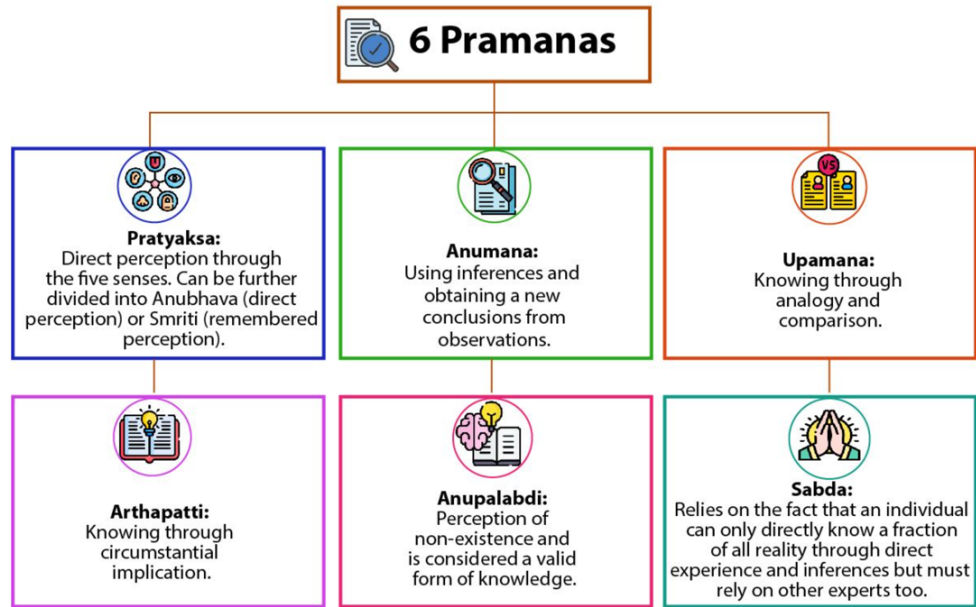
- NEP is a comprehensive framework to guide the **development of education in the country.**
 - It guides the development of education and provides **directions for regulating and promoting education.**
- **National Curriculum Framework for Early Childhood Care and Education (NCFECE)** is already prepared and the rest NCF for teacher education and adult education are underway.
- The NCF brings to life **the aims and commitments of the NEP like**
 - **Includes the full range of human capacities, values and dispositions** that are aimed to be developed in school education.
 - **Pedagogy, practices, and culture must work in tandem to develop these,** and move away from an overemphasis on memorization and content accumulation; in fact, content reduction is required to create space for such development.
 - **Integrative and holistic with equal status to all subjects and learning domains** from Math to Sports.
 - **Confronts and address real challenges** facing our countries' education system.



Proposed Curriculum Changes

- **Class wise approach**
 - For **Children aged 3-8 (preschool to class II)**, a play based pedagogical approach using toys, puzzles, and manipulatives is suggested.
 - For the **middle stage (class VI, VII, VIII)**, natural as well as social sciences will be introduced. **The textbooks are to play a central role from the Middle Stage.**
 - For **class IX and X**, the students are to study **16 courses categorised under eight varied curricular areas (like humanities, maths, science, etc.)**
 - For **class XI and XII**, choice based courses from the same disciplines are provided and **semester system of examination with cumulative grade points is to be introduced for class XII.**
- **Integration: No hard separation among arts, humanities, and sciences.**
- **Academic year and School Schedule:** The NCFSE provides for a specific framework, suggesting that the academic year should be 180 school days or 34 weeks across all stages of education.
 - It calls for a **five and half day week schedule with 29 working hours** for students, with periods of 40 mins (Upto Class VIII) and 50 mins (from Class IX).

- Other Recommendations:
 - **Modular Board Examinations** will be offered as opposed to a single examination at the end of the year.
 - The pre-draft NCF proposes the integration of ancient Indian knowledge systems, such as the 6 pramanas (ways of acquiring knowledge) and the Panchakosha system for Moral Development described in the Taittiriya Upanishad.



5.2. NATIONAL CREDIT FRAMEWORK (NCRF)

Why in News?

The University Grants Commission (UGC) has recently released the National Credit Framework (NCrF).

About National Credit Framework (NCrF)

- It is an inclusive one single meta framework to seamlessly integrate the credits earned through school education, higher education and vocational & skill education.
- The NCrF shall encompass the qualification frameworks for higher education, vocational & skill education and school education, namely:
 - National Higher Education Qualification Framework (NHEQF),
 - National Skills Qualification Framework (NSQF),
 - National Curriculum Framework (NCF)/ National School Education Qualification Framework (NSEQF).
- It will provide the guidelines to be followed by schools, colleges and universities in adopting the credit system.
- It will also enable the students to creditise expertise in elements of Indian knowledge systems like Vedas, Puranas, etc.

Key Highlights of NCrF

- **NCrF Credit level system:** It divides education into 8 levels where levels 1-4 refer to the School Education;
 - 5-8 refers to Higher education and
 - For Vocational education & training credit levels are from level 1 to 8 wherein the level 1 is of lowest level of competence.
- **Different means to earn Credit:** It includes academic, vocational or experiential learning.
- **Integration of earned Credits:** To integrate the credits earned through schools, colleges, vocational and skill education by encompassing the NHEQF, NSQF and NSEQF.
- **Multiple Entry and Exit Options:** Credit transfer mechanism will enable a student to enter, exit and re-enter the educational ecosystem at any point of time during his/her career.
- **Notional Learning Hours:** It refers to the time that an average student needs to attend all classes, appear for tests and submit assignments.
 - The total notional learning hours for school, college, vocational and skill education is fixed at 1200 Hrs/Year.
- The collected credits will be stored in the Academic Bank of Credits (ABC).

5.3. RIGHT TO HEALTH

Why in News?

Recently, Rajasthan became the first Indian State to enact a Right to Health Act.

Health as a Right and Right to Health in India

- **Scope of Right to Health:** Right to Health extends not just to timely and appropriate healthcare, but also to the underlying determinants of health, such as:
 - Access to safe and potable water and adequate sanitation,
 - Healthy occupational and environmental conditions, and
 - Access to health-related education and information, including on sexual and reproductive health.
- **Constitutional Position:** Right to Health is construed as a part of Right to Life (Article 21) through substantive rulings of the Supreme Court (refer image for some examples).

INITIATIVES TOWARDS RIGHT TO HEALTH



National Health Policy, 2017 to attain highest possible level of health and well-being for all at all ages.



National Health Mission (NHM) - encompassing two Sub-Missions - **National Rural Health Mission (NHRM)** and **National Urban Health Mission (NUHM)**.



Ayushman Bharat Yojana to deliver comprehensive healthcare services.



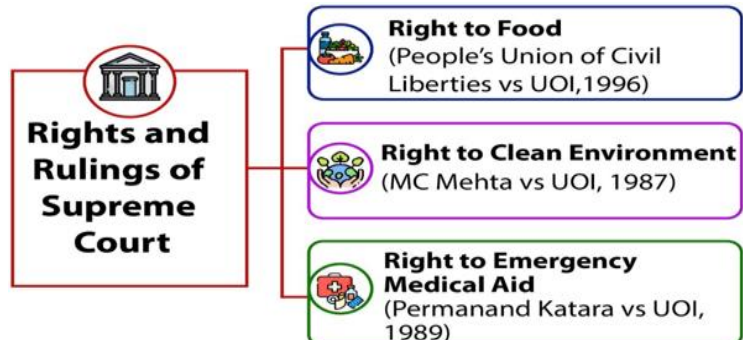
Tele Manas - a comprehensive mental health care service.



Pradhan Mantri Jan Arogya Yojana (PMJAY) to increase penetration of Health insurance.



Multiple other initiatives for food security, housing, sanitation, mitigation and adaption to climate change, reduce pollution etc.



5.4. RARE DISEASES

Why in News?

The central government exempted all foods and drugs for rare diseases imported by people for personal use from customs duty.

More on News

- To avail the benefits, **people importing it have to get a certificate** from:
 - Central Director General.
 - Deputy Director General, or Assistant Director General of Health Services,
 - Director General of State Health Services, or District Medical Officer or civil surgeon.

Other Initiatives taken for rare diseases in India

- **National Policy for Rare Diseases (NPRD), 2021:** Government has launched NPRD, 2021 for the treatment of patients with Rare Diseases.
 - Recently, Union health ministry has included **six more rare diseases into various groups of disorders under the National Policy for Rare Diseases (NPRD), 2021.**
 - **Six diseases** are Laron's Syndrome, Wilson's Disease, Congenital Adrenal Hyperplasia (CAH), Neonatal Onset Multisystem inflammatory Disease (NOMID), Hypophosphatic Rickets and Atypical Hemolytic Uremic Syndrome (AHUS)

Production Linked Incentive Scheme (PLI) for Pharmaceuticals:

Under this Scheme, manufacturers who are chosen for domestic production of different types of products, including **Orphan drugs (rare diseases are also called Orphan Diseases)**, are eligible to receive financial incentives.

Digital Portal for Crowd funding: The Department of Health and Family Welfare has launched a Digital Portal for Crowd funding and Voluntary donations for Patients of Rare Diseases.

National Registry: ICMR has initiated a National Registry wherein epidemiological data is being collected for rare diseases and other inherited disorders.

Rare Disease

The WHO, defines rare disease as often debilitating **lifelong disease or disorder with a prevalence of 1 or less, per 1000 population.**

- About **7,000** rare diseases are known
- 80%** of rare diseases are genetic, and therefore, chronic
- Around 1.4% of newborn children are **affected** by one of these diseases.
- Many rare diseases result in **premature deaths** of infants and young children.
- 5% WORLDWIDE POPULATION** RARE DISEASES CURRENTLY AFFECTS
- Most of RARE DISEASES lead to **permanent disability**
- 29 FEBRUARY RARE DISEASE DAY**
- MORE THAN 90%** of rare diseases are without an FDA- approved treatment
- ALL PEDIATRIC CANCERS ARE RARE**

Salient features of NPRD, 2021

- The rare diseases have been **identified and categorized into 3 groups**
 - Group 1: Disorders amenable to **one-time curative treatment.**
 - Group-2: Diseases requiring **long term/lifelong treatment having relatively lower cost of treatment.**
 - Group 3:- Diseases with **very high cost and lifelong therapy.**
- Financial support upto Rs. 50 lakhs** is provided to the patients suffering from any category of the rare diseases and getting treatment in any of the Centre of Excellence (CoE) identified under NPRD-2021.
- The NPRD, 2021 has provisions for
 - Promotion of **research and development for diagnosis and treatment** of rare diseases;
 - Promotion of **local development and manufacture of drugs** and creation of conducive environment for indigenous manufacturing of drugs for rare diseases at affordable prices.

5.5. SOCIAL PROTECTION IN INDIA

Why in News?

The **International Labour Organization (ILO)** and **UNICEF** jointly released a report titled **“More than a billion reasons: The urgent need to build universal social protection for children”**

More on News

It was the **2nd joint report on social protection for children.**

Current status of Social Protection in India

- According to **World Social Protection Report (by ILO) 2020-22** only **24.4%** of Indians had some kind of social protection.
- India spends just 8.6% of GDP** on social protection measures as compared to **Global Average of 12.9%.**

Key initiatives for providing social protection:

Social Insurance	<ul style="list-style-type: none"> Social Security Coverage for Formal Workers by the Employees’ State Insurance (ESI) Cooperation and Employees’ Provident Fund Organization (EPFO).
-------------------------	---

SOCIAL PROTECTION FLOOR

- Access to Essential Health care for all
- Income security for Children
- Income security for working age people
- Income security for older persons.

	<ul style="list-style-type: none"> • Pension Schemes for unorganized workers such as Pradhan Mantri Shram Yogi Maan-Dhan Yojana (PM-SYM) and Atal Pension Yojana. • Medical Insurance Schemes such as Ayushman Bharat-Pradhan Mantri Jan Arogya Yojana (AB-PMJAY) • Maternity Insurance Schemes such as Pradhan Mantri Matru Vandana Yojana (PMMVY), Janani Suraksha Yojana etc. • Unemployment Insurance Schemes such as Rajiv Gandhi Shramik Kalyan Yojana (RGSKY) and Atal Beemit Vyakti Kalyan Yojna (ABVKY).
Social Assistance	<ul style="list-style-type: none"> • Food and Nutrition programmes such as Integrated Child Development Services, Pradhan Mantri Poshan Shakti Nirman (PM POSHAN), National Food Security Act etc. • Housing for All through Pradhan Mantri Awaas Yojana – Gramin And Urban. • Self-Employment programmes such as Prime Minister Employment Generation Programme (PMEGP), PM- SVANidhi Scheme, PM MUDRA Yojana etc. • Wage Employment programmes such as Mahatma Gandhi National Rural Employment Guarantee Act, 2005 or MGNREGA.
Social Welfare	<ul style="list-style-type: none"> • National Social Assistance Programme for financial assistance to the elderly. • PM Kisan Samman Nidhi Scheme (PM-KISAN) for financial assistance to the farmers. • Pradhan Mantri Cares for Children scheme to support children who lost their parents and caregivers due to COVID-19.

UNITED NATIONS CHILDREN'S FUND (UNICEF)

Genesis:

It was established in **1946**, in the aftermath of World War II, as **United Nations International Children's Emergency Fund (UNICEF)** to meet the **emergency needs of children in post-war Europe and China.**

- ♦ It became a permanent part of the **United Nations in 1953** and renamed as **United Nations Children's Fund.**

Objectives:

- **To advocate for the protection of children's rights;**
- **To help meet their basic needs;** and
- **To expand their opportunities** to reach their **full potential.**

Membership:

Executive Board: 36 members, elected for 3-years to represent **5 Regional Groups of Member States.**

- ♦ **5 Regional Groups: Africa (8 seats), Asia (7), Eastern Europe (4), Latin America and Caribbean (5) and Western Europe and others (12).**

Other Key Information:

- UNICEF is guided by the **Convention on the Rights of the Child.**

Recent Report published:

- The state of the **World's Children- Triple Threat Report.**

5.6. OTHER IMPORTANT NEWS

5.6.1. TRIPLE TESTS FOR SURROGACY

Why in news?

Karnataka High Court has evolved “triple tests” to help a couple facing legal hurdles **to have a surrogate child** under provisions of Surrogacy (Regulation) Act, 2021.

More on News

- The Surrogacy Act allows **only altruistic surrogacy** and **penalises commercial surrogacy.**
- **The triple test given by Karnataka HC**
 - **Genetic test** for husband to ensure **child is not born with any disorder.**
 - **Physical test** for couple to ascertain their **capacity to manage the child**
 - **Economy test** for couple to ensure that they **can protect the future of the child.**

5.6.2. ASSESSMENT OF CHILD SUSPECTS

Why In News?

National Commission for Protection of Child Rights (NCPCR) has issued guidelines for assessment of child suspects.

More on News

- **In compliance with Supreme Court directive** (in Barun Chandra Thakur vs Master Bholu, 2022 case), Guidelines will enable **Juvenile Justice Board (JJB) to conduct Preliminary Assessment** to
 - Determine **whether a child should be treated as a minor or not** in criminal cases, which come under **“heinous” offences category** of Juvenile Justice (Care and Protection of Children) Act (JJ ACT), 2015.
- Although **JJ Act defines child** as a person who has **not completed 18 years of age**,
 - In **2015** it was amended to add a provision wherein a child in **age group of 16-18 years** could be **tried as an adult** in case of **heinous offenses**.
 - **JJB** carries assessment to **determine whether to try such a child as an adult or a minor**.
- **Key highlights of Guidelines**
 - **General Principles:** Follow **fundamental principles** which guide JJ Act implementation.
 - **Preliminary Assessment Purpose:** **Determine age** and **four determinants**, i.e. **Physical capacity** of child, **mental capacity**, **circumstances**, and **ability to understand consequences** of alleged offence.
 - **Role of JJB:** solely responsible for assessment and can take assistance from child psychologists etc.
 - **Completion of Preliminary Assessment:** Within a period of three months.
 - **Build resilient systems by improving data collection** and disease surveillance; Securing vaccine and **other supplies** etc.
- In India, **digital health platform TeCHO+** (Technology Enabled Community Health Operations) and **electronic vaccine intelligence network (eVIN)** **increased vaccination coverage** while enhancing data entry efficiency.

Fundamental principles under JJ Act

- **Principle of Presumption of Innocence:** For child less than 18 years age.
- **Principle of Best Interest:** For the full development of the Child.
- **Principle of Non-Stigmatizing Semantics:** For no use of adversarial words in the process.
- **Principle of Natural Justice:** To adhere to procedural Standards.
- **Principle of Participation:** Right to be heard and participate in all processes affecting child's interests.
- **Principle of Safety:** To ensure child is safe in the protection system.
- **Principle of Right to Privacy:** To protect child's privacy and confidentiality during the judicial process.

5.6.3. NEW INDIA LITERACY PROGRAMME (NILP)

Why in news?

The First FLNAT under **Nav Bharat Saaksharta Karyakram** (New India Literacy Programme, NILP) was held across 10 States and UTs to **assess the basic Reading, Writing and Numeracy skills of the neo-literates**.

More on News

- **Non-literates of 15 years and above age group participated** in the event so that they can be **declared as literates on qualifying**.
- **About NILP**
 - It is a **Centrally Sponsored Scheme** approved for implementation during **FYs 2022-27**.
 - The scheme is **in alignment** with the recommendations of **National Education Policy (NEP) 2020**.
 - The scheme **targets all non-literates of age 15 years and above** in the country, with more **focus on females and educationally backward states**.
 - It has **five components:** **FLN; Critical Life Skills; Basic Education; Vocational Skills and Continuing Education**.
 - The scheme is to be **implemented through volunteer teachers and students** of schools and Higher Education Institutions and Teacher Education Institution.

KNOW THE TERM



- **Neo-literate:** Is an adult or an adolescent who **did not or could not make use of the available educational opportunities on time**, and who at a **later stage acquired the skills of literacy** through formal or non-formal approaches.

- Target for FYs 2022-27 is **5 crore learners (1.00 crore per year)** by using “**Online Teaching, Learning and Assessment System (OTLAS)**” in collaboration with National Informatics Centre, NCERT and NIOS.

5.6.4. SANGATHAN SE SAMRIDDHI CAMPAIGN

Why in news?

Ministry of Rural Development recently launched Sangathan se Samridhi campaign.

About Sangathan se Samridhi campaign

- It aims to **mobilise disadvantaged rural communities unaware of the benefits of the Deendayal Antyodaya Yojana-National Rural Livelihoods Mission (DAY-NRLM)**.
- The campaign will be organized in all states, with **the expectation of forming more than 1 lakh Self-Help Group**.
- **DAY-NRLM** aims at creating efficient and effective institutional platforms of the rural poor enabling them to increase household income and improved access to financial services.

5.6.5. WORLD BANK PROGRAM FOR INDIA'S HEALTH SECTOR

Why in news?

Government of India and WB **signed two complementary loans of \$500 million each** for following WB supported program for India:

- **Public Health Systems for Pandemic Preparedness Program (PHSPP)**
- **Enhanced Health Service Delivery Program (EHSDP)**

About the Loans

PHSPP will help to	EHSDP will help to
<ul style="list-style-type: none"> • Prepare India's surveillance system to detect and report epidemics of potential international concern. • Enhance India's capacity to detect pathogens, including zoonotic diseases. • Build institutional capacity of core public health institutions. 	<ul style="list-style-type: none"> • Strengthen service delivery through a redesigned primary health care model • Improve quality of care by supporting the National Quality Assurance Standards certification across Health and Wellness Centers. • Transform health sector governance and accountability

- Through this combined financing of \$1 billion, **WB will support Pradhan Mantri-Ayushman Bharat Health Infrastructure Mission (PM-ABHIM)**.
 - PM-ABHIM (2021-22 to 2025-26) is a **Centrally Sponsored Scheme** with some Central Sector Components, **for implementation of Atmanirbhar Bharat Package** for health sector.
 - Objective is **to fill critical gaps in health infrastructure, surveillance and health research** – spanning both urban and rural areas.
- WB support **will also prioritize health service delivery in seven states** including Andhra Pradesh, Kerala, Meghalaya, Odisha, Punjab, Tamil Nadu, and Uttar Pradesh.

5.6.6. SWACHHOTSAV 2023

Why in news?

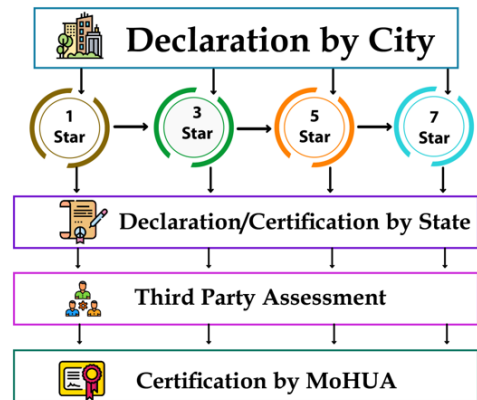
Swachhotsav 2023 was launched by Union Ministry of Housing and Urban Affairs (MoHUA) on **International Zero Waste Day (IZWD) 2023**.

About Swachhotsav and IZWD

- The first IZWD has been jointly facilitated by the **UN Environment Programme (UNEP)** and the **UN Human Settlements Programme (UN-Habitat)**.
- Swachhotsav campaign aims at galvanizing **participation and leadership of women to realize the goal of 'Garbage Free Cities'**.
- MoHUA said that **1,000 cities are targeted to become 3-star Garbage Free Cities (GFC)** by October 2024 under the Swachh Bharat Mission Urban (SBM-U) 2.0.

- **GFC-Star rating protocol** was launched in 2018 under SBM-U 2.0 to encourage a competitive, mission-mode spirit among Urban Local Bodies (ULBs).
- **Key achievements under SBM-U:**
 - **Urban India has become Open Defecation Free (ODF).**
 - ✓ All 4,715 Urban Local Bodies (ULBs) completely ODF,
 - ✓ 3,547 ULBs are ODF+ with functional and hygienic community and public toilets and
 - ✓ 1,191 ULBs are ODF++ with complete faecal sludge management.
 - **Waste processing** in India has **gone up by over four times** from 17% in 2014 to 75% today.
- **About SBM-U 2.0:**
 - It is being **implemented as a centrally sponsored scheme by MoHUA** and envisages to make all cities ‘Garbage Free’.
 - It focuses on **source segregation of solid waste**, utilizing the principles of **3Rs** (reduce, reuse, recycle), **etc** for effective solid waste management.

Star Rating Process Flow



Related news

Women Icons Leading Swachhata' (WINS) Awards 2023

- First edition of WINS Awards was **announced by Ministry of Housing & Urban Affairs.**
- Awards aim **to recognize** inspiring and exemplary **initiatives in urban sanitation and waste management by women led organizations and individual women.**

Swachh Sujal Shakti Samman 2023

- 36 Women WASH Champions across the country received **Swachh Sujal Shakti Samman 2023 by President of India.**
- Event was organized by **the Ministry of Jal Shakti** to felicitate **exceptional and exemplary work being done at grassroots level by women** in implementation of
 - Swachh Bharat Mission – Grameen (SBM-G);
 - Jal Jeevan Mission (JJM);
 - Jal Shakti Abhiyan: Catch the Rain (JSA-CTR).

5.6.7. MARKETING AND LOGISTICS DEVELOPMENT FOR PROMOTION OF TRIBAL PRODUCTS FROM NORTH EASTERN REGION (PTP-NER)

Why in news?
 The **Ministry of Tribal Affairs** has launched the PTP-NER scheme, a **Central Sector Scheme** for the benefit of **Scheduled Tribes** of the **North-eastern Region**.

- About PTP-NER**
- It will **assist tribal craftsmen through backward and forward linkages** via. incubation support, aggregation, skill and entrepreneurial development, marketing, transportation, etc.
 - The empanelment of tribal artisans will be done directly or through **Tribal Artisan Melas (TAMs)**.
 - **Partners:** North Eastern Handicrafts and Handlooms Development Corporation (NEHHDC), India Post and North Eastern State Government Departments/ Agencies.
 - **Benefits:** Increased Livelihood and earning opportunities, increased efficiency in procurement, logistics and marketing.

5.6.8. MID-DAY MEAL PULSES

Why in news?
 Recently, the **Ministry of Education** urged states to procure pulses for the **Prime Minister’s Overarching Scheme for Holistic Nutrition (PM-POSHAN)** from NAFED.

- More on news**
- The Government of India maintains buffer stocks of pulses through NAFED (**National Agricultural Cooperative Marketing Federation of India Ltd**).
 - Centre asked this for ensuring **benefit from economy of scale and assured subsidised rates in the interest of students.**

- However, earlier detailed guidelines issued to states and UTs in 2022, were **silent on the purchase of pulses from NAFED**. As per 2022 guidelines:
 - Only **packed dals, salt, spices, condiments** and **oil** with **AGMARK quality symbol** should be purchased.
 - **No loose ingredient should be bought** and the packaging and expiry date of the ingredients should be checked.
- Also, as per **2019 rules**, the **states and UTs may procure pulses as per their local taste for the Mid-Day Meal** from the central buffer stock created by the Government of India.

About PM-POSHAN

- Pradhan Mantri Poshan Shakti Nirman (PM POSHAN) is a **Centrally Sponsored Scheme**, earlier known as **National Scheme for Mid-Day meal** in Schools or simply **Mid-Day Meal Scheme**.
 - **Mid-Day Meal Scheme** was launched in **1995** to meet twin objectives of:
 - ✓ **Enhancing the enrollment, retention and attendance of students**, and
 - ✓ **Improve nutritional levels** among school going children.
- It will provide **one hot cooked meal** in **Government** and **Government-aided schools** from **2021-22 to 2025-26**.

5.6.9. JIGYASA

Why in news?

Recently, **CSIR-IIP** (Council of Scientific and Industrial Research-Indian Institute of Petroleum) held a **Jigyasa program** as part of the **One Week One Lab** campaign.

About Jigyasa Program

- Jigyasa is a **Student – Scientist connect programme** from CSIR as **Scientific Social Responsibility (SSR)**.
 - SSR is **moral and ethical obligation** of **scientific community** to give back benefits they derive from science to the **less endowed stakeholders and society**.
 - In **2017**, **CSIR** signed the **MoU** with **Kendriya Vidyalaya Sangathan (KVS)** on **Jigyasa** with the **objective** of ‘teaching the scientific temperament among school children.

5.6.10. IMPORTANT REPORTS IN NEWS

<p>State of World Population (SOWP) 2023 report</p>	<ul style="list-style-type: none"> • Released by: United Nations Population Fund (UNFPA) is titled as SOWP 2023: 8 Billion Lives, Infinite Possibilities. • Key highlights <ul style="list-style-type: none"> ○ India is most populous country in world (refer image). ✓ 68% of the population belongs to age group of 15- 64 years, followed by 10-24 years group (24%), making India one of the youngest countries in world. ✓ Life expectancy at birth is 71 years for men and 74 years for women in India. ✓ Total fertility rate (births per woman in the reproductive age) is estimated at 2.0. (refer image) ○ Central and Southern Asia is expected to become the most populous region in world by 2037. • More than half of projected increase in global population up to 2050 will be concentrated in eight countries —Democratic Republic of Congo, Egypt, Ethiopia, India, Nigeria, Pakistan, Philippines and United Republic of Tanzania. 	<p>Total population (2023) in million</p> <table border="1"> <tr><th>Country</th><th>Population (million)</th></tr> <tr><td>India</td><td>1428.6</td></tr> <tr><td>China</td><td>1425.7</td></tr> <tr><td>Brazil</td><td>216.4</td></tr> <tr><td>Russia</td><td>144.4</td></tr> <tr><td>South Africa</td><td>60.4</td></tr> </table> <p>Total fertility rate per woman (2023)</p> <table border="1"> <tr><th>Country</th><th>TFR</th></tr> <tr><td>South Africa</td><td>2.3</td></tr> <tr><td>India</td><td>2.0</td></tr> <tr><td>Brazil</td><td>1.6</td></tr> <tr><td>Russia</td><td>1.5</td></tr> <tr><td>China</td><td>1.2</td></tr> </table>	Country	Population (million)	India	1428.6	China	1425.7	Brazil	216.4	Russia	144.4	South Africa	60.4	Country	TFR	South Africa	2.3	India	2.0	Brazil	1.6	Russia	1.5	China	1.2
Country	Population (million)																									
India	1428.6																									
China	1425.7																									
Brazil	216.4																									
Russia	144.4																									
South Africa	60.4																									
Country	TFR																									
South Africa	2.3																									
India	2.0																									
Brazil	1.6																									
Russia	1.5																									
China	1.2																									
<p>World Development Report 2023</p>	<ul style="list-style-type: none"> • Released by: The World Bank • Report titled “Migrants, Refugees and Societies” proposes an integrated framework to maximize development impacts of cross-border movements on both destination and origin countries and on migrants and refugees themselves. • It categorised migrants into four types – Refugees with skills in demand, economic migrants with skills that match with demand, distressed migrants and refugees. 																									

<p>World Happiness Report 2023</p>	<ul style="list-style-type: none"> Released by: UN Sustainable Development Solutions Network. Report evaluates levels of happiness by taking into account 6 key variables. The goal of the report is to identify key determinants of well-being. Ranking of happiness based on a 3-year-average 2020-22. Key ranking <ul style="list-style-type: none"> Top 3: Finland, Denmark and Iceland. Afghanistan, Lebanon, Sierra Leone were in the bottom of the chart. India has been ranked at the 126th place among 137 countries (as compared to 136th out of 146 countries in 2022). <ul style="list-style-type: none"> India ranked below neighbours China, Nepal, Sri Lanka and Bangladesh Bhutan is not listed in the WHR 2023. UN Sustainable Development Solutions Network (SDSN) <ul style="list-style-type: none"> It was launched in 2012 under UN Secretary General, it mobilizes global scientific and technological expertise to promote practical solutions for sustainable development, including implementation of Sustainable Development Goals (SDGs) and Paris Climate Agreement. It publishes annual reports like Sustainable development Report and World Happiness Report. 	
<p>Women, Business and the Law 2023 Report</p>	<ul style="list-style-type: none"> Released by: World Bank. It measures laws that affect women's economic opportunity in 190 economies using several indicators such as Mobility, Workplace, Pay, Marriage, Parenthood, Entrepreneurship etc. Key Findings <ul style="list-style-type: none"> Globally women enjoy only 77% of the legal rights that men do. At the current pace, it would take at least 50 years to approach legal gender equality everywhere. Presented an Index on life cycle of a working women (India scored 74.4 out of a possible 100). 	
<p>Women and Men in India 2022</p>	<ul style="list-style-type: none"> Released by: Ministry of Statistics and Programme Implementation. It is an annual statistical compilation of Gender related Indicators of India. Key Findings <ul style="list-style-type: none"> Sex Ratio: 945 in 2021, expected to reach 952 by 2036. Life Expectancy: Reached 68.4 and 71.1 years for males and females respectively during 2015-19. It is expected to reach 71.2 and 74.7 years by 2031-36. Infant Mortality Rate: 28 (28 Male and 28 Female) in 2020. Literacy Rates: 77.7% (84.7% Male and 70.3% Female) in 2017. Labour Force Participation Rate (LFPR): 41.3% (57.3% Male and 24.8% Female) in 2021-22. 	

The Status of Women in Agrifood Systems Report	<ul style="list-style-type: none"> Released by: Food and Agriculture Organization (FAO). Key Highlights of the report <ul style="list-style-type: none"> Women's roles tend to be marginalized and their working conditions are likely to be worse than men's –irregular, informal, part-time, low-skilled, or labour-intensive. Women also have less secure tenure over land, less access to credit and training, and have to work with technology designed for men. Women's equality in agrifood systems could boost the global economy by \$1 trillion, reduce food insecurity by 45 million.
State of the World's Children (SOWC) 2023: For Every Child, Vaccination Report	<ul style="list-style-type: none"> Released by: UNICEF. The report presents an agenda to put childhood vaccination first. It builds on global strategies outlined in Immunization Agenda 2030 and Gavi Strategy 5.0 to promote equity and sustainably scale up immunization coverage. Key priorities identified <ul style="list-style-type: none"> Vaccinate every child, everywhere by Catching up on vaccination of children missed during the pandemic. <ul style="list-style-type: none"> ✓ 98% of the population in India currently perceive vaccines as important for children. Identifying zero-dose (unreached or missed out) and under-vaccinated children. <ul style="list-style-type: none"> ✓ India was among top 20 countries with the largest numbers of zero-dose children. Strengthen demand for vaccination by talking to communities; tackling gender barriers; rethinking accountability in health systems. <ul style="list-style-type: none"> ✓ Spend more on immunization and health by investing in primary health care at national level and better aligning donor support.
Triple Threat Report	<ul style="list-style-type: none"> Released by: United Nations Children's Fund (UNICEF). It examines "triple burden" of Water, Sanitation and Hygiene (WASH) related threats faced by children. <ul style="list-style-type: none"> WASH is a collective term to access safe drinking water, improved sanitation facilities, and maintain basic level of hygiene. Triple threat/burden is defined as <ul style="list-style-type: none"> Less than 50 percent access to at least basic water or sanitation services. Within top 20 countries with highest burden of deaths attributable to unsafe WASH among children under 5. Within top 25 percent of countries facing highest risk of climate and environmental hazards in UNICEF's Children's Climate Risk Index (CCRI). Key findings of report Globally, 600 million children still lack safely managed drinking water, 1.1 billion lack safely managed sanitation and 689 million lack basic hygiene service. Unsafe WASH led to 4 lakh children deaths under age of 5 each year. Triple burden is heavily concentrated in 10 countries in sub-Saharan Africa.
2023 Global Food Policy Report	<ul style="list-style-type: none"> Released by: International Food Policy Research Institute (IFPRI). Key highlights of report <ul style="list-style-type: none"> Food insecurity raised during 2020-2022 due to multiple crises such as COVID-19 pandemic, climate change, natural disasters along with civil unrest and political instability. With climate change, as many as 72 million more people will be undernourished by 2050.
Nutrition Crisis in Adolescent Girls and Women	<ul style="list-style-type: none"> Released by: UNICEF and it titled Undernourished and Overlooked: A Global Nutrition Crisis in Adolescent Girls and Women. Report examines nutritional status of adolescent girls and women of reproductive age (15-49 years), and barriers they face in accessing nutritious diets, utilizing essential nutrition services etc. Key Findings <ul style="list-style-type: none"> South Asia and sub-Saharan <div style="border: 1px solid black; padding: 10px; margin-top: 10px;"> <h3 style="text-align: center;">Status of Undernourishment in INDIA</h3> <ul style="list-style-type: none"> <li style="border: 2px solid orange; border-radius: 15px; padding: 5px; margin-bottom: 10px;">  16.3% Population was undernourished (UN Report 2019-21) <li style="border: 2px solid purple; border-radius: 15px; padding: 5px; margin-bottom: 10px;">  2022 Global Hunger Index India ranked 107th out of 121 countries. <li style="border: 2px solid teal; border-radius: 15px; padding: 5px;">  33% Children under 5 are underweight and Stunted. 67% are anaemic. </div>

	<p>Africa are home to 68 % of adolescent girls and women with underweight and 60% with anaemia.</p> <ul style="list-style-type: none"> ○ No region is on track to meet 2030 global targets to reduce anaemia in adolescent girls and women by half and low birthweight in new-borns by 30%. ○ Gender gap in food insecurity more than doubled between 2019 and 2021.
Global Education Monitoring Report	<ul style="list-style-type: none"> ● Released by: United Nations Educational, Scientific and Cultural Organization (UNESCO). ● Key findings <ul style="list-style-type: none"> ○ Only 17% of countries cover sexual orientation, gender identity and gender expression issues - least covered areas in CSE curricula. <ul style="list-style-type: none"> ✓ Comprehensive sexuality education (CSE) is a curriculum-based process of teaching and learning about cognitive, emotional, physical and social aspects of sexuality. ○ Only 20% countries have laws and 39% have a national policy that specifically addresses sexuality education. ○ Sexuality education in primary education is compulsory in 68% countries and in secondary education in 76%. ● Contraception issues are covered in school curriculum in two-thirds of countries.

5.6.11. TERMS IN NEWS

Digital nomad	Person who works remotely while traveling for leisure, especially when having no fixed, permanent address.
Pinkwashing	Promoting civil liberties of LGBTQ+ community , but superficially.
Queerbaiting	An act to lure in queer or LGBT fans by using homoerotic images or themes without explicit inclusion of such characters or relationship.
Rage farming or Rage-baiting	Manipulative tactic to elicit outrage with goal of increasing internet traffic , to increase exposure for one's group or cause.

ESSAY

ENRICHMENT PROGRAMME 2023

18 JUNE | 5 PM

- ▶ Introducing different stages from developing an idea into completing an essay
- ▶ Practical and efficient approach to learn different parts of essay
- ▶ Regular practice and brainstorming sessions
- ▶ Inter disciplinary approaches
- ▶ **LIVE / ONLINE** Classes Available

6. SCIENCE AND TECHNOLOGY

6.1. IT AND COMPUTER

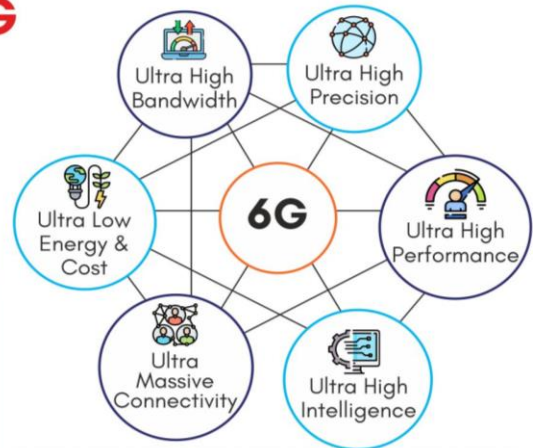
6.1.1. BHARAT 6G MISSION

Why in news?

Recently, India released the “Bharat 6G Vision” document which **eyes 6G services rollout by 2030** and launched the 6G research and development test bed.

About 6G

- **6G network is the successor of 5G** which offers ultra-low latency with speeds up to 1 Tbps and operate by using higher end of radio spectrum.
- 6G enhances **solutions based on AI and machine learning, extreme connectivity needs.**



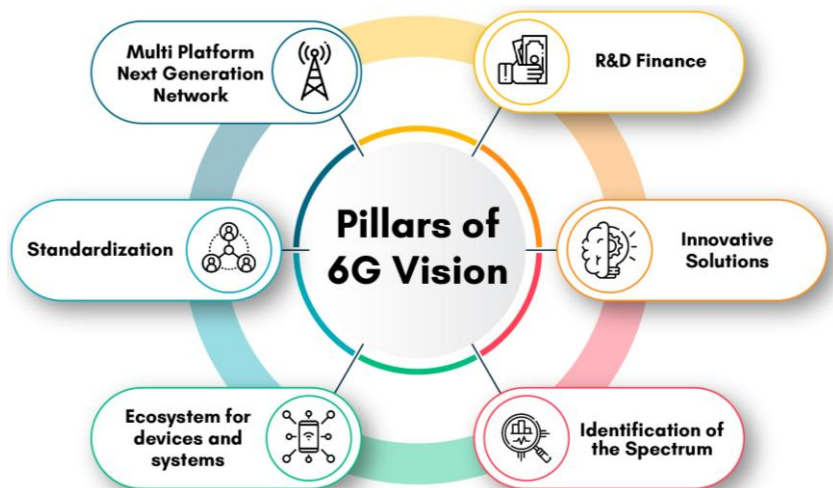
Difference between 5G and 6G Network		
Features	5G	6G
Frequency Bands	<ul style="list-style-type: none"> • Allocated for low band and high band frequencies - sub-6 GHz (Gigahertz) and above 24.25 GHz respectively. 	<ul style="list-style-type: none"> • Operative at the frequency range 95 GHz to 3 THz (Terahertz).
Data Rate	<ul style="list-style-type: none"> • 1 Gbps to 20 Gbps (Downlink Data Rate - 20 Gbps, Uplink Data Rate - 10 Gbps). 	<ul style="list-style-type: none"> • Upto 1 Tbps (100 times faster than 5G)
Latency (End to End Delay)	<ul style="list-style-type: none"> • 5 milliseconds 	<ul style="list-style-type: none"> • < 1 milliseconds
Traffic Capacity	<ul style="list-style-type: none"> • 10 Mbps/m² 	<ul style="list-style-type: none"> • 1 to 10 Gbps/m²

Global Scenario

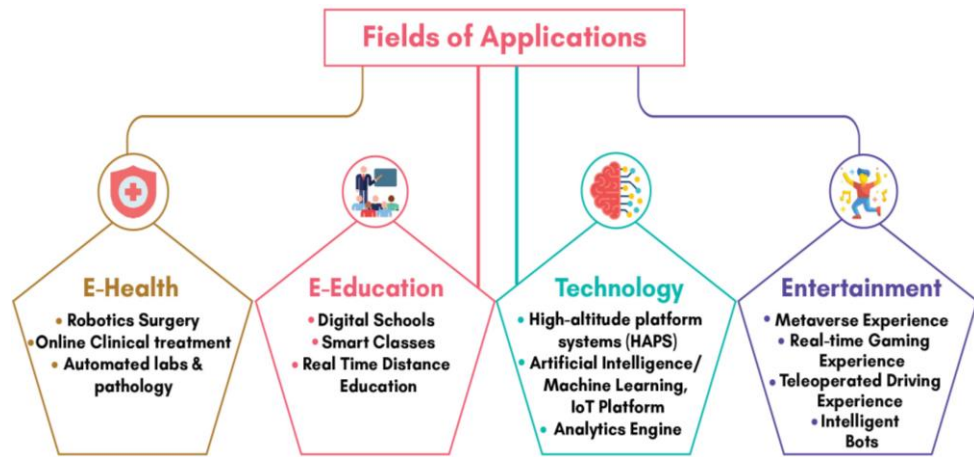
- **South Korea** outlined a 6G R&D Plan in the first phase running till 2025.
- **The European 6G Vision** identifies key features of 6G including intelligent network management and control, integrated wireless sensing and communication, etc

About the Bharat 6G Vision

- **Prepared by: Technology Innovation Group on 6G (TIG-6G)** that was constituted in 2021 by the **Department of Telecommunications (DoT)** under the Ministry of Communications.
 - TIG-6G has members from various **Ministries/Departments, research and development institutions, academia, industry etc. to develop a roadmap and action plans for 6G in India.**
- **Bharat 6G mission** will be divided into two phases:
 - **Phase 1 (2023-2025):** Support to explorative ideas, risky pathways, and proof-of-concept tests.
 - **Phase 1 (2025-2030):** Conceptualizing and delivering potential technology solutions.
- **An apex body is to be constituted** to oversee the Mission and approve the budget for the Mission split into two phases and lay down the **Phase-wise objectives.**



- A key focus will be on new technologies such as Terahertz (THz) communication, radio interfaces, tactile internet, artificial intelligence for connected intelligence, new encoding methods and waveforms chipsets for 6G devices.



Related News
International Telecommunication Union (ITU) Area Office and Innovation Centre inaugurated in Delhi

- It will serve India, Nepal, Bhutan, Bangladesh, Sri Lanka, Maldives, Afghanistan, and Iran.
- India signed a **Host Country Agreement** in March 2022 with ITU for the establishment of Area Office.
- It will **enhance coordination** among nations and foster mutually beneficial **economic cooperation** in the region.
- **World Telecommunications Standardization Assembly** of ITU will be held in October 2024 in Delhi.

International Telecommunication Union (ITU)

Geneva, Switzerland

About: United Nations specialized agency for information and communication technologies (ICTs), Founded in 1865, to facilitate international connectivity in communications networks.

Membership: 193 Member States as well as some 900 companies, universities, and international and regional organizations.

Function: 193 Allocate global radio spectrum and satellite orbits, develop technical standards that ensure networks and technologies seamlessly interconnect, and improve access to ICTs to underserved communities worldwide. ★

6.1.2. NATIONAL QUANTUM MISSION

Why in News?

Recently, National Quantum Mission received cabinet approval at a total cost of about Rs. 6000 crores.

About the Mission

- **Aim:** To seed, nurture and scale up scientific and industrial R&D and create a vibrant & innovative ecosystem in Quantum Technology (QT).
- **Implementing agency:** Department of Science & Technology (DST) under the Ministry of Science & Technology.
- **Mission duration:** From 2023 to 2031.
- **Targets:**
 - **Developing intermediate-scale quantum computers** with 50-1000 physical qubits in 8 years.
 - **Satellite-based secure quantum communications** between ground stations over a range of 2000 kilometres within India and with other countries.
 - ✓ Also, inter-city **quantum key distribution** over 2000 km.
- **Applications areas:**
 - **Magnetometers with high sensitivity** in atomic systems;
 - ✓ **Magnetometers** is an instrument for measuring the strength and sometimes the direction of magnetic fields, including those on or near the Earth and in space
 - **Atomic Clocks** for precision timing, communications, and navigation.
 - **Design and synthesis of quantum materials** such as superconductors, novel semiconductor structures, and topological materials for the fabrication of quantum devices.
 - **Single photon sources/detectors, and entangled photon sources** for quantum communication, sensing, and metrological applications.

• **Themes**

- It includes **setting up four Thematic Hubs (T-Hubs)** in top academic and National R&D institutes in the domains:
 - ✓ Quantum Computing,
 - ✓ Quantum Communication,
 - ✓ Quantum Sensing & Metrology, and
 - ✓ Quantum Materials & Devices.

6.1.2.1. QUANTUM COMMUNICATION

Why in News?

A highly secured link, developed by Centre for Development of Telematics (C-DOT), under Department of Telecommunications, was established for the first time in India.

About Quantum Communication

- **Quantum Communication** refers to communication channels that **leverage laws of quantum physics to protect data** and make it more secure than traditional transmission.
 - In **traditional key-based cryptography**, data and keys are sent as classical bits (representing 1 and 0) as a stream of electrical or optical pulses.
- However, in a **quantum communication network**, data is transmitted via qubits.
 - **Qubits are particles** – usually photons of light – in a **superposition state**, meaning they can be in **multiple states** and represent numerous **combinations of 0 and 1**.
 - If a hacker tries to read them in transit, **super-fragile quantum state “collapses” to either 1 or 0 and attempt to hack will also be recorded eventually**.
- This property has helped to create **networks for transmitting highly sensitive data based on a process called quantum key distribution, or QKD**.

Related News

Google claimed to have made a breakthrough in quantum error correction.

- **Quantum computers work by manipulating quantum bits, or qubits.**
- However **qubits are so sensitive that even stray light can cause calculation errors** and the problem worsens as quantum computer grows.
- **To bridge this calculation error gap**, Google claimed to have made a breakthrough in **quantum error correction**.
 - Quantum error correction **protects information by encoding it across multiple physical qubits** (instead of relying on individual physical qubits) **to form a “logical qubit”**.

6.1.3. OTHER IMPORTANT NEWS

<p>Blockchain-as-a-service (BaaS)</p>	<ul style="list-style-type: none"> • Government launched ‘Design and Development of a Unified Blockchain Framework for offering National Blockchain Service and Creation of Blockchain Ecosystem’ project. <ul style="list-style-type: none"> ○ It is a part of effort towards realizing Web3, as blockchain plays a crucial role in it. ○ It will facilitate smooth integration of BaaS over distributed infrastructure. • BaaS refers to third-party cloud-based infrastructure and management for companies.. <ul style="list-style-type: none"> ○ It allows Government Departments to leverage Blockchain services to build, host and use their own blockchain apps, smart contracts and functions on blockchain. 	<div style="border: 1px solid red; padding: 5px;"> <p style="writing-mode: vertical-rl; transform: rotate(180deg);">Benefits of Blockchain-as-a-service (BaaS)</p> <div style="display: flex; flex-direction: column; align-items: center;"> <div style="border: 1px solid green; padding: 5px; margin-bottom: 5px;"> Facilitate wider adoption of blockchain technology </div> <div style="border: 1px solid orange; padding: 5px; margin-bottom: 5px;"> Reduce cost of infrastructure for smaller companies </div> <div style="border: 1px solid yellow; padding: 5px;"> Enable better security compliance ★ </div> </div> </div>
<p>Cloud Computing</p>	<ul style="list-style-type: none"> • SEBI unveiled framework for adopting cloud services by stock exchanges. • Cloud computing is delivery of computing services—including servers, storage, databases, networking, software, analytics, and intelligence—over the Internet (cloud). • Types of Cloud Computing: <ul style="list-style-type: none"> ○ Public clouds: Owned and operated by third-party cloud service providers, which deliver their computing resources, like servers and storage, over the Internet. 	

	<ul style="list-style-type: none"> ○ Private Cloud: Cloud computing resources used exclusively by a single business or organization. ○ Hybrid clouds: Combine public and private clouds, bound together by technology that allows data and applications to be shared between them. ● Advantages: Faster innovation, flexible resources, economies of scale etc. ● Common models of cloud services: IaaS (Infrastructure-as-a-Service), PaaS (Platform-as-a-Service) and SaaS (Software-as-a-Service).
Ransomware Report-2022	<ul style="list-style-type: none"> ● Report was released by Indian Computer Emergency Response Team (CERT-In). ● Key highlights of the report <ul style="list-style-type: none"> ○ Ransomware incidents have gone up by 53% in 2022 over 2021. ○ Lockbit was the most prevalent ransomware variant in India, followed by Makop (targeted medium and small organizations) and DJVU/Stop ransomware (targeted individuals). <ul style="list-style-type: none"> ✓ New variants such as Vice Society and BlueSky were noticed in 2022. ○ IT and IT-enabled services sector was the most impacted sector, followed by finance and manufacturing sectors. ○ Ransomware-as-a-service (RaaS) ecosystem becoming prominent. ● Ransomware is a category of malware that gains access to systems and makes them unusable to its legitimate users, either by: <ul style="list-style-type: none"> ○ Encrypting different files on targeted systems, also known as Crypto Ransomware. ○ Locking the system's screen unless a ransom is paid, also known as Locker Ransomware.
LockBit ransomware	<ul style="list-style-type: none"> ● LockBit ransomware was found to be targeting Mac devices, making this first major ransomware operation to specifically target Apple computers. ● LockBit ransomware is designed to infiltrate victims' systems and encrypt important files. <ul style="list-style-type: none"> ○ It was dubbed the "abcd" virus, due to file extension used when encrypting victim's files. ○ It is categorised as a "crypto virus" due to its requests for payment in cryptocurrency to decrypt files. ○ It operates on ransomware-as-a-service (Raas) model.
First Anti-Spyware Declaration	<ul style="list-style-type: none"> ● USA and 10 other nations issued the first-ever significant anti-spyware declaration. <ul style="list-style-type: none"> ○ It recognized the threat posed by the misuse of commercial spyware. ○ It seeks to realize the importance of stringent domestic and international controls on the proliferation and use of this technology. ● About Spyware <ul style="list-style-type: none"> ○ Spyware is a type of malicious software or malware that is installed on a computing device without the end user's knowledge. ○ It invades the device, steals sensitive information and internet usage data, and relays it to advertisers, data firms, or external users.
Zero Click Spyware	<ul style="list-style-type: none"> ● According to research by Microsoft and Citizen Lab, an spyware developed by Israeli company has been used against journalists, opposition figures and advocacy organizations across at least 10 countries. ● Spyware developed by QuaDream is a no-interaction-needed hacking tool, known as "Zero-Click". <ul style="list-style-type: none"> ○ Zero-Click tools can remotely compromise devices without an owner needing to open a malicious link or download a tainted attachment. ● Zero-click attacks often rely on zero-days, which are vulnerabilities that are unknown to the software maker and for which no fix is presently available.
Radio Waves	<ul style="list-style-type: none"> ● Scientists has identified that overcrowding of radio spectrum i.e., radio spectrum pollution can affect astronomers' works on black holes, evolution of galaxies etc. <ul style="list-style-type: none"> ○ Radio Spectrum Pollution (a specialised form of light pollution) is straying of waves in radio spectrums outside their allocations that causes problems for some activities. ● Radio waves are longest wavelength emissions on electromagnetic spectrum. Radio Frequency (RF) are divided up into blocks, or bands, designated for different types of uses (refer image). <ul style="list-style-type: none"> ○ RF bands ranges between 3 kHz and 300 GHz. ○ Radio signals arriving on Earth from astronomical objects are extremely weak and easily masked by man-made interference.

RADIO FREQUENCY BANDS								
VLF	LF	MF	HF	VHF	UHF	SHF	EHF	
100 km	10 km	1 km	100 m	10 m	1 m	10 cm	1 cm	1 mm
← Increasing wavelength						Increasing frequency →		
3 kHz	30 kHz	300 MHz	3 MHz	30 MHz	300 MHz	3 GHz	30 GHz	300 GHz

6.2. SPACE TECHNOLOGY

6.2.1. INDIAN SPACE POLICY-2023

Why in News?

Indian Space Research Organization (ISRO) released Indian Space Policy-2023.

About Indian Space Policy-2023

- The New Policy underlines the **growing importance of Private Sector in Space participation.**
- Policy clarifies **role and responsibilities** of ISRO,

Department: Department of Space

Genesis: Indian National Committee for Space Research (INCOSPAR) was set up by in 1962.

- ISRO was formed in 1969 superseding INCOSPAR.
- Brought under DOS in 1972.

Mandate: As **National Space Agency**, development and application of space technology for various national needs.

Headquarters: Bengaluru

Composition: Headed by Chairman, who is **secretary of DOS** and Chairman of Space commission - the apex body that formulates the policies and oversees the implementation of Indian Space Programme

NewSpace India Limited (NSIL), Indian National Space Promotion and Authorization Center (IN-SPACE), as well as that of Non-Governmental Entities (NGEs) **in space sector.**

- Department of Space will be the nodal department for implementation of policy.

Key Highlights of the policy:

	Proposed Role
Government	<ul style="list-style-type: none"> Encouraging advanced R&D in space sector. Providing public goods and services using space technology for national priorities. Regulatory framework to provide a level playing field to NGE through IN-SPACE.
ISRO	<ul style="list-style-type: none"> Will focus primarily on R&D of new space technologies and applications, and for expanding the human understanding of outer space. Enable open data access from remote sensing satellites of ISRO. Share technologies, products, processes and best practices with NGEs and/or Government companies. Demonstrate human spaceflight capability.
NSIL	<ul style="list-style-type: none"> Commercialising space technologies and platforms created through public expenditure. Service the space-based needs of users, whether Government entities or NGEs.
IN-SPACE	<ul style="list-style-type: none"> Shall function as an autonomous Government organization, mandated to promote, hand-hold, guide and authorize space activities. Promote industry clusters / zones/ manufacturing hubs/ incubation Centres/ accelerators / technical centres etc., for the space sector.

	<ul style="list-style-type: none"> • Ensure a level playing field for the utilization of all facilities created using public expenditure.
NGEs	<ul style="list-style-type: none"> • Undertake end-to-end activities in space sector through establishment and operation of space objects, ground-based assets and related services. • Offer national and international space-based communication services, through geostationary orbit (GSO) and non-geostationary satellite orbit (NGSO) systems. • Manufacture and operate space transportation systems, including launch vehicles, shuttles etc. • Engage in the commercial recovery of an asteroid resource or a space resource.

Other measures for private participation in space
 Apart from NSIL and IN-SPACE, other institutions include;

- **Indian Space Association (ISPA):** Launched in 2021, it is the apex, **non-profit industry body** exclusively working towards successful exploration, collaboration, and development of private and public Space Industry in India.
- **Antrix Corporation Limited:** Incorporated as a **marketing arm of ISRO**. It handles ISRO’s commercial deals for satellites and launch vehicles with foreign customers.
- **Space Entrepreneurship & Enterprise Development (SEED):** Early-stage encouragement programme to startups and MSMEs in focus areas of interest to ISRO.

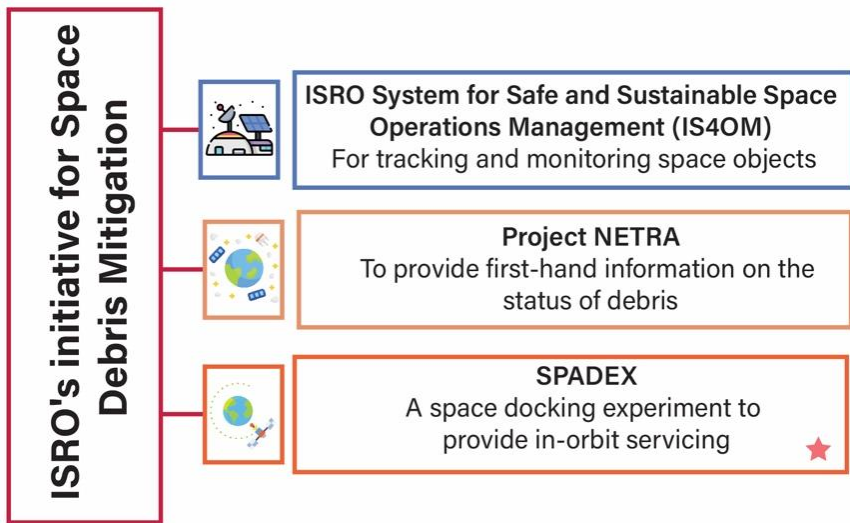
6.2.2. SPACE DEBRIS

Why in News?

ISRO successfully carried out controlled re-entry experiment of decommissioned Megha-Tropiques-1 (MT-1) satellite.

More on News

- **Controlled re-entries involve deorbiting** (large satellites/rocket bodies) **to very low altitudes** to ensure impact occurs within a targeted safe zone.
- **MT-1** was launched by **ISRO and French space agency** for carrying out **tropical weather and climate studies**



About Space Debris

- Space debris **encompasses both natural** (meteoroid) **and artificial** (man-made) **particles**.
 - **Much of the debris is in LEO**, though some debris can be found in geostationary orbit.
 - ✓ LEO is normally **at an altitude of less than 1000 km** but could be **as low as 160 km above Earth**.
- **UN/IADC** (Inter-Agency Space Debris Coordination Committee) **space debris mitigation guidelines** recommend **deorbiting a LEO** (Low Earth Orbit) **object** at its End Of Life:
 - **Through controlled re-entry** to a safe impact zone.
 - By **bringing it to an orbit** where **orbital lifetime is less than 25 years**.

6.2.3. REUSABLE LAUNCH VEHICLE AUTONOMOUS LANDING MISSION (RLV LEX)

Why in News?

ISRO successfully conducts the Reusable Launch Vehicle Autonomous Landing Mission (RLV LEX)

About Reusable Launch Vehicle Autonomous Landing Mission (RLV LEX)

- RLV LEX test was the **second of five tests** that are a part of ISRO’s efforts to develop RLVs or space planes/shuttles under the **Reusable Launch Vehicle Technology Demonstration (RLV-TD) Programme**.
 - RLV is essentially **a space plane with a low lift to drag ratio** and **can travel to low earth orbits to deliver payloads** and return to earth for use again.
 - This vehicle will be scaled up to become the **first stage of India’s reusable two-stage orbital (TSTO) launch vehicle**.

- RLV-TD Programme aims at **developing essential technologies** for a **fully reusable launch vehicle** to enable low-cost access to space
 - It includes technologies like **hypersonic flight (HEX)**, **autonomous landing (LEX)**, **return flight experiment (REX)**, **powered cruise flight**, and **Scramjet Propulsion Experiment (SPEX)**.
 - **NASA is using RLV for long time** and private space agencies such as Space X demonstrating partially reusable launch systems
- **Advantages:** RLV is considered a **low-cost, reliable, and on-demand mode of accessing space**.
- **Challenges:** **Selection of materials like** special alloys, composites, and insulation materials and the crafting of its parts is very **complex** and demands **highly skilled manpower**.

6.2.4. DARK MATTER MAP

Why in News?

Astronomers have made the **most detailed map of dark matter** showing that both the **'lumpiness' (piece of a solid substance, usually with no particular shape) of the universe** and the rate at which the universe is **growing**.

More on News

- They have created a map by using the **microwave detector** of the **Atacama Cosmology Telescope (ACT)**.
- Astronomers were observing the data collected by the ACT to find out whether **Einstein's predictions in his theory are correct** regarding the **expansion of the Universe**.
- They also observed the sanctity of the **standard model of cosmology (SMC)**.

Observation Made by Astronomers

- **Invisible world:** Features of the **invisible world** (dark matter and energy) were observed which are hundreds of **millions of light-years across**.
- **Cosmic Microwave Background (CMB) radiation:** **Gravitational pull** of large, heavy structures including dark matter warps the **CMB radiation** on its 14-billion-year journey to Earth.
 - **CMB or fossil radiation** is the **cooled remnant** of the **first light (or leftover of the Big Bang)** that could ever travel freely throughout the Universe.
 - The CMB light **gets deflected** by **dark matter**, just like a **magnifying glass** deflects **light that passes through it**.

Big Bang Model

- It is the only model that is able to explain the existence of the **Cosmic Microwave Background (CMB)**.
- According to this model, the Universe **started** with a very **dense and hot phase** that **expanded** and **cooled** itself; for several hundreds of thousands of years the temperature was so high that neutral atoms could not form.
- Matter consisted mostly of **neutrons and charged particles (protons and electrons)**.
- Electrons interacted closely with the light particles, and therefore **light and matter were tightly coupled** at **that time** (that is, **light could not travel for a long distance in a straight line**).
- **Light** could therefore **not propagate** and the **Universe** was opaque.
- It took about 300 000 years for the Universe to **cool down** to a **temperature** at which atoms can **form (about 3000°C)**.
- Matter then became **neutral**, and allowed the light to travel freely, then Universe became transparent.

Einstein's Theory of Relativity

- It was propounded by him in **1915**.
- In this theory, he **contradicted Isaac Newton's** concept of space who **saw space and time as fixed**.
- But according to his theory, space is **fluid and malleable**.
- **Gravity is not a force**, but rather a **distortion of time and space**.
- **Tiny ripples** are caused by colliding **black holes**.

Composition of the Universe

Dark Matter

- Unlike **normal matter**, dark matter **does not interact with electromagnetic force**.
 - This means it does not **absorb, reflect or emit light**, making it extremely **hard to spot**.
- Researchers **have been able** to infer the **existence of dark matter only** from the **gravitational effect it seems to have on visible matter**.
- It seems to outweigh **visible matter roughly six to one**, making up about **27%** of the universe.
- Astronomer **Fritz Zwicky** first used the term "**dark matter**" in the 1930s.

Dark Energy

- It makes up approximately **68%** of the **universe** and appears to be **associated** with the vacuum in space.
- It is **distributed** evenly throughout the **universe**, not only in space but also in time.

Visible Matter

- It makes up **5%** of the Universe.
- It **includes** Earth, the sun, other stars, and galaxies.
- It is made of **protons, neutrons, and electrons** bundled together into atoms.

- **Lumpiness:** Measurements showed that the 'lumpiness' of the universe is of the **exact right size as per SMC**.
- **Expansion:** Rate at which it is growing is just what was expected from our SMC based on Einstein's theory.
- **Gravitational lensing:** It was observed while recording the movement of the CMB.
 - It is a phenomenon in **which light moving through a region of space-time warped** (bend or twist out of shape) by **powerful gravitational fields** travels, in a curve until it emerges as a stretched-out arc called an **Einstein ring**.
 - **Gravitational lensing** helps in detecting dark matter.

Einstein’s Prediction in the Theory of General Relativity (GR)

- **Motion in Space: Concentrations of mass and energy** curve the **structure of spacetime**, affecting the motion of anything passing near, including light.
 - He expected a **beam of starlight** should **bend** when **passing through the sun’s gravity**.
- **Expansion of Universe:** He provided the mathematical framework for **describing the structure and evolution** of the universe (once hotter and denser than it is today) from its beginnings 13.8 billion years ago and into the future.
 - **Galaxies are moving away** from each other.
 - Also, he predicted that the **universe is lumpy**.

How does the new map confirm Einstein’s Prediction?

- **Crisis in Cosmology: Previous maps** indicated that the **lumpiness of the universe was not as dense as** Einstein’s theory had proposed, under the **standard model of cosmology** and led to concerns that the model may be broken.
 - These findings used a **different background light**, one emitted from stars in galaxies rather than the CMB.
 - However, the latest results from **ACT** were able to precisely assess that the **lumpiness seen are as per Einstein’s theory**.
- **Standard Model of Cosmology (SMC):** Findings proved that the **expansion of the universe is as per the SMC**.
 - It is also called the **“Concordance Cosmological Model”** or the **“ΛCDM Model,”**
 - It is based on the principle that the universe **was created by the “Big Bang”** from pure energy.
 - Also, it believes that Universe is composed of about **5%** ordinary matter (visible), **27%** dark matter, and **68%** dark energy.
- **Presence of CMB** shows that Universe **started with a very dense and hot phase** that expanded and cooled itself and later released CMB. **Its movement depicts that Universe is still expanding**.
 - Also, its deflection by Massive object upheld that Gravity is not a force, but rather a distortion of time and space.

6.2.5. JUPITER ICY MOONS EXPLORER (JUICE) MISSION

Why in News?

European Space Agency (ESA) has launched **JUICE** from Europe's spaceport French Guiana on an **eight-year-long voyage to Jupiter** and its **moons** through **Ariane-5**.

Major Space Missions to Jupiter		
Mission	By	Year
Pioneer 10	NASA	1972
Voyager 1 and 2	NASA	1977
Galileo (first to enter Jupiter’s orbit)	NASA	1989
Ulysses	NASA and ESA	1990
Juno	NASA	2011
Europa Clipper	NASA	Expected 2024

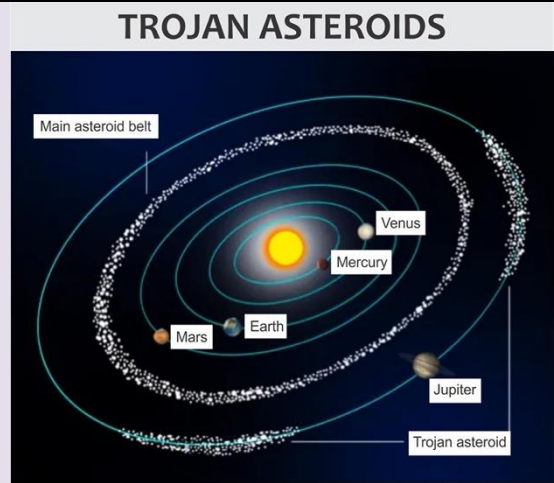
About JUICE Mission

- **Objectives:** It will make detailed observations about Jupiter and its three **large ocean-bearing** moons – **Ganymede, Callisto and Europa**.
 - It will inspect and analyse the **moons' weather, magnetic field, gravitational pull** and other elements.
- **Time Period:** It will spend at **least three years** studying the gas giant and its moons.
- **Payload:** It includes **GALA** (GANymede Laser Altimeter), **MAJIS** (Moons and Jupiter Imaging Spectrometer), **UVS** (UV imaging Spectrograph) etc.
- Spacecraft will complete fly-bys of **Venus, Earth**, and the **Earth-Moon system** to arrive at its destination in **2031**.




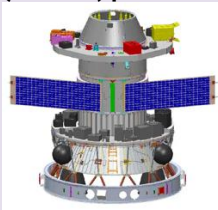
Challenges in JUICE Mission: Complex manoeuvres for the insertion of spacecraft in the orbit of Jupiter and Ganymede, Extreme Atmospheric Condition, Gravity-assisted flyby etc.

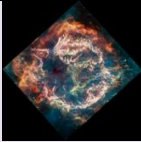



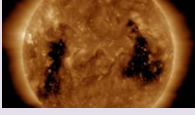

Jupiter Trojan Asteroids (Related News)

- NASA’s spacecraft ‘Lucy’ has captured images of the **Jupiter Trojan asteroid** for the first time.
- Images will help scientists to **analyze how the Trojan asteroids reflect light from certain angles.**
 - **Trojans** (also known as ancient population of asteroid fossils) **orbit the Sun in two loose groups**, with one group leading **ahead of Jupiter** in its path, the **other trailing behind.**
 - They are **stabilized** by the Sun and its largest planet in a **gravitational balancing act.**
- **Lucy** was launched in 2021 as the **first space mission** to study the Trojans. It is on a 12-year **mission** that will take close observations of **nine of Jupiter’s Trojans** and **two main belt asteroids** along with that.



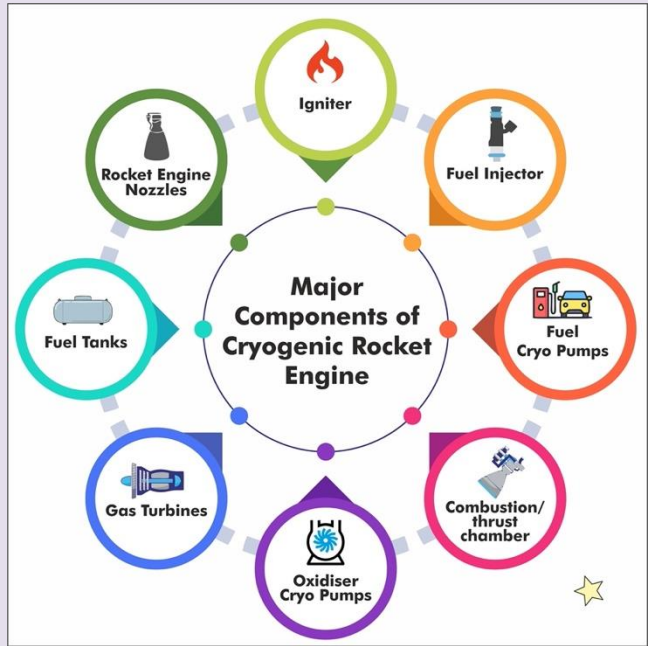
6.2.6. OTHER IMPORTANT NEWS

Missions	
<p>Multi-Angle Imager for Aerosols (MAIA) missions</p> 	<ul style="list-style-type: none"> • MAIA is a state-of-the-art satellite instrument producing data that will be used in health studies to examine the health effects of various types of air pollution. <ul style="list-style-type: none"> ○ It is a joint effort between NASA and Italian space agency. • Its measurements of sunlight reflecting off airborne particles will help determine abundance, size and optical properties of certain pollutants in the atmosphere. • Three-year mission will focus on several primary target areas including Los Angeles, Atlanta, Boston, Spain, Beijing, New Delhi.
<p>Tropospheric Emissions Monitoring of Pollution (TEMPO) instrument</p> 	<ul style="list-style-type: none"> • NASA launched device called TEMPO to monitor air pollution from space. • TEMPO will allow scientists to monitor air pollutants and their emission sources and air quality across greater North America on an hourly basis during daytime. <ul style="list-style-type: none"> ○ Situated in geostationary orbit 35,786 kilometers above the equator. ○ Among the pollutants tracked by TEMPO will be nitrogen dioxide, produced from the combustion of fossil fuels, formaldehyde and ozone. ○ It will be able to measure atmospheric pollution down to a spatial resolution of 10 square kilometers or neighborhood level.
<p>Exobiology Extant Life Surveyor (EELS)</p> 	<ul style="list-style-type: none"> • NASA is developing a snake-like robot - EELS - which can boost space exploration through its diverse adaptability to various terrains. • EELS is capable of exploring internal and enclosed dynamic terrain structures to assess evidence for life. <ul style="list-style-type: none"> ○ EELS uses rotating propulsion unit which acts as tracks while gripping mechanism and propeller unit helps it to access a plume vent exit. • It's special focus is on Enceladus, the sixth largest moon of Saturn. <ul style="list-style-type: none"> ○ Besides Enceladus, EELS system can explore Martial polar caps and descending crevasses in Earth's ice sheets.
<p>PSLV Orbital Experimental Module-2 (POEM-2) platform</p> 	<ul style="list-style-type: none"> • ISRO carried out scientific experiment using POEM-2 in PSLV-C55 mission. • Mission, for the first time, will see solar panels powering PSLV’s fourth (final) stage for conducting month-long experiments. <ul style="list-style-type: none"> ○ Usually, fourth and final stage of a rocket remains in space for only a couple of days before dropping back into the atmosphere and burning up. • PSLV includes POEM-2 platform to perform in-orbit experiments using the final stage of PSLV. <ul style="list-style-type: none"> ○ POEM has a dedicated Navigation Guidance and Control system which acts as platform’s brain to stabilize it with specified accuracy. ○ POEM will derive its power from mounted solar panels and a Li-Ion battery.
Space Objects and Phenomenon	
<p>Cassiopeia A</p>	<ul style="list-style-type: none"> • NASA’s James Webb telescope reveals never before seen details in Cassiopeia A. • Cassiopeia A is a remnant of a supernova explosion and is situated in constellation Cassiopeia.

	<ul style="list-style-type: none"> ○ It is located nearly 11000 light years away from earth. ○ It is one of the strongest sources of radio emission in sky beyond solar system. ○ Cassiopeia Constellation ranks as 25th largest Constellation. ○ Constellation resembles an irregularly shaped letter “W”.
<p>GN-z11 Galaxy</p> 	<ul style="list-style-type: none"> • Latest results from GN-z11 confirmed absence of dust particles from its surroundings for an interim time period despite possessing a very high star formation rate. • GN-z11 is a compact galaxy containing dense matter located approximately 32 billion light years away from the Earth. • Unlike other host galaxies which become opaque from dust during star formation process and subsequent stellar evolution, Gn-z11 is transparent. • Possible Reasons: <ul style="list-style-type: none"> ○ Dust Suppression by reverse shocks from a supernovae explosion, ○ Dust Destruction by supernovae-triggered shocks, or ○ Dust Evacuation by gaseous outflow driven by other stellar activity.
<p>Terminator zones</p> 	<ul style="list-style-type: none"> • In a recent study, researchers explained the possibility of extra-terrestrial life on far-off exoplanets within a special region known as “terminator zone”. • Terminator zones is a ring on planets that have one side that is always facing its star and one side that is always dark. <ul style="list-style-type: none"> ○ Terminator is the dividing line between day and night sides of planet. ○ It could exist in “just right” temperature zone between too hot and too cold. ○ Terminator zone planet can retain liquid water. If the planet is mostly covered in water, then water facing the star would likely evaporate and cover entire planet in thick layer of vapour. But if there’s land, this effect shouldn’t occur.
<p>Quasars (quasi-stellar radio sources)</p> 	<ul style="list-style-type: none"> • A recent study revealed that merger of galaxies ignites quasars. • Quasars are very bright, distant and active supermassive black holes that are millions to billions of times mass of the Sun. • Typically located at the centers of galaxies, they feed on infalling matter and unleash torrents of radiation. <ul style="list-style-type: none"> ○ A quasar’s light outshines that of all the stars in its host galaxy combined. ○ Quasars are a subclass of active galactic nuclei (AGNs).
<p>Others</p>	
<p>Coronal Holes</p> 	<ul style="list-style-type: none"> • NASA scientists have spotted a massive coronal hole on the Sun, which is 20 times larger than Earth, unleashing solar winds towards Earth. <ul style="list-style-type: none"> ○ Solar winds impact Earth’s magnetic field, satellites and technology. Solar winds also lead to generation of aurora at higher latitudes on Earth. • Coronal holes are areas which appear dark in solar corona in extreme ultraviolet and soft x-ray solar images. • They appear dark as: <ul style="list-style-type: none"> ○ They are cooler, less dense regions than the surrounding plasma, and ○ Are regions of open, unipolar magnetic fields.
<p>SpaceX’s Starship</p> 	<ul style="list-style-type: none"> • SpaceX’s new rocket system - Starship - exploded mid-air during its first test flight. • SpaceX’s Starship spacecraft and Super Heavy rocket – collectively referred to as Starship – represent a fully reusable transportation system. <ul style="list-style-type: none"> ○ Once fully developed, it could be the most powerful launch vehicle with the capability to carry a payload of up to 150 metric tonnes in fully-reusable mode and 250 metric tonnes in expendable mode. ○ It is designed to carry both crew and cargo to Earth orbit, the Moon, Mars and beyond. ○ It is also capable of point-to-point transport on Earth.
<p>Pellet-beam propulsion</p>	<ul style="list-style-type: none"> • A newly proposed ‘pellet-beam’ propulsion system could theoretically beam a heavy spacecraft to outside the confines of our Solar System in less than 5 years. • Pellet-beam concept was partly inspired by Breakthrough Starshot initiative, which is working on a ‘light-sail’ propulsion system. <ul style="list-style-type: none"> ○ To work, conceptual propulsion system requires two spacecraft – one that sets off for interstellar space, and one that goes into orbit around Earth. ○ Spacecraft orbiting Earth would shoot a beam of tiny microscopic particles at interstellar spacecraft. ○ Those particles would be heated up by lasers, causing part of them to melt into plasma that accelerates the pellets further, a process is known as laser ablation. ○ Those pellets could reach 120 km/second.

Cryogenic engine/cryogenic stage

- Flight acceptance hot test of CE-20 cryogenic engine that will power Cryogenic Upper Stage of LVM3 launch vehicle for Chandrayaan-3 mission was conducted by ISRO.
- Cryogenic engine/cryogenic stage is last stage of space launch vehicles using propellants at extremely low temperature.
 - It is more efficient and provides more thrust for every kilogram of propellant it burns compared to solid and earth-storable liquid propellant rocket stages.
 - Cryogenic engine makes use of Liquid Oxygen (LOX) and Liquid Hydrogen (LH₂) as propellants.



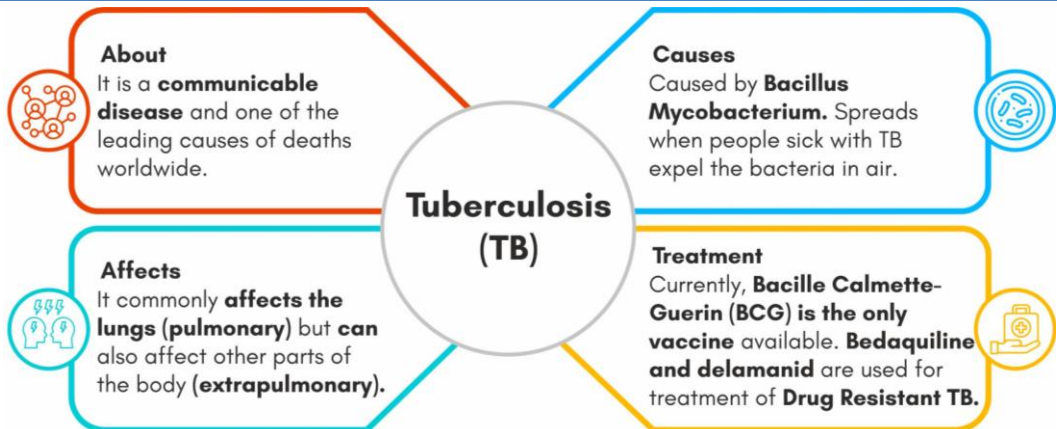
6.3. HEALTH

6.3.1. ONE WORLD TUBERCULOSIS (TB) SUMMIT

Why in News?

The Prime Minister addressed the One World TB Summit on the occasion of World TB Day (March 24).

Key Highlights of summit



- Ministry of Health and Family Welfare released **Leading the way India TB report 2023**.
- **Initiatives launched at Summit**

TB-free Panchayat	All the elected public representatives of villages will together take a resolution that every patient in the village will be kept healthy.
Shorter TB Preventive Treatment (TPT)	It will use the shorter 3HP [(12 once-weekly doses of isoniazid (H) and rifapentine (Priftin) (P)] regimen across the country.
Family-centric care model for TB	It includes easy-to-use tools for counselling and capacity building in the form of videos, animations, and brochures in local languages offered on Internet and mobile phone-based platforms.

Related News

- **WHO released “draft Global Framework** to prepare for Country Introduction of New TB Vaccines for Adults and Adolescents”
- Draft framework is in line with WHO’s End TB Strategy, a blueprint to **reduce TB incidence by 80%, TB deaths by 90%**, and to **eliminate catastrophic costs** for TB-affected households by 2030.

6.3.2. DNA VACCINE

Why in News?

India's first and only DNA vaccine for dengue has shown promising results.

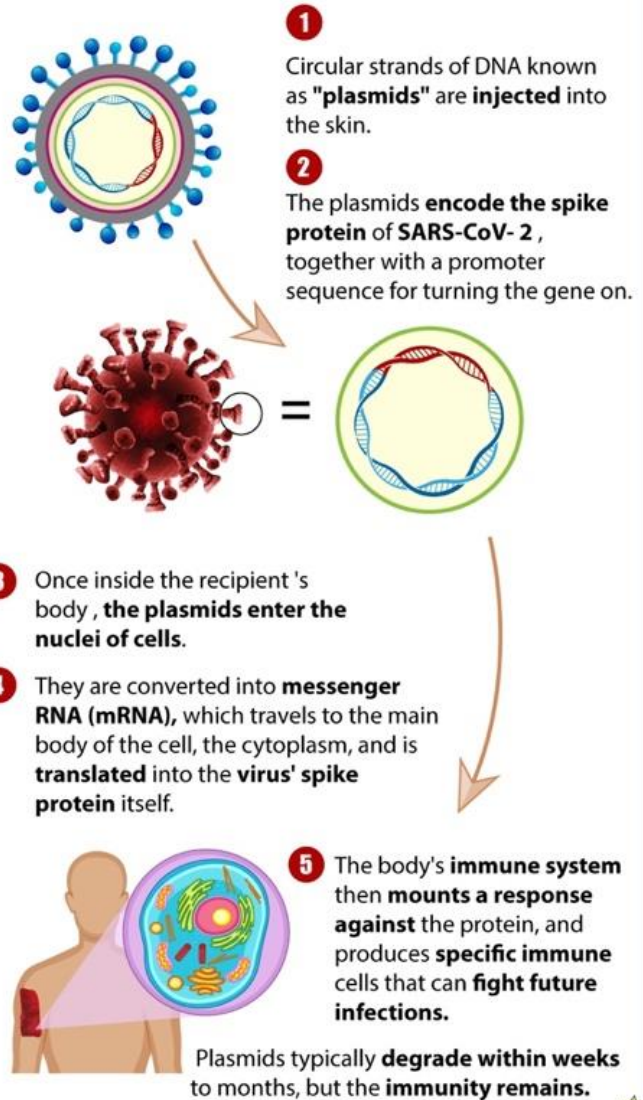
More about News

- It has been in development since 2019 in National Centre for Biological Sciences (NCBS), Bengaluru.
- Earlier, world's first DNA vaccine—ZyCoV-D was approved in 2021 for emergency use against COVID-19.

About DNA Vaccine

- DNA vaccine uses a copy of a genetic sequence from a part (i.e., outer or spike protein) of a pathogen (virus or bacteria) to stimulate body's immune system. More specifically, it known as "plasmid DNA vaccine".
 - Whereas, RNA vaccine uses a copy of a natural chemical called messenger RNA (mRNA) to produce an immune response in humans. Delivery of mRNA is achieved by lipid nanoparticles.
 - DNA vaccine is more stable than RNA vaccine.
 - Unlike RNA vaccine, DNA vaccines have potential to integrate into host cell genome.
- Benefits of DNA vaccine
 - **Stability and safety:** Vaccines are non-infectious; carries no potential toxicity from viral vectors.
 - **Efficacy and boosting:** Stimulate both humoral and cellular arms of adaptive immune system; pose minimal risk of anti-vector immunity.
 - **Rapid and Scalable manufacturing:** Lower cold chain requirements.
- **Challenges:** Relatively limited data on safety and efficacy in humans; risk of development of anti-nuclear antibodies; induction of antibiotic resistance etc.

HOW DNA VACCINE WORKS



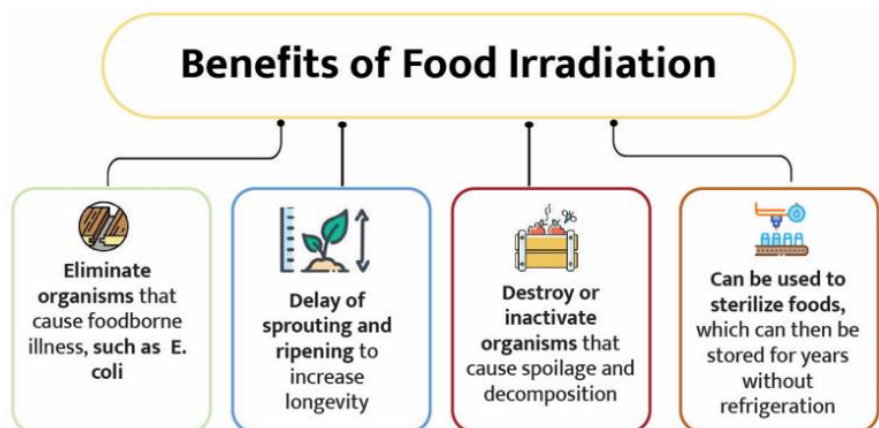
6.3.3. FOOD IRRADIATION

Why in News?

According to reports, Onions will be irradiated with gamma rays to curb post-harvest losses.

More on News

- Perishable nature of onions, combined with lower processing penetration and sub-optimal storage infrastructure causes post-harvest losses (almost 25%).



- Irradiation prevents sprouting and thus helps in bringing down post-harvest losses.

About Food Irradiation

- Food irradiation involves controlled application of energy from ionizing radiations such as gamma rays, electrons and X-rays for food preservation.
 - Irradiation works by disrupting the biological processes that lead to decay.
 - Gamma ray, X-ray or electrons do not induce any radioactivity in food.
- Sources of radiation approved for use on foods:
 - Gamma rays emitted from radioactive forms of cobalt (Cobalt 60) or Caesium (Caesium 137) used routinely to sterilize medical, dental products.
 - X-rays produced by reflecting a high-energy stream of electrons off a target substance into food.
 - Electron beam (or e-beam) is like X-rays and is a stream of high-energy electrons propelled from an electron accelerator into food.

6.3.4. OTHER IMPORTANT NEWS

Initiatives/Platforms	
Preparedness and Resilience for Emerging Threats initiative (PRET)	<ul style="list-style-type: none"> • It is a WHO initiative to improve the disease pandemic preparedness. • PRET focuses on improving pandemic preparedness for groups of pathogens based on their modes of transmission. <ul style="list-style-type: none"> ○ PRET operates under the aegis of the International Health Regulations (IHR), which is a critical international legal instrument for managing public health emergencies. ○ PRET recognizes three tiers of systems and capacities relevant for pandemic preparedness: <ul style="list-style-type: none"> ✓ those that are cross-cutting for all or multi-hazard, those that are relevant for groups of pathogens, and those that are specific to a pathogen.
Global Initiative on Sharing Avian Influenza Data (GISAID)	<ul style="list-style-type: none"> • WHO accused China of withholding data on COVID-19 origins based on recent data published by GISAID database. • GISAID platform was launched on occasion of Sixty-first World Health Assembly in 2008. <ul style="list-style-type: none"> ○ It is a global science initiative and primary source that provides open access to genomic data of influenza viruses and coronavirus. ○ In 2010, Federal Republic of Germany became the official host of GISAID platform. ○ GISAID is managed by an Executive board, Scientific Advisory Council, Database Technical Group.
Diseases/Vaccines	
H3N8 bird flu	<ul style="list-style-type: none"> • China recorded the first human death caused by H3N8. • H3N8 is a subtype of the influenza A virus. • It primarily affects birds, particularly wild waterfowl and shorebirds. • It is not commonly found in humans, but rare cases of human infections have been reported. • There is no evidence of easy human-to-human transmission of H3N8 bird flu.
Candida Auris (C. auris)	<ul style="list-style-type: none"> • It is a multi-drug resistant fungus that is capable of causing invasive infection in human body currently spreading in USA. • It was first identified in Japan in 2009. <ul style="list-style-type: none"> ○ Its most cases have been reported in healthcare settings, such as hospitals and nursing homes. ○ Spread through contact with contaminated surfaces or by person-to-person transmission. ○ Symptoms: Fever and chills that don't go away after treatment with antibiotics. ○ Mortality rate: Estimated to be between 30-60%.
VIM-GES-CRPA	<ul style="list-style-type: none"> • Centers for Disease Control and Prevention (CDC) linked India-made eye drops to outbreak of rare strain- VIM-GES-CRPA- in US. • VIM-GES-CRPA is a rare strain of extensively drug-resistant Pseudomonas aeruginosa. <ul style="list-style-type: none"> ○ It is associated with multiple types of infections, including eye infections. ○ Most patients infected with VIM-GES-CRPA report using artificial tears.
Shingrix vaccine	<ul style="list-style-type: none"> • GlaxoSmithKline (GSK) Pharma has launched vaccine "Shingrix" in India to prevent shingles. <ul style="list-style-type: none"> ○ Shingles is caused by the reactivation of the varicella zoster virus (VZV), same virus that causes chickenpox.

	<ul style="list-style-type: none"> Those suffering from diabetes, heart disease and kidney diseases were at an increased risk of developing shingles because of weakened immunity. Shingrix aims to prevent shingles (herpes zoster) and post-herpetic neuralgia in adults aged 50 years or more. It is the world's first non-live, recombinant subunit vaccine to be given intramuscularly in two doses. It was approved by US Food and Drug Administration and European Commission.
Malaria Vaccine	<ul style="list-style-type: none"> Ghana became the first country to approve a new malaria vaccine - R21/Matrix-M vaccine - developed at Oxford University. <ul style="list-style-type: none"> It is being manufactured by Serum Institute of India. It has exceeded the WHO target of 75% efficacy. However, WHO has yet to recommend the R21 vaccine for widespread use. WHO has earlier approved RTS,S malaria vaccine in 2021. It acts against Plasmodium falciparum. <ul style="list-style-type: none"> There are 5 Plasmodium parasite species that cause malaria in humans and 2 of these species – P. falciparum and P. vivax – pose the greatest threat.
Notifiable Disease	<ul style="list-style-type: none"> Malaria is all set to become a notifiable disease across India. Centre has notified several diseases such as cholera, leprosy, meningitis, pertussis (whooping cough), plague, TB, AIDS, hepatitis, etc. A notifiable disease is any disease that is required by law to be reported to government authorities. It allows the authorities to monitor the disease, and provides early warning of possible outbreaks. World Health Organization's International Health Regulations, 1969 require disease reporting to WHO to help with its global surveillance and advisory role. Onus of notifying any disease and implementation lies with state government.
Others	
Sodium Intake Reduction	<ul style="list-style-type: none"> A WHO report highlights that world is off-track to achieve its global target of reducing sodium intake by 30% by 2025. Sodium, an essential nutrient, increases the risk of heart disease, stroke and premature death when eaten in excess. <ul style="list-style-type: none"> Main source of sodium is table salt (sodium chloride). Global average salt intake is estimated more than double of WHO recommendation of less than 5 grams of salt per day (one teaspoon).
Myelin Basic Protein (MBP)	<ul style="list-style-type: none"> Scientists from Institute of Advanced Study in Science and Technology, Guwahati, an autonomous institute under Department of Science and Technology, fabricated MBP. MBP is a major protein component of myelin sheath. <ul style="list-style-type: none"> Myelin sheath is a protective membrane that wraps around the axon of nerve cells and acts as a model protein in studying diseases like multiple sclerosis. MBP is responsible for adhesion of the cytosolic surfaces (liquids found inside cells) of myelin. Fabrication of MBP will help in studying different chemical and physical properties in the vicinity of protein environment.
	<p>The diagram illustrates a multipolar neuron. The central part is the neuron cell body, which contains a prominent nucleus. Extending from the cell body are several dendrites that receive signals. A long axon extends from the cell body, covered by a myelin sheath. Labels include: Neuron cell body, Nucleus, Axon, Myelin sheath, and Dendrite.</p>
Laccase enzyme	<ul style="list-style-type: none"> Recently, an enzyme called laccase generated by a group of fungi has been found capable of degrading a variety of hazardous industrial organic pollutants. Laccase enzyme belongs to enzyme family of multicopper oxidases (MCOs). <ul style="list-style-type: none"> They are classified as benzenediol oxygen reductases and are also known as urushiol oxidases and p-diphenol oxidases. They have potential to degrade several industrial and biological compounds.

	<ul style="list-style-type: none"> They are capable of oxidizing a large number of phenolic and non-phenolic molecules due to their low substrate specificity, using oxygen as electron acceptor and generating water as a by-product.
Know Your Medicine	<ul style="list-style-type: none"> National Anti-Doping Agency (NADA) has developed the Know Your Medicine web and mobile application with an aim to create a clean sporting environment in India Paving the path for clean sport, the application will enable the sports ecosystem to: <ul style="list-style-type: none"> Check if any prohibited substance is present in medicines. Make informed choices about use of medicines. Available in Hindi and English, the users can search by image and text options and search by medicines and ingredient options.
Transgender Athletes regulations	<ul style="list-style-type: none"> World Athletics Council has banned transgender women athletes from competing in elite female competitions if they have gone through male puberty. Also, it tightened restrictions on athletes with Differences in Sex Development (DSD) by cutting the maximum amount of plasma testosterone for athletes to 2.5 nanomoles per litre from 5. <ul style="list-style-type: none"> DSD is a group of rare conditions involving genes, hormones and reproductive organs, including genitals. It leads to higher testosterone production, giving transgender women advantages in strength, endurance, power, lung capacity etc.

6.4. DEFENCE

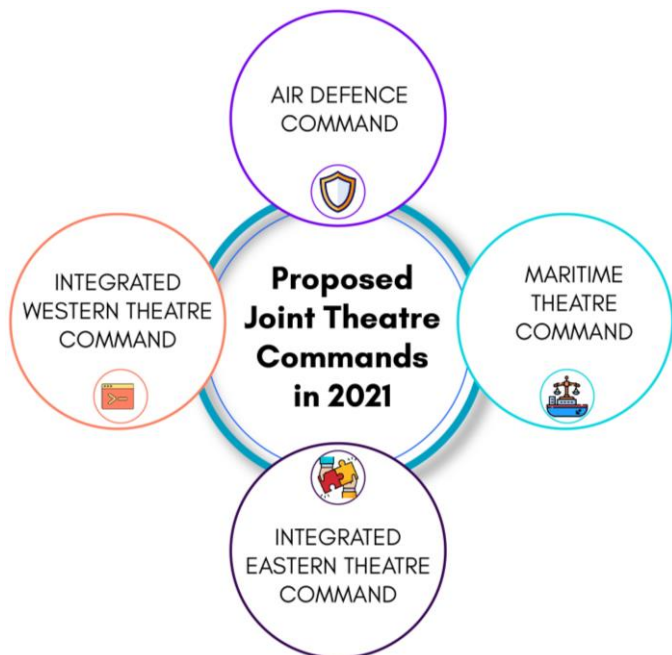
6.4.1. INTER-SERVICES ORGANISATIONS (COMMAND, CONTROL AND DISCIPLINE) BILL, 2023

Why in News?

Government introduces Inter-Services Organisations (Command, Control and Discipline) Bill, 2023 in Lok Sabha.

About Inter-Services Organisations (Command, Control and Discipline) Bill, 2023

- Bill seeks to **empower Commander-in-Chief or Officer-in-Command** of Inter-services Organisations in respect of **service personnel who are serving under his command** for maintenance of discipline, proper discharge of their duties etc.
 - Presently, such personnel are governed by Air Force Act, 1950, Army Act, 1950 and Navy Act, 1957 (Service Acts).**
 - Only officers of respective services exercise disciplinary powers** over service personnel.
- Other Key Features of the Bill**
 - Empowers Union government to set up inter-services organisations.**
 - Inter-Services organisation is a **body of troops including a Joint Services Command** consisting of persons, subject all service acts or any two of the said Acts.
 - Service personnel continue to be governed by their respective Service Acts** for disciplinary or administrative action.
- Significance of bill:** Provides for **expeditious disposal of cases**, saving of time by **avoiding multiple proceedings** and **greater integration amongst Armed Forces**, ensure discipline and **effective discharge of duties** etc.
- It will also **provide a renewed push for theaterisation**.
 - Theaterisation or Theatre Command means **putting specific number of personnel from three services under a common commander** in a specified geographical territory.



6.4.2. SELF-RELIANCE IN DEFENCE

Why in News?

Ministry of Defence inked ₹32k crore contracts in push for self-reliance.

About the deals

- Deals are related to:

Improved Akash weapon system (AWS)	<ul style="list-style-type: none"> AWS is a Short Range Surface to Air Missile System that can simultaneously engage Multiple Targets. Improved AWS has Seeker Technology, 360° Engagement Capability and improved environmental parameters. 	
Weapon Locating Radars (WLR) Swathi (Plains)	<ul style="list-style-type: none"> It is an indigenously designed WLR which is capable of locating guns, mortars and rockets firing own troops. 	
Next Generation Offshore Patrol Vessels and Next Generation Missile Vessels	<ul style="list-style-type: none"> These will enable the navy to maintain its combat capability. To help meet various operational requirements including anti-piracy, anti-trafficking, etc. 	
Lynx-U2 system fire control system	<ul style="list-style-type: none"> It is capable of accurately tracking and engaging targets amid sea clutter as well as air/surface targets. It will be installed on offshore patrol vessels. 	
Next-generation maritime mobile coastal batteries (long range) and BrahMos supersonic cruise missiles	<ul style="list-style-type: none"> BrahMos is a two stage missile system with a solid propellant booster engine and a liquid Ramjet for second stage. Originally Brahmos range was capped at 290 kms, but following India's entry into Missile Technology Control Regime, it has been decided to extend range upto 600km. 	

6.4.3. DEFENCE ACQUISITION POLICY 2020 (DAP)

Why in News?

Union Cabinet accorded approval to sign a contract with Larsen & Toubro Limited (L&T) for acquisition of three **Cadet Training Ships** under **Buy (Indian-IDDMM) category** of **Defence Acquisition Policy 2020 (DAP).**

Salient features of Defence Acquisition Procedure (DAP) 2020

- Notification of **positive indigenisation lists** in respect of weapons/platforms.
- Increased Indigenous Content (IC)** in various categories of procurement.
- Highest priority** to procurement under Buy (Indian-IDDMM) category.
- Reservation for MSMEs and small shipyards** for orders up to Rs 100 crore/year.

Categories under Defence Acquisition Procedure (DAP 2020)

Category	Indigenous Content
Buy (Indian-IDDMM)	Indigenous design and ≥ 50%
Buy (Indian)	In case of indigenous design ≥ 50%, otherwise ≥ 60%
Buy and Make (Indian)	≥ 50% of the 'Make' portion
Buy (Global - Manufacture in India)	≥ 50%
Buy (Global)	Foreign Vendor – Nil Indian Vendor ≥ 30%

- **Highest priority** accorded to procurement under **Buy {Indian-IDDM (Indigenously Designed, Developed and Manufactured)}** category.
 - It refers to **acquisition of products from an Indian vendor** that have a **minimum of 50% Indigenous Content** on cost basis of the **base contract price** i.e. total contract price less taxes and duties.
 - It is one **among five procurement categories** (refer infographic) under **DAP 2020**.
- DAP 2020 superseded **Defence Procurement Procedure (DPP) of 2016**.

6.4.4. STOCKHOLM INTERNATIONAL PEACE RESEARCH INSTITUTE (SIPRI) REPORTS

Why in News?

New data on global arms transfers and Military Expenditure was published by Stockholm International Peace Research Institute (SIPRI).




About SIPRI






- It is a **Sweden-based independent international institute** dedicated to research into conflict, armaments, arms control and disarmament

Key highlights of the data

- **US**, was **world's topmost military exporter** in past five years, **followed by Russia and France**.
- **India's share of global arms imports was highest** in past five years, followed by **Saudi Arabia, Qatar and Australia**.
- **Russia was the largest supplier of arms to India**, but its share of total Indian arms imports fell.
 - ✓ **Other top suppliers to India were France, US and Israel.**
- **India's arms imports fell 11% between 2013-17 and 2018-22** because of reasons like a **complex procurement process, efforts to diversify arms suppliers** and attempts to **replace imports with local design**.
- **Five biggest spenders in 2022 were US, China, Russia, India and Saudi Arabia**, which together accounted for **63% of world military spending**.
- **Personnel expenses** (salaries and pensions) remained the **largest expenditure category** (around 50%) in Indian military budget.

6.4.5. OTHER IMPORTANT NEWS

Drones/Aircrafts	
Precision Attack Loitering Munition (PALM 400) 	<ul style="list-style-type: none"> • Indian Army is going to conduct PALM 400 drone tests in Pokhran. • PALM 400 is an armed remotely piloted vehicle (RPV) built by AVision Systems. <ul style="list-style-type: none"> ○ It is a joint venture between Israeli firm UVision Air Ltd and Hyderabad-based Aditya Precitech Private Ltd. • It is a high precision loitering system launched from a canister which can loiter for up to 120 minutes. <ul style="list-style-type: none"> ○ Speed: 50-140 knots (90-260 km per hour), Height: 3,000-4,000 feet above ground. ○ It picks out its target and fires an armor-penetrating projectile from top - where its armor protection is the least.
Sukhoi 30 MKI Fighter Aircraft 	<ul style="list-style-type: none"> • Indian President took a sortie on Sukhoi 30 MKI fighter aircraft. • Sukhoi 30 MKI is a multirole combat fighter aircraft jointly developed by Sukhoi Design Bureau (Russia) and Hindustan Aeronautics Limited (HAL) for Indian Air Force (IAF). <ul style="list-style-type: none"> ○ It can launch a range of air-to-surface missiles such as Nirbhay, BrahMos supersonic cruise missiles etc. ○ It is fitted with a tarang radar warning receiver (RWR) indigenously developed by Defence Research and Development Organisation (DRDO).
MQ-9 Reaper 	<ul style="list-style-type: none"> • Recently, US claimed that Russian jets drowned its MQ-9 Reaper drone into Black Sea. • Built by General Atomics Aeronautical Systems, Inc. (GA-ASI) of US, MQ-9 Reaper drone is a turboprop-powered, multi-mission Remotely Piloted Aircraft (RPA). <ul style="list-style-type: none"> ○ Also known as Predator B, it can be used for intelligence, surveillance and attack missions. • Technical Specifications: It can reach up to 50,000 feet for more than 27 hours with speed of 240 knots and 1,746 kg of payload.
Missiles/Torpedo	

<p>Pralay Ballistic Missile</p> 	<ul style="list-style-type: none"> • Indian Armed Forces plans to acquire around 250 more units of Pralay ballistic missiles. • Pralay Ballistic Missile is a Surface-to-Surface missile, developed by the Defence Research and Development Organisation (DRDO). • It has a range of 150 to 500 kilometres and is propelled by a solid-propellant rocket motor. • Its missile guidance system includes state-of-the-art navigation and integrated avionics.
<p>Harpoon missiles</p> 	<ul style="list-style-type: none"> • Taiwan is planning to buy these land-launched anti-ship Harpoon missiles from the USA. • It is an all-weather, over-the-horizon, anti-ship missile system. <ul style="list-style-type: none"> ○ It has a low-level, sea-skimming cruise trajectory with active radar guidance. ○ Currently, about 30 nations use the Harpoon including India. ○ Range of fire - 93 to 280 km.
<p>MK 54 lightweight torpedo</p> 	<ul style="list-style-type: none"> • As per the report India is going to sign a weapons deal with the United States that includes Mark 54 anti-submarine torpedoes. • MK 54 lightweight torpedoes are used by US surface ships, fixed-wing aircraft, and helicopters, and are their primary anti-submarine warfare weapon. • It was previously known as Lightweight Hybrid Torpedo (LHT). • Features <ul style="list-style-type: none"> ○ It can operate in shallow waters and in the presence of countermeasures. ○ It is powered by a reciprocating external combustion engine, which burns Otto II liquid fuel
<p>Others</p>	
<p>Command Cyber Operations and Support Wings (CCOSW)</p>	<ul style="list-style-type: none"> • Army to raise CCOSW for handling cyberspace challenges. • CCOSWs will assist its formations in taking up cyberspace security challenges posed by the growing warfare capabilities of adversaries. <ul style="list-style-type: none"> ○ CCOSWs will safeguard the networks and increase preparedness levels in this niche domain. ○ Army will also nominate ‘Lead Directorates’ and ‘Test Bed’ formations for absorption of niche technologies and enhancing fighting potential.
<p>Vayulink</p> 	<ul style="list-style-type: none"> • Indian Air Forces inducted an in-house system to identify friendly forces in combat by name “Vayulink”. • Vayulink is effectively a data link system which connects all entities, combat and non-combat, through a single link. <ul style="list-style-type: none"> ○ It’ll enhance battlefield transparency through identification of friendly forces in a combat situation whether airborne or on ground through secure, jammer-proof communication. ○ It’ll arm pilots with accurate weather data before they fly. ○ System integrates inputs available from multiple sources in a joint battlefield and provides near real-time data to operators. ○ It helps in improving situational awareness and consequently aiding in effective decision making.
<p>INS Androth</p> 	<ul style="list-style-type: none"> • Anti-submarine craft INS Androth launched. • It is second in a series of eight Anti-Submarine Warfare Shallow Water Craft. <ul style="list-style-type: none"> ○ First ship of the series was INS Arnala. ○ INS Androth draws its name from the largest and longest island Androth Island, in the Lakshadweep archipelago.
<p>Indian DefSpace Symposium (IDSS)</p>	<ul style="list-style-type: none"> • Indian DefSpace Symposium (IDSS) was organised by the Indian Space Association (ISpA) in association with the Defence Research and Development Organisation (DRDO). <ul style="list-style-type: none"> ○ IDSS event is part of deliberations under ‘Mission Def-Space’. (<i>Refer to PT 365 IR (Apr-Dec 2022) for details on Mission Def-Space</i>) • About Indian Space Association (ISpA) <ul style="list-style-type: none"> • About: An apex non-profit industry body exclusively working towards the successful exploration, collaboration, and development of the private and public Space Industry in India. • Objectives: Ease of Doing Business and Policy Stability, encourage and Facilitate all Space Domain Activities, Promote and Collaborate, International Partnerships. • Initiatives: Indian Space Conclave, Indian DefSpace Symposium.

6.5. MISCELLANEOUS

6.5.1. LIGO-INDIA PROJECT

Why in news?

The Union Cabinet has approved the **Laser Interferometer Gravitational-Wave Observatory, or LIGO, project** to build an advanced gravitational-wave detector.

About the project

- LIGO - India is a planned **advanced gravitational-wave observatory** to be located in India as part of the worldwide network.
 - **Components will be made in India** and project will have **multidisciplinary benefits on India's Astrophysics research**, high end technological development.
- **Genesis:** In principle approval in 2016 to be **completed by 2030**.
- **Where:** Hingoli district in Maharashtra.
- **Capacity:** It is a **collaborative project** between a consortium of Indian research institutions and the LIGO Laboratory in USA. The US will provide key components for the lab.
- **Institutions and departments involved:**
 - Department of Atomic Energy.
 - Department of Science and Technology.
 - U.S. National Science Foundation.
 - Directorate of Construction, Services & Estate Management, Mumbai.
 - Inter-University Centre for Astronomy and Astrophysics, Pune.
 - Institute For Plasma Research, Gandhinagar.
 - Raja Ramanna Centre for Advanced Technology , Indore.

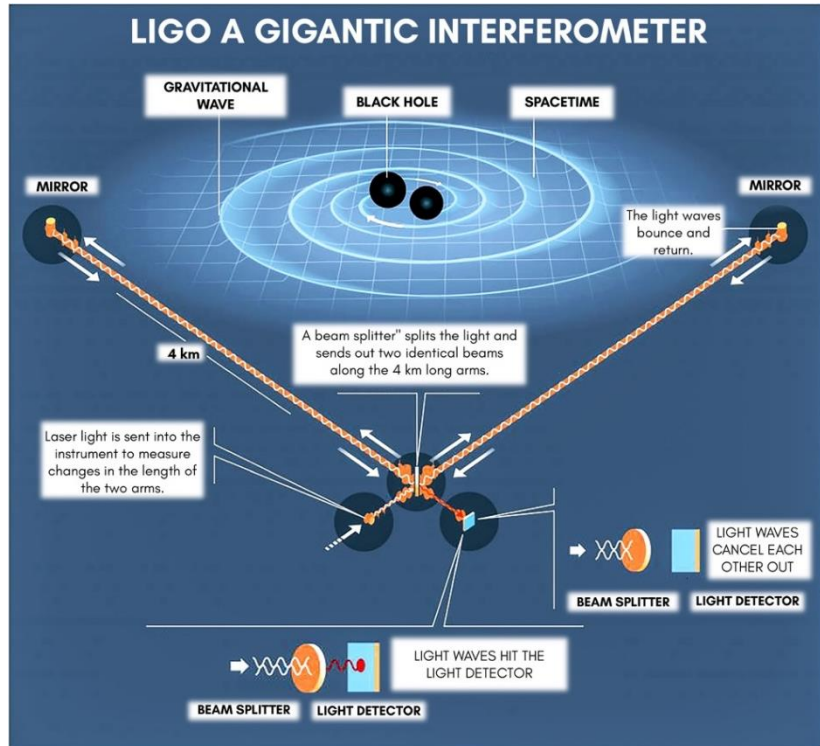
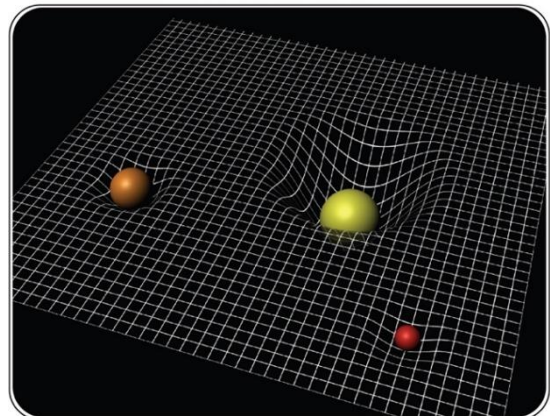


Illustration of how mass bends space



What is LIGO and how it works?

- LIGO is a tool to **detect gravitational waves** with the use of laser interferometers.
- LIGO detectors consist of **two 4-km-long vacuum chambers**, arranged at right angles to each other, with mirrors at the end.
- The experiment works by **releasing light rays simultaneously** in both chambers.
- Normally, the **light should return at the same time in both chambers**.
- However, if a gravitational wave passes through, **one chamber gets elongated while the other gets squeezed**, resulting in a phase difference in the returning light rays.
- Detecting this phase difference confirms the **presence of a gravitational wave**.

About Spacetime

- In our everyday lives we think of three-dimensional space and time as completely separate things.
- But Einstein's theory showed that the **three spatial dimensions plus time are actually just part of the same thing:** the four dimensions of spacetime.
- Not only are space and time part of the same thing, but **they are both warped by mass or energy, causing a curved spacetime**.

What are gravitational waves?

- Gravitational waves are 'ripples' in space-time caused by some of the most violent and energetic processes in the Universe.
- Gravitational waves are **invisible**.
- They **travel at the speed of light (186,000 miles per second)**.
 - Gravitational waves **squeeze and stretch anything** in their path as they pass by.
- Albert Einstein** predicted the existence of gravitational waves in 1916 in his **general theory of relativity**.
- One of the main conclusions of general theory of relativity is that **objects of mass warp the very fabric of spacetime**.
- The greater the mass of an object the more extreme the warping of space it causes, so a **star warps spacetime more than a planet, and a black hole warp it more than a star**.
- Most powerful **gravitational waves are created** when **objects move at very high speeds**. Some examples of events that could cause a gravitational wave are:
 - When a star explodes asymmetrically (called a supernova).
 - When two big stars orbit each other.
 - When two black holes orbit each other and merge.
 - Black hole neutron star merger.

Do YOU KNOW?

- First ever detection of a gravitational wave** happened in 2015, by the two US-based LIGO detectors.
- The signal was named **GW150914** (from gravitational wave and the date of observation 2015-09-14)
- These gravitational waves were **produced by the merger of two black holes**, which were about 29 and 36 times the mass of the Sun, 1.3 billion years ago.
- This achievement was rewarded with the **Nobel Prize in 2017**.

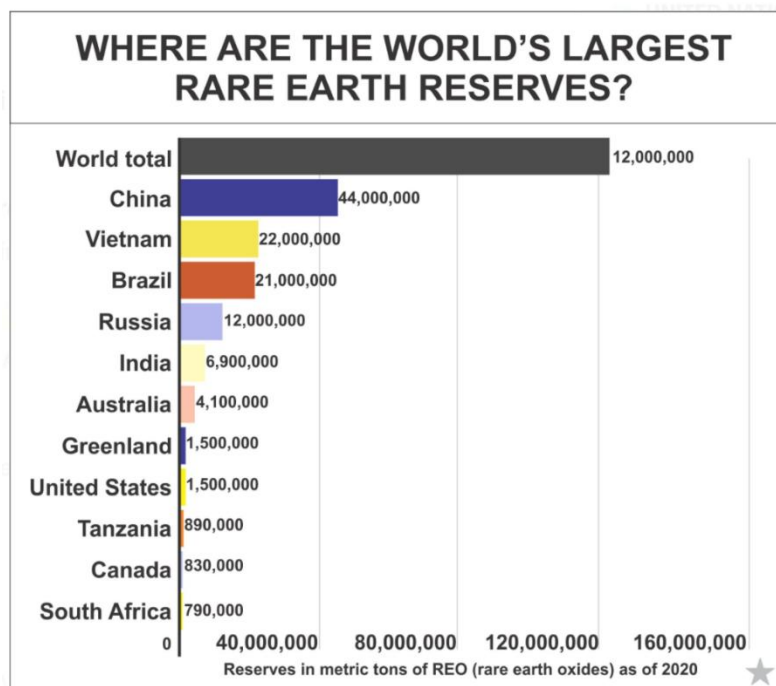
6.5.2. RARE EARTH ELEMENTS (REE)

Why in News?

Hyderabad-based **National Geophysical Research Institute** has found **large deposits of 15 Rare Earth Elements (REE) in Andhra Pradesh's Anantapur district**.

About Rare Earth Elements (REE)

- REEs (aka **rare earth oxides**) are a group of **17 silvery-white soft heavy metals** that occur together in periodic table.
 - Group **consists of yttrium and 15 lanthanide elements** (lanthanum, cerium, praseodymium, neodymium, promethium, samarium, europium, gadolinium, terbium, dysprosium, holmium, erbium, thulium, ytterbium, and lutetium).
 - REEs are **all metals having many similar properties**, and that often causes them to be **found together in geologic deposits**.
 - REEs are used in **high end technology, defence applications, electronic devices** like cell-phones, computers, electric vehicle etc. because of their luminescent and catalytic properties.
 - In similar development**, scientists from Institute of Minerals and Materials Technology, Bhubaneswar, have estimated the **quantity of REEs that can be recovered from Red Mud**.
 - Red Mud is a **toxic by-product of aluminium extraction from bauxite ore using Bayer process**.
 - Red Mud contains REEs**. There are **two strategies** to recover REEs from red mud: **extract only REEs or extract all metals** (such as iron, titanium, and sodium) **including REEs**.



6.5.3. TECHNOLOGY AND INNOVATION REPORT 2023

Why in News?

Technology and Innovation Report 2023 was released by United Nations Conference on Trade and Development (UNCTD).

About Technology and Innovation Report 2023

- Report is built around the **concept of green innovation** i.e., creating or introducing new or improved goods and services that leave lighter carbon footprints and open up green windows of opportunity.
- Key findings of report**
 - Widening North-South Divide:** While countries in EU reach Research & Development expenditure of 3%, only a few developing countries reach 1% expenditure.
 - Following Paris Agreement, 2015, **most countries have increased their climate-change-related, green official development assistance (ODA).**
 - UN support for Technology Transfer:** Within UN system, **Global Environmental Facility (GEF)** is largest public sector funding source for transferring Environmentally Sound Technologies (ESTs).
 - ✓ UNFCCC has **UN Climate Technology Centre and Network (CTCN)**, which provides technical assistance to developing countries.



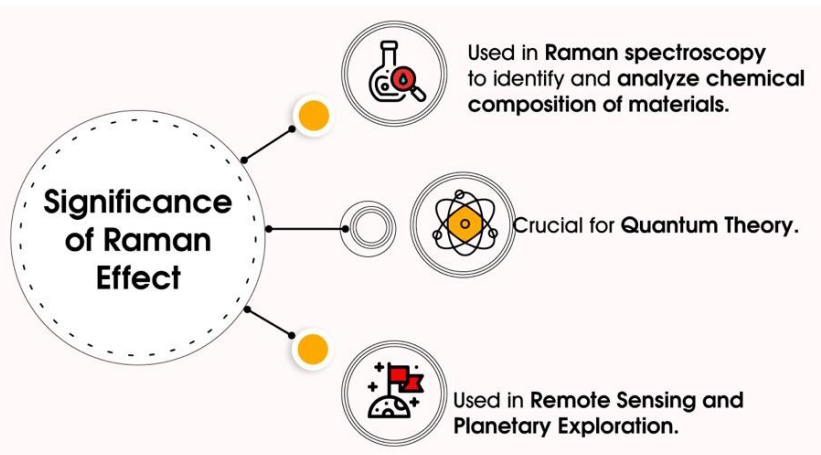
6.5.4. RAMAN EFFECT

Why in News?

National Science Day was observed on 28th February.

More on News

- 28 February** was designated as **NSD in 1986** to commemorate the announcement of **discovery of Raman effect** (also known as **Raman Scattering**) by Nobel laureate physicist **CV Raman** in **1928**.
 - He won **Nobel Prize in Physics** in **1930** (first Asian and non-White to get a Nobel Prize in science) and **Bharat Ratna**, India's highest civilian award, in **1954**.
 - Theme of NSD-2023 is "**Global Science for Global Wellbeing**".



About Raman Effect

- Raman Effect is the **change in wavelength of light** that occurs when a light beam is **deflected by molecules**.
- When a **beam of light traverses a dust-free, transparent sample of a chemical compound**, a small fraction of **light emerges in directions other than that of the incident (incoming) beam**.
 - Most of this scattered light is of unchanged wavelength.
 - However, a small part has wavelengths different from that of incident light. This is because of Raman Effect phenomenon.
- Other contributions of CV Raman:** Started **Indian Journal of Physics** in 1926, established **Raman Research Institute** in Bangalore in 1948.

6.5.5. MAGNETORESISTANCE

Why in News?

Recently, Nobel laureate Andre Geim discovered that Graphene displays an anomalous giant magnetoresistance (GMR) at room temperature.

More on News

- In 2007, Albert Fert and Peter Grünberg received the Nobel Prize in Physics for their discovery of GMR in 1988.
- In 2010, Andre Geim and Konstantin Novoselov received Nobel Prize for Physics for their work on graphene.

About Giant magnetoresistance (GMR)

- GMR is the result of **electrical resistance of a conductor** (sandwiched between two materials) being **affected by magnetic fields in adjacent materials**.
 - When materials are magnetised in same direction, electrical resistance in the conductor is low.
 - When directions are opposite each other, resistance increases.
- **Application of GMR:** Hard disk drives and magnetoresistive RAM in computers, biosensors, automotive sensors, microelectromechanical systems, and medical imagers.
- **New study has found that a graphene-based device**, unlike conventional counterparts, **wouldn't need to be cooled to a very low temperature to sense magnetic fields**.

About Graphene

- Graphene is 'a **two-dimensional single-atom-thick layer** of **carbon atoms** bonded in a **hexagonal honeycomb lattice structure**.
- It is **extracted** from **graphite** and displays unique **physicochemical properties** like:
 - **High surface area, good biocompatibility, strong mechanical strength, excellent thermal conductivity, and fast electron transportation.**
- **Applications include Energy** (Solar cell, Fuel cell, Super computers etc); **Sensor, Bio-sensor; Biomedical** (diagnostic, drug delivery etc); **Environment treatment** etc.

6.5.6. OTHER IMPORTANT NEWS

Support for Up-gradation Preventive Repair & Maintenance of Equipment (SUPREME)	<ul style="list-style-type: none"> • SUPREME was launched by Department of Science and Technology. • It is a first-of-its-kind program to provide financial support for repair/ upgradation/ maintenance/ retrofitting or acquiring additional attachments to increase functional capabilities of existing Analytical Instrumentation Facilities (AIFs). <ul style="list-style-type: none"> ○ Funding pattern: 75:25 for all private and government owned institutions except for state funded institutions which will get 100% funding. ○ Support under the scheme will be upto 3 years. • Analytical Instruments are vital for pursuing research through sample analysis in many areas of modern science and technology.
Learning Science via Standards initiative	<ul style="list-style-type: none"> • It was launched by Bureau of Indian Standards (BIS) for students for learning science via standards. <ul style="list-style-type: none"> ○ This initiative is in continuity with an earlier BIS initiative under which 'Standards Clubs' are being established in educational institutions across India. • Initiative focuses on series of lesson plans aimed to use scientific concepts, principles and laws to help students understand their practical applications in manufacturing, functioning and testing of quality characteristics of different products as stated in relevant Indian Standards. <ul style="list-style-type: none"> ○ BIS officials and resource personnel will be responsible for delivering lesson plans to students for an interactive learning experience.
International Prize in Statistics	<ul style="list-style-type: none"> • Indian American C R Rao won the Nobel Prize equivalent in statistics at the age of 102. • International Prize in Statistics was established in 2016 by a group of five major statistical organizations, <ul style="list-style-type: none"> ○ American Statistical Association, Institute of Mathematical Statistics, International Biometric Society, International Statistical Institute, and Royal Statistical Society • It is awarded once in every two years to an individual or a team. • Prize is given for major achievements using statistics to advance science, technology and human welfare.

New uranium isotope	<ul style="list-style-type: none"> • A previously unknown isotope of uranium, with atomic number 92 and mass number 241, i.e., uranium-241 discovered. <ul style="list-style-type: none"> ○ Uranium is a naturally occurring radioactive element. ○ Naturally, 99.27% of Uranium exists in form of U-238 while rest in other isotopes as: U-235 (0.72%), and U-234 (0.006%) etc. • Theoretical calculations suggest it could have a half-life of 40 minutes. • New isotope was found during a process called multinucleon transfer in which two isotopes exchanged protons and neutrons. • Benefits: Refines understanding of nuclear physics, designing nuclear power plants and models of exploding stars.
Sand Battery	<ul style="list-style-type: none"> • Recently, Finland has installed world's first sand battery that can store heat from renewable energy sources for months. • Sand Battery is a high temperature thermal energy storage that uses sand or sand-like materials as its storage medium. It stores energy in sand as heat. <ul style="list-style-type: none"> ○ Its main purpose is to work as a high-power and high-capacity reservoir for excess wind and solar energy. ○ Energy is stored as heat, which can be used to heat homes, or to provide hot steam and high temperature process heat to industries that are often fossil-fuel dependent. <div style="border: 1px solid black; padding: 5px;"> <p style="text-align: center;">HOW THE SAND BATTERY WORKS</p> <p>The diagram illustrates the cycle of a sand battery. It starts with a 'Power plant' (represented by wind turbines and solar panels) generating electricity. Step 1: Electricity is generated by wind turbines or solar panels. Step 2: 30% of the energy is used straight away to power local infrastructure (represented by buildings). Step 3: The remaining 70% is stored in the sand battery, heating the sand up to 600-1000°C. Step 4: The stored energy can be used during winter months when solar energy is weaker.</p> </div>
Battery Waste Management Rules, 2022	<ul style="list-style-type: none"> • New rules will replace Batteries (Management and Handling) Rules, 2001 to ensure environmentally sound management of waste batteries and to promote circular economy. • Key Highlights of the rules <ul style="list-style-type: none"> ○ Cover all types of batteries, viz. Electric Vehicle batteries, portable batteries, automotive batteries and industrial batteries. ○ Enable setting up a mechanism and centralized online portal for exchange of Extended Producer Responsibility (EPR) certificates. ○ Environmental compensation will be imposed for non-fulfilment of EPR targets. ○ Recovery target set for FY25 is set at 70%, 80% in FY26 and to 90% in FY27 and onwards. ○ Prescribing the use of certain amount of recycled materials in making of new batteries.
Piezoelectric effect	<ul style="list-style-type: none"> • For the first time, scientists have reported evidence of piezoelectric effect in liquids. • Piezoelectric effect is the ability of certain materials to generate an electric charge in response to applied mechanical stress. <ul style="list-style-type: none"> ○ In piezoelectric effect, a body develops an electric current when it is squeezed. ○ Quartz is most famous piezoelectric crystal. <ul style="list-style-type: none"> ✓ Such crystals are used in cigarette lighters, electric guitars, TV remote controls, wristwatches etc. ○ This effect has only been expected in solids thus far is due to the body being squeezed needs to have an organised structure, like pyramids of quartz. <ul style="list-style-type: none"> ✓ Liquids don't have such structure. Instead, they take shape of their container.
Supercritical carbon dioxide	<ul style="list-style-type: none"> • Researchers at IIT-Madras found that supercritical carbon dioxide is a good agent to flush out oil from depleting oil and gas reservoirs. • Supercritical carbon dioxide is a fluid state of carbon dioxide where it is held at or above its critical temperature and critical pressure. • Having properties midway between a gas and a liquid, supercritical carbon dioxide helps in simultaneous carbon dioxide sequestration and enhanced oil recovery (EOR) from depleted reservoirs.
Lewis Super Acids	<ul style="list-style-type: none"> • Researchers at Paderborn University, Germany have been able to make a unique class of catalysts called Lewis super-acids. <ul style="list-style-type: none"> ○ Named after chemist, G N Lewis, Lewis super-acids derive from Lewis acids. • A Lewis acid is any substance, such as a Hydrogen ion (H⁺) that can accept a pair of nonbonding electrons. In other words, it is an electron-pair acceptor.

	<ul style="list-style-type: none"> They are often used to speed up chemical reactions. Lewis superacids are stronger than antimony pentafluoride--strongest Lewis acid -- and can break even toughest bonds. <p>NOTE: A Lewis base is any substance, such as OH⁻ ion, that can donate a pair of nonbonding electrons. Therefore, it is an electron-pair donor.</p>	<table border="1"> <thead> <tr> <th>Acids </th> <th>Bases </th> </tr> </thead> <tbody> <tr> <td>Are sour in taste.</td> <td>Are bitter in taste.</td> </tr> <tr> <td>Change the colour of blue litmus to red.</td> <td>Change the colour of the red litmus to blue.</td> </tr> <tr> <td>Give Hydrogen ions in solution.</td> <td>Give hydroxyl ions in solution.</td> </tr> <tr> <td>pH value is less than 7.0.</td> <td>pH value is more than 7.0.</td> </tr> <tr> <td>Examples: Sulphuric acid, Acetic acid etc.</td> <td>Examples: Sodium hydroxide, calcium hydroxide etc. </td> </tr> </tbody> </table>	Acids	Bases	Are sour in taste.	Are bitter in taste.	Change the colour of blue litmus to red.	Change the colour of the red litmus to blue.	Give Hydrogen ions in solution.	Give hydroxyl ions in solution.	pH value is less than 7.0.	pH value is more than 7.0.	Examples: Sulphuric acid, Acetic acid etc.	Examples: Sodium hydroxide, calcium hydroxide etc.
Acids	Bases													
Are sour in taste.	Are bitter in taste.													
Change the colour of blue litmus to red.	Change the colour of the red litmus to blue.													
Give Hydrogen ions in solution.	Give hydroxyl ions in solution.													
pH value is less than 7.0.	pH value is more than 7.0.													
Examples: Sulphuric acid, Acetic acid etc.	Examples: Sodium hydroxide, calcium hydroxide etc.													
<p>Bio-computers</p>	<ul style="list-style-type: none"> Scientists at John Hopkins University have planned research on “organoid intelligence (OI)” to create biocomputers. <ul style="list-style-type: none"> Organoids are tiny, self-organized three-dimensional cells or tissues derived from stem cells. Planned research will use brain organoids, i.e., cultures of brain cells, as biological hardware. Biocomputers are defined as computers that use components of biological origin (such as molecules of DNA) instead of electrical components. 	<div style="border: 1px solid black; padding: 5px;"> <p>Potential Benefits</p> <ul style="list-style-type: none"> Greater Energy and Data efficiency Multitasking via parallel computation Improved AI capabilities Ability to self-organize and self-repair Decode pathology of drug development for neuro-developmental </div>												
<p>Genome India Project (GIP)</p>	<ul style="list-style-type: none"> 10,000 Indian genomes to be sequenced by 2023-end under GIP. Under GIP, Department of Biotechnology (DBT) is close to sequenced 7,000 genomes and 3,000 of these are already available for public access. <ul style="list-style-type: none"> DBT initiated GIP in 2020 (inspired from Human Genome Project). GIP is led by Centre for Brain Research at Bengaluru-based Indian Institute of Science, which acts as central coordinator between a collaboration of 20 leading institutions. 	<div style="border: 1px solid black; padding: 10px; text-align: center;"> <p>Applications of Genome Sequencing</p> <ul style="list-style-type: none"> Tracking disease outbreak Identifying inherited disorders and mutations that drive disease progression Personalised medicines based on genomic make up </div>												
<p>Organ-on-a-chip (OOC)</p>	<ul style="list-style-type: none"> It refers to microengineered biomimetic system which reflects structural and functional characteristics of human tissue. It involves biomaterial technology, cell biology and engineering combined together in a miniaturized platform. To better mimic human physiology, the chips are designed to control cell microenvironments and maintain tissue-specific functions. 													
<p>India's Civil Nuclear Program</p>	<ul style="list-style-type: none"> Recently, India has decided to build Nuclear Power Plants in "Fleet Mode" From 2023. <ul style="list-style-type: none"> Under the fleet mode, a nuclear power plant is expected to be built over a period of five years from the first pour of concrete. Currently, India operates 22 nuclear reactors with a total capacity of 6780 MW in operation. At present, India has civil nuclear agreements with 14 countries that vary in letter and spirit: Argentina, Australia, Canada, Czech Republic, France, Japan, Kazakhstan, Mongolia, Namibia, Russia, South Korea, United Kingdom, US and Vietnam. 													

Shapella	<ul style="list-style-type: none"> Shapella (a combination of the words ‘Shanghai’ and ‘Capella’) is the final step in the Ethereum blockchain’s transition from a Proof of Work to a Proof of Stake consensus. <ul style="list-style-type: none"> Ethereum is a decentralized blockchain with smart contract functionality. Other technical improvements in the Shapella upgrade are intended to improve the transactional aspects of ethereum. 												
	<table border="1"> <thead> <tr> <th>Proof of Stake</th> <th>Proof of Work</th> </tr> </thead> <tbody> <tr> <td>Block creators are called validators</td> <td>Block creators are called miners</td> </tr> <tr> <td>Participants must own coins or tokens to become a validator</td> <td>Participants must buy equipment and energy to become a miner</td> </tr> <tr> <td>Energy efficient</td> <td>Not energy efficient</td> </tr> <tr> <td>Security through community control</td> <td>Robust security due to expensive upfront requirement</td> </tr> <tr> <td>Validators receive transactions fees as rewards</td> <td>Miners receive block rewards</td> </tr> </tbody> </table>	Proof of Stake	Proof of Work	Block creators are called validators	Block creators are called miners	Participants must own coins or tokens to become a validator	Participants must buy equipment and energy to become a miner	Energy efficient	Not energy efficient	Security through community control	Robust security due to expensive upfront requirement	Validators receive transactions fees as rewards	Miners receive block rewards
	Proof of Stake	Proof of Work											
	Block creators are called validators	Block creators are called miners											
	Participants must own coins or tokens to become a validator	Participants must buy equipment and energy to become a miner											
	Energy efficient	Not energy efficient											
Security through community control	Robust security due to expensive upfront requirement												
Validators receive transactions fees as rewards	Miners receive block rewards												
<ul style="list-style-type: none"> Review Meeting of Convention on Nuclear Safety identified Shared Priorities for Future Action. About Convention on Nuclear Safety (CNS) CNS was adopted in 1994 by the International Atomic Energy Agency(IAEA). It aims to commit Contracting Parties operating land-based civil nuclear power plants to maintain a high level of safety by establishing fundamental safety principles to which States would subscribe. It obliges Parties to submit reports on the implementation of their obligations for “peer review” at meetings that are normally held at IAEA headquarters. India has signed and ratified this treaty. 													
<ul style="list-style-type: none"> Review Meeting of Convention on Nuclear Safety identified Shared Priorities for Future Action. About Convention on Nuclear Safety (CNS) CNS was adopted in 1994 by the International Atomic Energy Agency(IAEA). It aims to commit Contracting Parties operating land-based civil nuclear power plants to maintain a high level of safety by establishing fundamental safety principles to which States would subscribe. It obliges Parties to submit reports on the implementation of their obligations for “peer review” at meetings that are normally held at IAEA headquarters. India has signed and ratified this treaty. 													
<ul style="list-style-type: none"> Review Meeting of Convention on Nuclear Safety identified Shared Priorities for Future Action. About Convention on Nuclear Safety (CNS) CNS was adopted in 1994 by the International Atomic Energy Agency(IAEA). It aims to commit Contracting Parties operating land-based civil nuclear power plants to maintain a high level of safety by establishing fundamental safety principles to which States would subscribe. It obliges Parties to submit reports on the implementation of their obligations for “peer review” at meetings that are normally held at IAEA headquarters. India has signed and ratified this treaty. 													
<ul style="list-style-type: none"> Review Meeting of Convention on Nuclear Safety identified Shared Priorities for Future Action. About Convention on Nuclear Safety (CNS) CNS was adopted in 1994 by the International Atomic Energy Agency(IAEA). It aims to commit Contracting Parties operating land-based civil nuclear power plants to maintain a high level of safety by establishing fundamental safety principles to which States would subscribe. It obliges Parties to submit reports on the implementation of their obligations for “peer review” at meetings that are normally held at IAEA headquarters. India has signed and ratified this treaty. 													

6.6. ERRATA

PT 365 2023 Science and Technology (April 2022 – Dec 2022)

- Article 7.3, Nobel Prize in Physiology or Medicine 2022:** In the infographic nDNA vs. mtDNA, it was misprinted that mitochondrial DNA was inherited from all ancestors. The correct information is - ‘mitochondrial DNA is inherited from maternal lineage’. Kindly refer to the corrected infographic.

nDNA VS. mtDNA					
	Inheritance	Shape	Consists of	Share in genetic makeup	Replication
Nuclear DNA (nDNA) 	Nuclear DNA inherited from all ancestors 	Linear 	Cell's genome including mDNA 	99.75% (~16,500 base pairs) 	Replicates only during the cell creation
Mitochondrial DNA (mtDNA) 	Mitochondrial DNA inherited from a maternal lineage 		Mitochondrial genome 	0.25% (~3.3 billion base pairs) 	Replicates independently

7. CULTURE

7.1. VAIKOM SATYAGRAHA

Why in News?

As the year 2024 marks the **centenary of the Vaikom Satyagraha**, Kerala and Tamil Nadu jointly inaugurated the centenary celebrations.

More on News

- **Vaikom Award:** Vaikom Award would be presented on E V Ramaswamy's birth anniversary (September 17, 2023).
 - **Recipients of the award:** change-makers who fight for the welfare of the oppressed.
- **Vaikom Satyagraha Memorial Museum** was inaugurated by the Kerala Government in 2020 at Vaikom.

Background of the movement

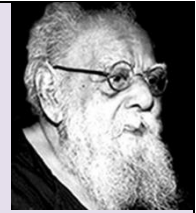
- **Caste discrimination:** People of the **oppressed classes** especially the Ezhavas, were **prohibited from walking** on the four roads surrounding the **Vaikom Mahadeva temple**.
- **Leaders:** T.K. Madhavan, K.P. Kesava Menon who was the then secretary of Kerala Pradesh Congress Committee (KPCC) and Congress leader and educationist **K. Kelappan** (also known as **Kerala Gandhi**).
 - Temple entry issue was first raised by T.K. Madhavan in 1917 in his paper **Deshabhimani**.
- **INC session:** In 1923, at the behest of T.K. Madhavan, at the **Kakinada session of Indian National Congress (INC)**, KPCC adopted a resolution to take up **anti-untouchability as a key issue**.
 - Subsequently, the **Congress Untouchability Committee** formed by the KPCC took up the task of organising the movement in **January 1924**.

Events of the Satyagraha

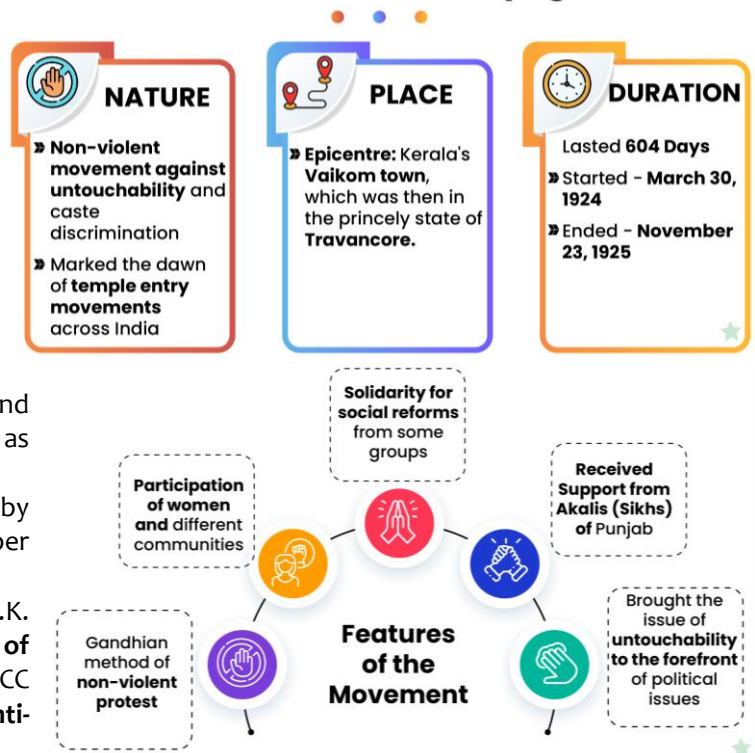
- **Start of Satyagraha:** Satyagrahis walked in **procession towards the forbidden public roads**.
- **Role of George Joseph:** He briefly led the agitation. He also wrote to **'Periyar' E.V. Ramasamy**, then Tamil Nadu Pradesh Congress Committee president, to lead the campaign.

'Periyar' E.V. Ramaswamy

- **About:** Born in 1879, he was a **rationalist Dravidian social reformer** of the 20th century.
- **Political Contributions**
 - **Forefront of Vaikom Satyagraha** and later founded the **Self-Respect Movement** in 1925.
 - **Founded Dravidar Kazhagam** (earlier known as the **Justice Party**).
- **Ideological Contributions**
 - Argued in favour of **equal rights for lower-caste communities and women**.
 - Insisted that each individual must think for herself, **enter into dialogues with each other** and **rationally carry out the process of decision-making**.



Features of Vaikom Satyagraha



George Joseph

- **About:** Born in 1887, he led the **Vaikom Satyagraha**.
- **Home Rule Movement:** Part of three-member committee sent to Britain by Annie Besant to sensitize the British public on self-rule issue of India.
- **Literary Contribution:** editor of the nationalist newspaper **The Independent** from Allahabad and later the editor of **Young India**.
- **Later participation:** He was the **leader of the Rowlatt Satyagraha in Madurai** and joined the **Non-Cooperation Movement**.



- **Arrival of Mahatma Gandhi:** at Vaikom in 1925. He also met **Queen Sethulakshmi Bai (Maharani Regent) of Travancore.**
 - Their meeting resulted in a **royal proclamation** by which all the public roads to Vaikom Mahadeva Temple was opened to all castes.
- **Movement under Periyar:** Under the guidance of Mahatma Gandhi and C. Rajagopalachari, **Periyar then led the movement till its conclusion.**
 - He **mobilized volunteers and garnered public support.**
 - Part of an **eight-member delegation** constituted to meet the Diwan of Travancore.
 - He held **meetings with Mahatma Gandhi, Sree Narayana Guru, Swami Shradhananda, and C. Rajagopalachari.**

Outcome of the movement

- **Compromised solution:** Vaikom Satyagraha was **officially withdrawn** after consultations between **Gandhi and W.H. Pitt**, the then police commissioner of Travancore.
 - A **compromise** was reached following the **release of all prisoners and grant of access to three of the four roads to the Vaikom temple.**
- **Rift between Mahatma Gandhi and Periyar:** While Gandhiji saw it as Hindu reformist movement, Periyar called it a fight against caste-based atrocities (also quit congress months later).
- **Temple Entry Proclamation (1936):** was signed by Maharaja of Travancore which **removed the age-old ban on the entry of marginalised castes into the temples of Travancore.**

Other major Temple Entry Movements			
Movement	About	Led By	Started in
Aruvipuram movement (1888)	It was one of the first movements for equal rights to temple entry.	Sri Narayan Guru	Aruvipuram village of Kerala
Kalaram Temple entry movement (1930)	Movement was to have a right to enter temple, but it was inclined more towards having equal rights.	Dr. B.R. Ambedkar	Present-day Nashik
Satyagraha in Guruvayur (1931-32)	It was a satyagraha for temple entry. But it was later abandoned on the request of Mahatma Gandhi and INC.	K. Kelappan	Present day Thissur.

Emphasis on conceptual clarity to train the aspirants for developing an understanding to solve ethics case study from basic to advance level

Case studies covers all the exclusive topics from contemporary and current issues as well as previous Year UPSC Paper Case studies

To discuss on Various techniques on writing scoring answers.

One to one mentoring session

ETHICS

Case Studies Classes

24 JUNE | 5 PM

Focus on contemporary issues and interlinking case studies with topics of current interest.

Regular Doubts clearing session and personal guidance for the ethics paper throughout your preparation

Daily Class assignment and discussion

Comprehensive & updated ethics material

7.2. RAJA RAVI VARMA

Why in news?

175th birth anniversary of Raja Ravi Varma (1848-1906) was celebrated recently.

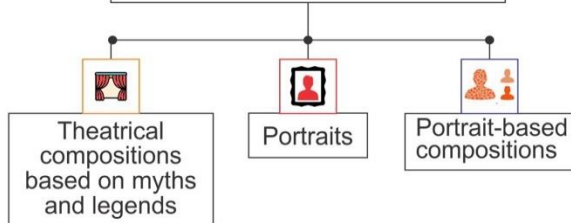
Raja Ravi Varma

About

- Place of Birth:** Kilimanoor, Travancore
- Also known as '**The Father of Modern Indian Art**'.
- He is **best-known for his paintings** and prints that **exquisitely render Indian Subjects** using European techniques.
- Teachers:** Rama Swami Naidu (water painting); Theodor Jenson, a Dutch Painter (oil painting).
- Awards:** **Kaisar-i-Hind Gold Medal (1904)**; Government of Kerala has **instituted an award** in his name.



Classification of His Paintings



Some of His Great Paintings

A Family of Beggars	Lady Lost in Thought	The Heartbroken	Draupadi Dreading to meet Kichaka
Parsi Lady (unfinished)	Shantanu and Matsya-agandha	The Orchestra	Lady Giving Alms at the Temple

Contributions to Indian art

- Early Proponent of Lithography:** Depicted popular scenes and characters from Hindu literature.
- Union of Indian tradition and European art and taking Indian art all over the world.**
- Insights to mythological stories:** including the ones depicting episodes from the story of Dushyanta and Shakuntala, story of Nala and Damayanti, Lord Rama's triumph over Varuna etc.
- Artist of the people:** making affordable copies of his paintings available to public.
- His portrayal of Hindu gods and goddesses become worship material for many people belonging to the lower castes. ★

7.3. NATIONAL MISSION FOR CULTURAL MAPPING (NMCM)

Why in News?






Government has identified and documented distinctive features of more than one lakh villages under the 'Mera Gaon Meri Dharohar' (My Village My Heritage) programme of the National Mission for Cultural Mapping (NMCM).

About Mera Gaon Meri Dharohar survey

- **Aim:** Seeks to **document the cultural identity at the village level** by involving citizens to share what makes their village, block, or district unique.
- **Mechanism:** Involves **Common Services Centres (CSC) Village Level Entrepreneur** conducting meetings with locals and then uploading interesting facts about their village on to an application.

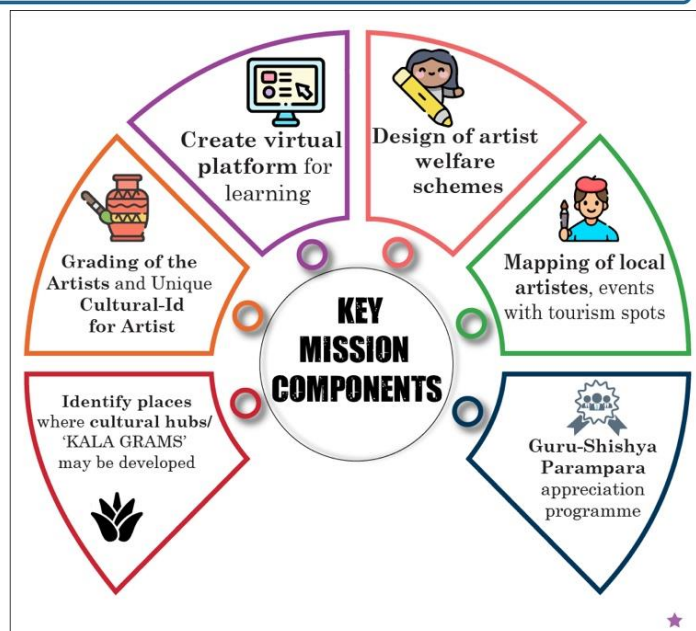
- **Coordination: Ministry of Culture has partnered with the CSC**, under Ministry of Electronics & IT.
- **Villages have been broadly divided into various categories** based on whether they are important ecologically, developmentally, and scholastically, if they produce a famous textile or product etc.

Some examples of villages include

Village	Significance
 Sinauli, Uttar Pradesh	<ul style="list-style-type: none"> • Sinauli Harappan Site is an archaeological site. • Known for artefacts associated with the bronze age civilization e.g. solid-disk wheel carts, found in 2018, which were interpreted by some as chariots.
 Raini, Uttarakhand	<ul style="list-style-type: none"> • Known for the Chipko movement. • In 1974, the movement to save forests began in Raini village and later became famous as the Chipko movement.
 Suketi fossil park, Himachal	<ul style="list-style-type: none"> • Also called Siwalik Fossil Park. • It contains rich collection of 2.5 million years old vertebrate fossils. • Displays life-size fiberglass models of six of the prehistoric animals that lived in the area 1 to 1.5 million year ago.
 Pandrethan, Jammu & Kashmir	<ul style="list-style-type: none"> • Village of 14th-century Kashmiri saint and mystic poet Lal Ded. Also known as Lalla or Lalleshwari. <ul style="list-style-type: none"> ○ Her writings are called "Vakhs" • Also home to an 8th century Shiva temple. Preserved and rejuvenated by Chinari Corps of the Indian Army.
 Bishnoi, Rajasthan	<ul style="list-style-type: none"> • Case study for living in harmony with nature. • Villagers follow a set of 29 (bis and noi) principles, which include norms related to the protection of animals and conservation of trees.

About National Mission for Cultural Mapping

- Initiated by the **Ministry of Culture** in 2017.
- **Goals of the mission**
 - **Preserving the threads of rich Indian Art and Cultural Heritage,**
 - Converting cultural canvas of India into an **objective Cultural Mapping,**
 - Design a mechanism to **fulfil the aspirations of the artist community,**
 - Creating strong **'Cultural Vibrancy'** throughout the nation.
- **Institutions involved**
 - CSC e-Governance Services India Limited (CSC) is **given the task by Ministry of Culture to carryout NMCM.**
 - Mission is being executed under the guidance of **Indira Gandhi National Centre for the Arts (IGNCA).**



- At broad-level, there are three important objectives of the mission, as follows.
 - **National Cultural Awareness Abhiyan:** Hamari Sanskriti Hamari Pahchan Abhiyan (Our Culture Our Identity)- It is conducted from Block to the national level.
 - **Nationwide Artist Talent Hunt/Scouting Programme:** Sanskritik Pratibha Khoj Abhiyan seeks to search **hidden as well as traditional talent**.
 - **National Cultural Work Place (NCWP)-** It is a fully equipped cultural portal which will serve as common interaction work place for all stake holders including artistes, institutions, NGOs and Ministry of Culture.

Indira Gandhi National Centre for the Arts (IGNCA)

Ministry: Ministry of Culture

Genesis: Established in 1987 as an autonomous institution.

Mandate: Acts as a centre for research, academic pursuit, and dissemination in the field of the arts.

Composition: It has six functional units:

- **Kala Nidhi-** Multi-form library;
- **Kala Kosa-** Devoted to the study and publication of fundamental texts in Indian languages;
- **Janapada Sampada-** Engaged in lifestyle studies;
- **Kaladarsana-** Transforms researches and studies into visible forms through exhibitions;
- **Cultural Informatics-** Applies technology tools for cultural preservation and propagation; and
- **Sutradhara-** Administrative section that acts as a spine supporting and coordinating all the activities

7.4. INDIAN KNOWLEDGE SYSTEMS IN HIGHER EDUCATION

Why in News?

University Grants Commission (UGC) has released draft guidelines for the incorporation of the Indian knowledge systems (IKS) in higher education for undergraduate (UG) and postgraduate (PG) courses.

More on News

- Earlier, in 2020, **IKS division under Ministry of Education was setup** to promote research on and disseminate “Indian Knowledge Systems”.
- Also, **expertise in the Indian Knowledge System has been added** in the recently released **final version of the National Credit Framework**.

Key Features of the Guidelines

- **Credit courses in IKS:** UG and PG Students be encouraged to take credit courses in IKS amounting in all to at least five per cent of the total mandated credits.
 - At least 50% of the credits apportioned to the IKS should be related to the major discipline.
- **Emphasis on authentic sources:** Such as source texts, historical accounts, inscriptions, etc.
- **Continuity of the Indian Knowledge Traditions,** from ancient times up to the relatively recent period in the design of the course content.
- **Medium of instruction: could be any of the Indian languages,** apart from English and Sanskrit.
- **Translation of technical terms and citations from Sanskrit:** in the Devanagari script as well as in English transliteration.

What is Indian Knowledge System?

- **Indian Knowledge System encompasses.**
 - All of the **systematized disciplines of Knowledge which were developed to a high degree of sophistication in India from ancient times** and.
 - All of the **traditions and practises** that the various communities of India—including the tribal communities—have evolved, refined and preserved over generations.

Refer Appendix for major contributors for various fields from India.

Indian Traditional Knowledge Systems (Bharatiya Gnana Parampara) Division

Ministry: Ministry of Education

Genesis: Established as innovative cell under MoE at AICTE in 2020.

Vision:






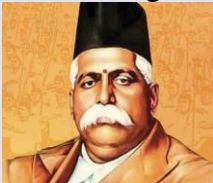
- To **promote interdisciplinary research** on all aspects of “Indian Knowledge Systems”,
- **Preserve and disseminate “Indian Knowledge Systems”** for further research and societal applications.





Functions:

- Facilitate and **coordinate IKS related inter and transdisciplinary work** done by various institutions in India and abroad including, R&D laboratories etc.
- Establish, guide and **monitor subject-wise interdisciplinary research groups from institutes, centers etc.**
- Create and **promote popularization schemes.**
- **Facilitate funding** of projects and develop mechanisms to undertake research.
- **Make Policy recommendations** for the promotion of IKS.

7.5. MISCELLANEOUS

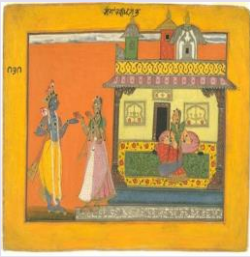


7.5.1. PERSONALITIES IN NEWS

Personality	Details
Swami Sahajanand Saraswati 	<ul style="list-style-type: none"> A sanyasi as well as a revolutionary, who dedicated his life to political and economic independence of Indian people. Played a prominent role in organizing non-cooperation movement in Shahabad district of Bihar and Ghazipur district in Uttar Pradesh. From 1924 to 1928 his activities centered on the propagation of Khadi and prohibition. <ul style="list-style-type: none"> Established a Khadi weaving center at Simri and an Ashram for political and Sanskrit teaching at Bihata. Addressed as 'Kisan Pran' (life of Kisans). Books/publication: Hindi weekly Hunkar from Patna, The Other Side of the Shield, Rent Reduction in Bihar: How it Works, Gaya Ke Kisano Ki Karun Kahani etc.
Hemu Kalani 	<ul style="list-style-type: none"> Recently, 100th birth century of Hemu Kalani was observed. Born in Sindh region of United India, he was a revolutionary and a freedom fighter during the Indian Independence Movement. Also known as Bhagat Singh of Sindh, he joined Swaraj Sena (a youth organization). He distributed anti-British literature and also joined the Quit India Movement in 1942. In 1942, he attempted to derail and loot the British train loaded with weapons to crush the ongoing Balochistan agitation. <ul style="list-style-type: none"> But he was caught and hanged at the young age of 19 years.
Nadaprabhu Hiriy Kempegowda 	<ul style="list-style-type: none"> Recently, Nadaprabhu Kempegowda statue was inaugurated in Bengaluru. Hailing from dominant agricultural Vokkaliga community in Karnataka, Kempegowda was a chieftain under Vijayanagara Empire. <ul style="list-style-type: none"> He is known as founder of Bengaluru in 16th century and had developed around 1,000 lakes in city to cater to drinking and agricultural needs. Social reforms: Prohibiting custom of amputating last two fingers of left hand of unmarried women during "Bandi Devaru". Books: He was multilingual and had authored 'Gangagaurivilasa', a yakshagana play in Telugu.
Jagadguru Basaveshwara 	<ul style="list-style-type: none"> PM paid tributes to Basaveshwara on his birth anniversary. He was a 12th century poet and born in Karnataka. Known for Socio-Religious Reforms, Anubhava Mantapa (facilitated gathering for philosophy and experience), Vachana Literature and Lingayat Movement in south India. <ul style="list-style-type: none"> Basava Purana, written by Palkuriki Somanatha in 13th-century, holds full account to Basavanna's life and ideas. He rejected gender and caste discrimination, superstitions and rituals. A strong promoter of ahimsa (non-violence), he condemned human and animal sacrifices. His philosophy was based on principles of Arivu (true knowledge), achara (right conduct), and Anubhava (divine experience). He developed and inspired a new devotional movement named Virashaivas, or ardent, heroic worshippers of Shiva.
Babu Jagjivan Ram 	<ul style="list-style-type: none"> Prime Minister pays tributes to Babu Jagjivan Ram on his birth anniversary. Born in Bihar, he was a freedom fighter, prominent leader of the untouchable. Contributions <ul style="list-style-type: none"> In 1934, he founded Akhil Bhartiya Ravidas Mahasabha and the All-India Depressed Classes League. In 1935, he appeared before Hammond Commission and demanded, for the first time, voting rights for Dalits. Participated in Civil Disobedience Movement, Satyagraha movement, and Quit India Movement.
Dr. Keshavarao Baliram Hedgewar 	<ul style="list-style-type: none"> Keshavarao was born on April 1, 1889 in Nagpur. He passed the medical exam with flying colours and returned to Nagpur. Dr. Hedgewar declined the position for the sake of the country and society. Contributions: <ul style="list-style-type: none"> For freedom fighter Dr. Keshavarao Baliram Hedgewar, India's independence was the only goal of his life. In student life, he pioneered the 'Vande Mataram' movement and came in contact with great revolutionaries like Arvind Ghosh, Bhai Parmanand, Sukhdev and Rajguru etc




<p>C Y Chintamani</p> 	<ul style="list-style-type: none"> • Chiravuri Yajneshwar Chintamani was born on April 10, 1880, in Vizianagaram, Andhra Pradesh. • Contributions: <ul style="list-style-type: none"> ○ He regarded Gopal Krishna Gokhale as his political mentor. In 1898, he joined the Congress. ○ He was appointed as the editor of the Vizag Spectator newspaper. After he became editor, the name was changed to Indian Herald. ○ The Leader's (English Nationalist Newspaper) first joint editors were Chintamani and Ganendranath Gupta. ○ Chintamani left the Congress in 1918 to form the Liberal Party with Surendranath Banerjee, Dinshaw Wacha, Chimanlal Setalvad, and Tej Bahadur Sapru. ○ Chintamani was appointed Education Minister of the United Provinces under the Government of India Act of 1919. ○ He was the Leader of the Opposition in the UP Legislative Council from 1927 to 1936. ○ In 1930, he was invited as a delegate to the first Round Table Conference in London. ○ He was knighted in 1939, but he never stopped criticising the British Raj.
<p>V. V. SUBRAMANYA IYER</p> 	<ul style="list-style-type: none"> • Varahneri Venkatesh Subramanya was born on April 2, 1881, in the village of Varakaneri in the Tiruchirappalli district of what was then Madras Pradesh. • He passed the Barrister of Law examination in London but refused to take the degree. • Iyer began visiting 'India House,' which was once a popular hangout for Indian nationalists in London. • Contributions: <ul style="list-style-type: none"> ○ When he arrived in Pondicherry, he allegedly taught the youth how to use weapons and also delivered weapons to other revolutionaries in the country. ○ He was also an accomplished Tamil scholar. <ul style="list-style-type: none"> ✓ He worked on the English translation of Veer Savarkar's Marathi book "Swatantra Samar of 1857," which he secretly promoted in India. ✓ While imprisoned by the British, he used his time to translate important Tamil literature into English. ✓ Iyer met Mahatma Gandhi in Pondicherry in 1917 and became a supporter of nonviolence. ○ Iyer was the editor of the Tamil magazine 'Desbakthan'. ○ He is still regarded as the father of the modern Tamil short story.
<p>Sagarmal Gopa</p> 	<ul style="list-style-type: none"> • Sagarmal Gopa, was born on 3 November 1900 in the princely state of Jaisalmer. • Contributions: <ul style="list-style-type: none"> ○ Sagarmal led the outlawed Praja Mandal and inspired people in Jaisalmer and surrounding areas to join the freedom struggle. ○ In 1921, Sagarmal joined Mahatma Gandhi's non-cooperation movement and encouraged the people of Jaisalmer to join. ○ Sagarmal mentioned Jawahar Singh's (Jaisalmer's ruler) atrocities in his book "Gundaraj of Jaisalmer," and inspired the public to join the freedom movement.
<p>C F Andrews</p> 	<ul style="list-style-type: none"> • Charles Freire Andrews was born in England on February 12, 1871. • On March 20, 1904, he arrived in India and enrolled at St. Stephen's College in Delhi. • Contributions: <ul style="list-style-type: none"> ○ He fought British rule along with Mahatma Gandhi, Gopal Krishna Gokhale, and other prominent Indians. Andrews was close friends with Rabindra Nath Tagore. ○ In Africa, Andrews also collaborated closely with Mahatma Gandhi. ○ Andrews is thought to have brought Mahatma Gandhi and Rabindranath Tagore together.





7.5.2. PAINTINGS AND OTHER ART FORMS IN NEWS

Painting and Art Form	Details
Basholi Painting	<ul style="list-style-type: none"> • They are known for their miniature art style from the Kathua district (Jammu) and have received the Geographical Indication (GI) Tag. <ul style="list-style-type: none"> ○ It is the first independent GI-tagged product from the Jammu region. • It is considered the first school of Pahari paintings.




	<ul style="list-style-type: none"> ○ It was under Sangram Pal (1635-1673) and later Kirpal Pal (1678-1693) that Basohli paintings flourished. ● These are painted on paper, cloth, or wood using natural pigments and dyes. ● Features: depict Krishna as the protagonist, portrayal of jewellery- embossed white paint was used for pearls, Gita Govinda series' depiction etc. <ul style="list-style-type: none"> ○ Other important feature was use of bright and bold colours like red, yellow, and blue in the borders, as well as for the generally flat background. ● The other distinguishing part was the facial features- a prominent nose and lotus-shaped eyes.
<p>Gond Painting</p> 	<ul style="list-style-type: none"> ● Gond painting of Madhya Pradesh has received the Geographical Indication (GI) tag. ● Gond Painting is a traditional art of Gond Tribe with Dindori district of Madhya Pradesh as the original source. ● Based on the belief that 'viewing a good image brings good luck', the Gond painting shows nature, trees, plants, animals, moon, sun, river, drains, God, Goddesses and Geometric patterns. <ul style="list-style-type: none"> ○ It is mainly done on walls and floors of houses. ○ Natural colors obtained from various sources like flowers, stones, etc. are used
<p>Thiramahotsavam</p> 	<ul style="list-style-type: none"> ● 'Poothan and Thira' is an ancient folk dance was performed during celebration of Thiramahotsavam in Thrissur district, Kerala. ● Poothan and Thira are usually performed every year during the Pooram festival. ● According to mythology, Thira and Poothan are the lieutenants of Lord Siva who were sent along with Goddess Kali to kill the demon king Darika. ● After slaying the demon, Thira and Poothan danced along with Kali to celebrate their victory. ● The dancers belong to Mannan and Perumannan communities. ● The main musical instrument used is Para (a percussion instrument).

7.5.3. IMPORTANT SITES IN NEWS




Site	Details
<p>Rang Ghar</p> 	<ul style="list-style-type: none"> ● Rang Ghar represents glorious era of Ahom Kingdom. It is known as first Ampitheatre or first Pavilion of Asia. ○ It was built by Swargadeo Promotta Singha in 1744 A.D. Its shape is octagonal at base. ○ It was built specially for enjoyment of recreational/sports activities by royal families and public of Ahom dynasty. ○ Roof over the two-storey building is shaped like an inverted royal Ahom boat, topped with carved stone crocodiles.
<p>Sharda Peeth</p> 	<ul style="list-style-type: none"> ● Government plans to open Sharda Peeth on lines of Kartarpur corridor. <ul style="list-style-type: none"> ○ Kartarpur corridor links two important Sikh shrines: Dera Baba Nanak, Punjab and Gurudwara Darbar Sahib in Kartarpur, Pakistan. ● About Sharda Peeth: <ul style="list-style-type: none"> ○ It is a revered site for Hindu community and is considered to be abode of Goddess Saraswati. ○ It is believed to be an ancient centre of learning established in Neelum Valley, even before the Takshila and Nalanda universities. ○ It is located in Neelum Valley in Pakistan Occupied Kashmir (PoK) across Teetwal village in Kupwara district of Jammu and Kashmir, along Line of Control (LoC).
<p>Whistling village (Kongthong village)</p> 	<ul style="list-style-type: none"> ● An MP presented a development report on Kongthong village in Meghalaya, India's only whistling village, to the PM. <ul style="list-style-type: none"> ○ The village was adopted under the Sansad Adarsh Gram Yojana (SAGY). ● About Kongthong village: <ul style="list-style-type: none"> ○ Kongthong is located in the East Khasi Hills in Meghalaya. ○ It is popular as the 'whistling village' due to its unique tradition of 'Jingrwai Lawbei' (meaning the Song of the Clan's First Woman). ○ It is a tradition under which mothers create a tune for their newborns. These tunes are often used as names. ○ Kongthong people belong to the Seng Khasi Tribe and speak Khasi language.

<p>Kamakhya Temple</p> 	<ul style="list-style-type: none"> • Kamakhya temple corridor is to be revamped on lines of Kashi Vishwanath and Shree Mahakal Mahalok corridor. • Temple dedicated to Goddess Kamakhya is one of the 51 Shakti Peethas in country. <ul style="list-style-type: none"> ○ It is located in Nilanchal Hills near Guwahati by banks of Brahmaputra River. ○ Temple has four chambers: <ul style="list-style-type: none"> ✓ Garbha griha (sanctum sanctorum), which is a cave under the ground level that houses a rock fissure instead of an idol. ✓ Three mandapas known as calanta, pancharatna and natamandira. • Ambubachi mela of Kamakhya temple is considered as the biggest religious congregation in North East India.
<p>Sanchi</p> 	<ul style="list-style-type: none"> • Sanchi, in Madhya Pradesh, is all set to become the country's first solar city. • Buddhist monuments at Sanchi is a UNESCO world heritage site. • Place is related to Buddhism but not directly to life of Buddha. It is more related to Ashoka than to Buddha. <ul style="list-style-type: none"> ○ It comprises various Buddhist monuments dating back to 1st and 2nd C.E, famous one being the Sanchi Stupa. ○ Sanchi stupa houses 4 gateways that showcase Buddha's life through intricate carvings. ○ It is also home to Gupta temple, one of the earliest example of temple architecture.
<p>Monasteries in News</p>	<p>Hemis Monastery</p> <ul style="list-style-type: none"> • Delegates of G2o summit visited Hemis Monastery. • Hemis Monastery is the largest monastic institution in Ladakh. It is situated on western banks of the Indus River. • It belongs to Dragon Order of Mahayana Buddhism (or the Drupka Lineage). • Hemis has more than 200 branch monasteries in the Himalayas.  <p>Thiksey Monastery</p> <ul style="list-style-type: none"> • Delegates of G2o summit visited Thiksey Monastery. • It is a Tibetan Buddhist gompa (monastery) linked with the Gelugpa sect. • It is located on top of a hill in Thiksey hamlet, Ladakh. • It is notable for its resemblance to Tibet's Potala Palace. • It is also known for its annual Gustor Festival. 

7.5.4. GEOGRAPHICAL INDICATION (GI) TAGS IN NEWS

<p>Nagri Dubraj rice</p> 	<ul style="list-style-type: none"> • Chhattisgarh's Nagri Dubraj rice variety got a geographical indication (GI) tag. <ul style="list-style-type: none"> ○ After Jeeraphool rice in 2019, Dubraj is the second brand to get the GI tag. • The women's self-help group "Maa Durga Swasahayata Samuh" of Nagri in Dhamtari district has been harvesting Dubraj and had applied for the GI tag. • Features: <ul style="list-style-type: none"> ○ The Nagri Dubraj is known as Basmati of Chhattisgarh because of its fragrance. ○ The grain finds reference in Valmiki Ramayana. ○ The rice is of an indigenous variety and has small grains.
<p>Manamadurai pottery</p> 	<ul style="list-style-type: none"> • Recently Manamadurai pottery of Sivagangai district, Tamil Nadu got the Geographical Indication (GI) tag. • A unique type of clay is sourced from water bodies like Nedunkulam, Nathapurakki, Sundaranadappu, Seikalathur to make these pots. <ul style="list-style-type: none"> ○ Main raw materials for making these pots are soil and water. ○ Vaigai River which runs through the Manamadurai village enriches the clay used for the pottery.
<p>Ladakhs wood carvings</p> 	<ul style="list-style-type: none"> • Prime Minister applauded GI Tag for Ladakh's Wood Carving, a first of its kind. • Wood carving of Ladakh has been an aesthetically vibrant art form in Ladakh region. <ul style="list-style-type: none"> ○ It will boost exports, promotes goods at international level, and will bring economic prosperity to producers and stakeholders.

7.5.5. FESTIVALS IN NEWS

Festival	Details
Bumchu Festival 	<ul style="list-style-type: none"> Recently, Bumchu Festival was celebrated in Tashiding Monastery, located in Sikkim. Bumchu festival commemorates a supernatural occurrence that took place in 18th century under Chogyal Chakdor Namgyal. <ul style="list-style-type: none"> Bumchu means “pot of sacred water” in Tibetan. The vase is opened during the event, and water inside is thought to have healing qualities shared among the worshippers. Celebration takes place on 14th and 15th of first lunar month, which often falls in February or March. Tashiding Monastery, one of the most sacred Buddhist pilgrimage sites, belongs to Nyingmapa order and was built in 17th century on top of a hill between two rivers, Rangit and Rathong.
Pushkaralu/Pushkar am Festival 	<ul style="list-style-type: none"> 12-day Pushkaralu festival of Telugu-speaking people commenced in Varanasi. Pushkaralu refers to the worship of the 12 sacred rivers in which the god Pushkar appears every 12 years. <ul style="list-style-type: none"> Rivers are: Ganga, Yamuna, Godavari, Krishna, Kaveri, Bhima, Tapti, Narmada, Saraswati, Tungbhadra, Sindhu, and Pranhita. The celebration happens annually, once in 12 years along each river which are associated with a zodiac sign.
Thrissur Pooram 	<ul style="list-style-type: none"> Prime Minister unveiled Kerala's largest Hanuman statue of 55 feet tall at Seetharama Swamy Temple on occasion of Thrissur Pooram Festival. <ul style="list-style-type: none"> Temple is dedicated to Lord Sree Seetharama, Lord Ayyappa and Lord Shiva. Thrissur Pooram is considered as the mother of all Poorams (Temple Festivals of Kerala). It is celebrated annually at Vadakkunnathan Temple in Thrissur.

7.5.6. TRIBES IN NEWS

Tribes name	Details
Kattunayakan Tribe	<ul style="list-style-type: none"> Oscar award to documentary Elephant Whisperers is a tribute to conservation legacy of the Kattunayakan tribe. They are one of the 75 Particularly Vulnerable Tribal Groups (PVTGs) of India. Found in parts of Tamil Nadu and Kerala (Nilgiris and surrounding region). Language: mixture of all Dravidian languages. Religion practices: strongly rooted in their culture and worship animals, birds, trees, rocks and snakes and almost everything natural.
Hakki Pikki	<ul style="list-style-type: none"> Few members of the tribe were stranded in Sudan amidst internal war. They are predominantly living in Shivamogga, Davanagere and Mysuru districts of Karnataka. They are known for knowledge of traditional and herbal medicine that is in high demand in African countries. Hakki-Pikkis are said to be a matriarchal group. They speak an Indo-Aryan language. They communicate in 'Vaagri' (mother language) at home but speak in Kannada when conducting daily business. UNESCO has listed 'Vaagri' as one of the endangered languages.

7.5.7. OTHER IMPORTANT NEWS

Shilabhatarika	<ul style="list-style-type: none"> Researchers at Pune-based Bhandarkar Oriental Research Institute (BORI) have decoded Chalukyan copper plates manuscripts which shed new light on Shilabhatarika. <ul style="list-style-type: none"> It establishes Shilabhatarika, 7th century CE Sanskrit poetess, as a daughter of “Satyashraya”. Title of “Satyashraya” (patron of truth) was associated with Chalukyan Emperor, Pulakeshin II of Badami. Previously, it was believed that she was the wife of 8th century Rashtrakuta ruler, Dhruva. Shilabhatarika’s works adhere to Panchali style that calls for a balance of word with its meaning.
Abhilekh patal	<ul style="list-style-type: none"> PM praised “Abhilekh patal” a portal with over 1 Crore Pages of Historical Records of National Archives. It is a full-featured web-portal to access National Archives of India’s (NAI) reference media and its digitized collections through internet. <ul style="list-style-type: none"> It is an initiative of NAI to make its Indian Archival Records available to all.

- NAI is an **Attached Office of the Ministry of Culture** and act as **repository of non-current records** of Government of India.

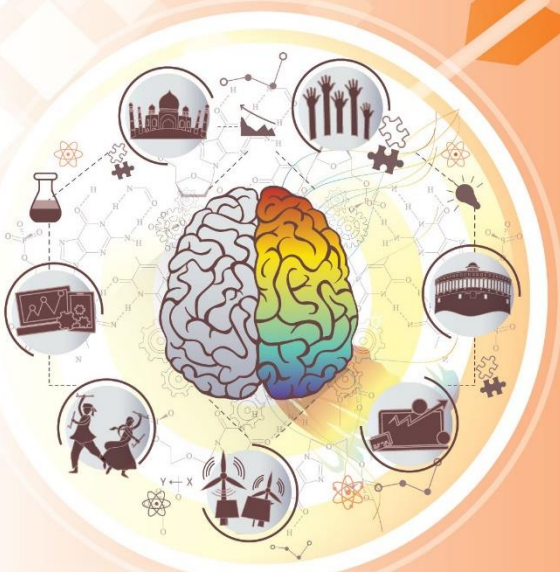
7.6. ERRATA

PT 365 Culture (Updated Part 1)

Article 7.6.1 HARVEST FESTIVALS OF INDIA: The information given in the map for Mizoram is incorrect. Following are the Harvest & other festivals of Mizoram

- **Chapchar Kut:** Celebrated during the first week of March every year
- **Mim Kut:** Celebrated after the harvest of the maize crop is over (generally during the month of August or September)
- **Pawl Kut:** Celebrated either in the month of December or January.
- **Khuado Kut:** Celebrated by the Paite community.
- **Hlukhla Kut:** Festival of Lai people (celebrated during March)
- **Lyuva Khutla:** Celebrated after completion of arduous jhumming task (slash and burn)

ADVANCED COURSE GS MAINS



Targeted towards those students who are aware of the basics but want to improve their understanding of complex topics, inter-linkages among them, and analytical ability to tackle the problems posed by the Mains examination.



Covers topics which are conceptually challenging.



Approach is completely analytical, focusing on the demands of the Mains examination.



Mains 365
Current Affairs
Classes (Offline)



Comprehensive current affairs notes

Sectional Mini Tests



Duration: 12 weeks, 5-6
classes a week (If need
arises, class can be held
on Sundays also)

Scan the QR CODE to
download VISION IAS app








**STARTING
13 JUNE
1 PM**









**LIVE/ONLINE
CLASSES AVAILABLE**

8. APPENDIX: CONTRIBUTION OF INDIAN KNOWLEDGE SYSTEM IN VARIOUS FIELDS

APPENDIX: CONTRIBUTION OF INDIAN KNOWLEDGE SYSTEM IN VARIOUS FIELDS

 Field	 Contribution from ancient India
 Mathematics	<ul style="list-style-type: none"> ● Baudhayan <ul style="list-style-type: none"> ➤ Work: Shulba Sutra and Shrauta Sutra. ➤ Sulbasutras give a compilation of the results in mathematics that had been used for the designing and constructions of the various elegant Vedic fire-altars right from the dawn of civilization. ➤ Sulbasutras see an explicit statement of the Bodhayana Theorem (Pythagoras' theorem). ● Pingala <ul style="list-style-type: none"> ➤ Work: Chandahsastra presents the first known description of a binary numeral system. ● Aryabhata <ul style="list-style-type: none"> ➤ He was a mathematician, astronomer, astrologer and physicist. Work: Aryabhattiya. ➤ He described the method of denoting big decimal numbers by alphabets. ➤ Made contributions in number theory, geometry, trigonometry and Beejganita (algebra). ● Brahmgupta <ul style="list-style-type: none"> ➤ Work: Brahm Sputa Siddantika through which the Arabs came to know our mathematical system. ➤ Introduced negative numbers and operations on zero into mathematics. ● Bhaskaracharya <ul style="list-style-type: none"> ➤ Work: His book Siddanta Shiromani is divided into four sections: Lilavati (Arithmetic), Beejaganit (Algebra), Goladhyaya (Sphere) and Grahaganit (mathematics of planets). ➤ Introduced Chakrawat Method or the Cyclic Method to solve algebraic equations. ● Mahaviracharya <ul style="list-style-type: none"> ➤ Work: Ganit Sara Sangraha, which is the first textbook on arithmetic in present day form. ➤ Current method of solving Least common Multiple (LCM) of given numbers was also described by him ● Narayana Pandita <ul style="list-style-type: none"> ➤ Work: Gaitakaumudi ➤ He gave turagagati method for constructing 4x4 magic squares. ● Yajurveda introduces names for powers of 10 upto 10^{12}. ➤ Tallakshana, a term from the Buddhist tradition represented 10^{55}.
 Astronomy	<ul style="list-style-type: none"> ● First 'astronomical' objects, found in the Andamans, belong to the palaeolithic era, some 12,000 years ago; they are calendar sticks noting the waxing and waning of the moon by incising daily notches on a wooden stick. ● Aryabhata <ul style="list-style-type: none"> ➤ Discussed units of time and features of celestial sphere, described the earth as a rotating sphere hanging in space, and produced a table of the planets' mean positions. ➤ Also gave a correct explanation for both lunar and solar eclipses, and stated that the diameter of the earth is 1,050 yojanas (closer to the actual dimension) ● Varahamihira <ul style="list-style-type: none"> ➤ Work: Pancha siddhantika ➤ Extensively discussed the revolutions of planets, eclipses, and the zodiac, often with an astrological background. ● Brahmagupta <ul style="list-style-type: none"> Work: Brahmasphuta Siddhanta, dealt with a variety of astronomical instruments like: <ul style="list-style-type: none"> ▪ A water clock (ghati yantra) consisting of a bowl with a small hole at the bottom, which would sink in exactly 24 minutes (a ghati) if placed over water; ▪ A gnomon (a short stick kept vertically for the study of the motion of its shadow) ➤ It was through his works the Arabs learned of Indian astronomy. <div style="border: 1px solid blue; padding: 10px; margin-top: 10px;"> <p style="text-align: center;"> DO YOU KNOW?</p> <ul style="list-style-type: none"> ● Waxing moon is a moon that gets more sunlight on it as the days go by. It is after we experience a new moon up to a full moon. ● A Waning moon is after the full moon and will remain waning until we again experience a new moon. </div>

 Field	 Contribution from ancient India
 Astronomy	<ul style="list-style-type: none"> ● Bhaskaracharya <ul style="list-style-type: none"> ➤ Discussed the mean and true positions of planets, the triple problem of 'time, direction and place', the risings and settings and conjunctions of the planets, eccentric and epicyclic theories for their motions of planets etc. ● Kerala School of Mathematics and astronomy <ul style="list-style-type: none"> ➤ Flourished between the 14th and 16th centuries. ➤ Prominent among them include- Madhava, Parameshvara, Neelakanta Somayaji, etc. ➤ Madhava discovered a procedure to determine the positions of the Moon every 36 minutes, and methods to estimate the motions of the planets. ➤ Parameshvara, was the founder of the Drigganita system of Astronomy. ➤ Nilakanthan Somayaji (1444-1544) in his Tantrasangraha, revised Aryabhata's model for the planets Mercury and Venus. ● Maharaja Sawai Jai Sing of Jaipur <ul style="list-style-type: none"> ➤ He setup in Jaipur, Delhi, Ujjain, Banaras and Mathura astronomical observatories called Jantar Mantar.
 Indian Health Sciences	<ul style="list-style-type: none"> ● Susruta <ul style="list-style-type: none"> ➤ Work: Susruta Samhita ➤ Considered as father of surgery. ➤ He studied human anatomy with the help of a dead body. ➤ In Susruta Samhita, over 1100 diseases are mentioned. ➤ Over 760 plants are described as remedies. ➤ Susruta's greatest contribution was in the fields of Rhinoplasty (plastic surgery) and Ophthalmic surgery (removal of cataracts). ● Charaka <ul style="list-style-type: none"> ➤ Considered as the father of ancient Indian science of medicine. ➤ He was the Raj Vaidya (royal doctor) in the court of Kanishka. ➤ Work: Charak Samhita ➤ He was the first to talk about digestion, metabolism and immunity as important for health. ● Yoga & Patanjali <ul style="list-style-type: none"> ➤ The science of Yoga was developed in ancient India as an allied science of Ayurveda for healing without medicine at the physical and mental level.
 Metallurgy in India	<ul style="list-style-type: none"> ● Harappans used gold and silver to produce a wide variety of ornaments. Also, many bronze figurines have been unearthed (e.g. dancing girl). ● Delhi Iron Pillar: The 1600 year old iron pillar is made up of wrought iron, erected by Chandragupta II, is known for its rust-resistant properties. ● Kanada- 6th century <ul style="list-style-type: none"> ➤ He was a scientist of Vaisheshika School, one of the six systems of Indian philosophy. ➤ According to Kanada, material universe is made up of kanas, (anu/atom) which cannot be seen through any human organ. These cannot be further subdivided. ● Varahamihira <ul style="list-style-type: none"> ➤ His Brihat Samhita, has a chapter on the preparation of numerous perfumes out of sixteen fundamental substances mixed in different proportions. ● Nagarjuna- 10th century <ul style="list-style-type: none"> ➤ In his treatise, Rasaratnakara, he has discussed methods for the extraction of metals like gold, silver, tin and copper.
 Indian Agriculture	<ul style="list-style-type: none"> ● One of the oldest water regulating structures in the world is Grand Anicut dam on river Kaveri (1st-2nd Century CE). ● The significance of agriculture and irrigation as emphasised in the Ramayana, Mahabharata and other texts.

Copyright © by Vision IAS

All rights are reserved. No part of this document may be reproduced, stored in a retrieval system or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without prior permission of Vision IAS.

8 IN TOP 10 SELECTIONS IN CSE 2021

from various programs of **VisionIAS**

2
AIR



**ANKITA
AGARWAL**

**CIVIL SERVICES
EXAMINATION 2020**

1
AIR



SHUBHAM KUMAR

3
AIR



**GAMINI
SINGLA**

4
AIR



**AISHWARYA
VERMA**

5
AIR



**UTKARSH
DWIVEDI**

6
AIR



**YAKSH
CHAUDHARY**

7
AIR



**SAMYAK
S JAIN**

8
AIR



**ISHITA
RATHI**

9
AIR



**PREETAM
KUMAR**



**YOU CAN
BE NEXT**



DELHI

• **HEAD OFFICE:** Apsara Arcade, 1st Floor, 1/8-B, Near Gate 7, Karol Bagh Metro Station, **Delhi**

+91 8468022022 +91 9019066066

• **Mukherjee Nagar Center:** 635, Opposite Signature View Apartments, Banda Bahadur Marg, Mukherjee Nagar



JAIPUR



PUNE



AHMEDABAD



BHOPAL



GUWAHATI



HYDERABAD



RANCHI



LUCKNOW



PRAYAGRAJ



CHANDIGARH