



One Stop Destination For UPSC/IAS Preparation

Baba's Monthly

CURRENT AFFAIRS MAGAZINE

Abortion Debate

Black Swan Event

AI Ethics

A New Global Standard

The Role of Caste

in Economic Transformation

New Corals recorded

from Indian Ocean





The Guru-shishya Parampara Continues....

Under The Guidance Of Mohan Sir (Founder, IASbaba)



Mohan Sir
(Founder, IASbaba)

Gurukul Foundation

(For Freshers)

Above & Beyond Regular Classroom Coaching

Batch 2



10th August (Wednesday)

📍 Bengaluru | 📺 Online

Batch 3



4th August (Monday)

📍 Delhi



www.iasbaba.com



support@iasbaba.com



91691 91888

THE ETHICS OF ARTIFICIAL INTELLIGENCE

PRELIMS

Polity & Governance

Rajya Sabha Election.....	5
Section 295A of IPC.....	5
Inter-State Council.....	6
Governor's powers to call for a floor test..	7
Anti-Defection Law.....	7
Attorney-General (A-G) of India.....	8
Gun Control Legislation in India.....	9
Draft amendments to IT Rules, 2021.....	9
National Mobile Monitoring Software.....	10

Economy

Repo Rate.....	11
Black swan event.....	12
Primary agricultural credit societies (PACS).....	13
Performance Grading Index for Districts.....	13
State Food Safety Index (SFSI).....	14
Liquid Nano urea.....	15
GM Cotton Seed.....	15
Agri Land Price Index.....	17

International Relations

Free Trade between Israel and UAE.....	18
U.S. India Trade Policy Forum (TPF).....	18
Organization of Islamic Cooperation (OIC).....	19
India-ASEAN Conclave.....	19

Geneva Package.....	20
2022 Resilient Democracies Statement...21	
Partners in the Blue Pacific (PBP) initiative.....	22

History, Art and Culture

Telangana Rebellion Movement.....	24
The Sant Tukaram Temple.....	25
Ahobilam.....	26
Gulabi Meenakari and Varanasi Wooden Lacquerware and Toys.....	26

Personalities in News

Prasanta Chandra Mahalanobis.....	28
-----------------------------------	----

Geography

Kaliningrad.....	29
Mortara.....	29
Kremenchuk, Ukraine	30
Mykolaiv, Ukraine.....	30
Chuliyar Dam.....	30
Aegean Sea and Islands.....	30
Lake Sawa.....	31
Snake Island and the Black Sea.....	32
Supermoon.....	33
Lightning.....	33

Environment

Valmiki Tiger Reserve.....	35
----------------------------	----



Deepor Beel.....	36
National Chambal Sanctuary.....	36
Fishing Cat Survey.....	37
Reintroduction of Cheetahs.....	38
The World's largest Plant.....	39
Environment Performance Index....	41
Carbon bombs.....	42
Eco-sensitive zone (ESZ).....	44
New corals recorded from Indian Ocean.....	45

Science and Technology

CAPSTONE.....	47
Astra Mark-1.....	47
Agni-IV Missile.....	48
BrahMos.....	48
Prithvi II.....	49
VL-SRSAM Missile System.....	50
Iskander-M missile system.....	51
Radio-frequency identification (RFID) technology and Barcodes.....	51
Direct-2-Mobile Technology.....	53
Electric vertical take-off and landing (eVTOL) aircraft.....	54
Mismatch repair deficient Cancer.....	55
Web 5.0.....	55
Virtual Private Network.....	56

Government Schemes

Open network for digital commerce (ONDC).....	58
-----------------------------------------------	----

MAINS

Polity & Governance

Inclusive Parliament.....	60
Death Penalty Sentencing.....	62
Uniform Civil Code (UCC).....	63
Equality Commission.....	65

International Relations

India-Vietnam Relations.....	69
India-Iran Relations.....	70
India-Bangladesh relations.....	72
China-Pacific Island Countries.....	74
EU ban on Russia's Oil.....	76
India's Engagement with Taliban.....	80
War Crimes.....	82
FATF and Pakistan.....	83
12th WTO Ministerial Conference.....	85

Economy

MSMEs and Global Value Chains.....	89
Growing Freebie Culture.....	90



Ukraine war and the global food crisis.....	91
Agnipath Recruitment Scheme.....	94
Hub airport.....	96
India's Digital Economy.....	98

Security & Social Issues

Surrogacy Regulation Act, 2021.....	100
Child Malnutrition.....	101
Food Security.....	104
The role of caste in economic transformation.....	105
Demography Dividend.....	106

Abortion debate.....	110
Aadhaar and its Security.....	112
Fragile State of Nuclear Disarmament.....	114

Science and Technology

5G Technology.....	117
--------------------	-----

Ethics

A new global standard for AI Ethics.....	120
------------------------------------------	-----

Practice Question.....	122
------------------------	-----

PRELIMS



POLITY AND GOVERNANCE

**Rajya Sabha Election**

In News: The Assemblies of 4 states will elect 16 MPs to Rajya Sabha.

- Rajya Sabha, or the Council of States, **has 245 seats**
- Rajya Sabha is a **permanent House and cannot be dissolved**.
- To ensure continuity, **one-third of its members retire after every second year**, under **Article 83(1) of the Constitution**, and “**biennial elections**” are held to fill these vacancies.
- The term of a member is **six years**.
- Out of the 245 members, **12 are nominated by the President** and **233 are representatives of the States and Union territories of Delhi and Puducherry**.
- **Article 80(4)** provides that members shall be elected by the elected members of state Assemblies through a system of proportional representation by means of a single transferable vote.
- The **Fourth Schedule to the Constitution** provides for allocation of Rajya Sabha seats to the states and Union Territories, on the basis of the population of each state.

Rajya Sabha polls: Who votes, and how?

- **Process of election:** Rajya Sabha members are **elected indirectly by the people, that is, by the MLAs**.
- Members of a state's Legislative Assembly vote in the Rajya Sabha elections in **proportional representation with the single transferable vote (STV) system**.
- To win a Rajya Sabha seat, a candidate should get a required number of votes.
- That number is found out using the below formula. Required vote = Total number of votes / (Number of Rajya Sabha seats + 1) + 1.

Section 295A of IPC

In News: The debate surrounding the comments by political party spokespersons have put the spotlight on the law that deals with criticism of or insult to religion.

- **Section 295A of IPC defines the contours of free speech and its limitations with respect to offences relating to religion.**
- India does not have a formal legal framework for dealing with hate speech
- However, a cluster of provisions, loosely termed hate speech laws, are invoked.

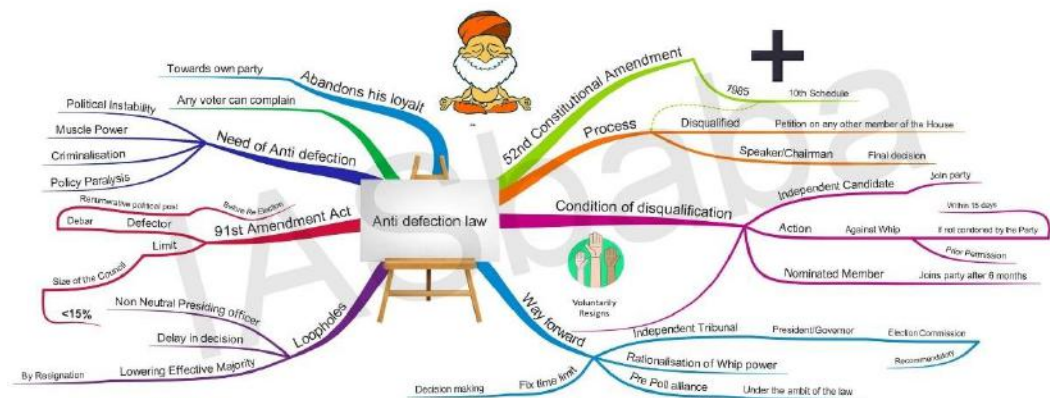
Section 295A & others:

- Section 295A **defines and prescribes a punishment for deliberate and malicious acts, intended to outrage religious feelings of any class** by insulting its religion or religious beliefs.

	<ul style="list-style-type: none"> It includes offences to penalize damage or defilement of a place of worship with intent to insult the religion (Section 295); trespassing in a place of sepulture (Section 297); uttering, words, etc., with deliberate intent to wound the religious feelings of any person (Section 298); and disturbing a religious assembly (Section 296). The state often invokes Section 295A along with Section 153A of the Indian Penal Code, which penalizes promoting enmity between different groups on grounds of religion, race, place of birth, residence, language, etc., and doing acts prejudicial to maintenance of harmony and Section 505 of the IPC that punishes statements conducing to public mischief.
Inter State Council	<p>In News: Tamil Nadu Chief Minister wrote to Prime Minister of India asking that at least three meetings of the Inter-State Council should be held every year to strengthen the spirit of cooperative federalism.</p> <p>Inter-State Council:</p> <p>Constitutional Provisions:</p> <ul style="list-style-type: none"> According to Article 263 of the Indian Constitution, an Inter-State Council (ISC) may be constituted “if it seems to the President at any time that the public interests would be served by the creation of a Council”. It was set up in 1990 through a presidential ordinance for the first time as per the recommendations of the Sarkaria Commission under the Ministry of Home affairs. <p>Inter-State Council Composition:</p> <ul style="list-style-type: none"> Prime Minister acts as the chairman of the council. Union Ministers of Cabinet rank in the Union. Council of Ministers nominated by the Prime Minister. Chief Ministers of all states. Chief Ministers of Union Territories having a Legislative Assembly. Administrators of UTs not having a Legislative Assembly. Governors of the states being administered under President’s rule. <p>Functions of Inter-State Council:</p> <ul style="list-style-type: none"> Inter-State Council is a recommendatory body with duties to investigate and discuss the subjects of common interest between the Union and State(s) or among the States, making recommendations particularly for better coordination of policy and action on these subjects and deliberating upon such other matters of general interest to the States which may be referred to it by its Chairman. Making suggestions on any such subject, for the better coordination of policy and action with respect to that subject.

Governor's Power to call for a floor test	<p>In News: As the Maharashtra political crisis continues to play out, the Governor's powers under the Constitution to call for a floor test takes center stage.</p> <p><u>Constitutional provisions related to floor test:</u></p> <p>Article 174(2)(b)</p> <ul style="list-style-type: none"> Article 174(2) (b) of the Constitution gives powers to the Governor to dissolve the Assembly on the aid and advice of the cabinet. However, the Governor can apply his mind when the advice comes from a Chief Minister whose majority could be in doubt. <p>Article 175(2)</p> <ul style="list-style-type: none"> Under Article 175(2), the Governor can summon the House and call for a floor test to prove whether the government has the numbers. <p>Power of the Speaker:</p> <ul style="list-style-type: none"> In 2020, the Supreme Court, in Shivraj Singh Chouhan & Ors versus Speaker, upheld the powers of the Speaker to call for a floor test if there is a prima facie view that the government has lost its majority. When the House is in session, it is Speaker who can call for a floor test. But when the Assembly is not in session, the Governor's residuary powers under Article 163 allow him to call for a floor test.
Anti-defection law	<p>Context: The crisis in Maharashtra has brought the focus on anti-defection law.</p> <ul style="list-style-type: none"> The Tenth Schedule - popularly known as the Anti-Defection Act - was included in the Constitution via the 52nd Amendment Act, 1985 and sets the provisions for disqualification of elected members on the grounds of defection to another political party. It was a response to the toppling of multiple state governments by party-hopping MLAs after the general elections of 1967. As per the 1985 Act, a 'defection' by one-third of the elected members of a political party was considered a 'merger'. But the 91st Constitutional Amendment Act, 2003, changed this and now at least two-thirds of the members of a party have to be in favour of a "merger" for it to have validity in the eyes of the law. The decisions on questions as to disqualification on ground of defection are referred to the Chairman or the Speaker of such House, which is subject to 'Judicial review'. However, the law does not provide a time-frame within which the presiding officer has to decide a defection case. <p><u>Grounds of Disqualification:</u></p> <ul style="list-style-type: none"> If an elected member voluntarily gives up his membership of a political party. If he votes or abstains from voting in such House contrary to any direction issued by his political party or anyone authorised to do so, without obtaining prior permission.

- As a pre-condition for his disqualification, his abstention from voting should not be condoned by his party or the authorised person within 15 days of such incident.
- If any **independently elected member joins any political party**.
- If any **nominated member joins a political party after period of six months**.



Appointment of Attorney-General (A-G)

In News: Attorney-General (A-G) K.K. Venugopal has been reappointed the country's top law officer for a period of three months.

Attorney General Of India:

- **Article 76** of the Constitution provides for the office of AG of India.
- AG is the **top legal officer in the country & part of Union Executive**.
- AG is assisted by 2 Solicitor Generals & 4 Additional Solicitor Generals.
- AG is **not considered as a government servant**.

Eligibility:

- He/She must be a person who is qualified to be **appointed a judge of the Supreme Court** i.e.
 - S/he must be a **citizen of India**.
 - S/he must have been a **judge of some high court for five years** or an **advocate of some high court for ten years** or an **eminent jurist in the opinion of the President**.

Tenure: not fixed by the Constitution

- The remuneration of the AG is not fixed by the Constitution. He receives such remuneration as the president may determine.

Removal:

- The **Constitution does not contain the procedure and grounds for his removal**. He **holds office during the pleasure of the president**.
- He may **also quit his office by submitting his resignation to the president**.

Functions:

- Advise Government on legal matters.
- Perform legal duties assigned by President.
- Appear on behalf of Government in all cases in SC or HC.
- Represent Government **under Article 143**.

	<ul style="list-style-type: none"> Discharge functions conferred by Constitution or law. <p>Rights:</p> <ul style="list-style-type: none"> Right to speak and take part in proceedings of both Houses of Parliament/joint sitting/any committee of Parliament of which he/she may be named a member. Enjoys privileges and immunities of a Member of Parliament. S/he is not debarred from private legal practice. <p>Limitations:</p> <ul style="list-style-type: none"> No Right to Vote in House proceedings/committees. Should not advise against or hold a brief against Government. Should not defend accused persons in criminal prosecutions without the permission of the Government of India. Should not accept appointment as a director in any company or corporation without the permission of the Government of India.
Gun Control Legislation in India	<p>Context: In the wake of the Texas school massacre, let's have a look at Gun Control Legislation in India.</p> <p><u>Arms Act, 1959</u></p> <ul style="list-style-type: none"> The Arms Act, 1959 governs matters related to acquisition, possession, manufacture, sale, transportation, import and export of arms and ammunition. It defines a specific class of 'prohibited' arms and ammunitions, restricts their use and prescribes penalties for contravention of its provisions. <p><u>Key Provisions:</u></p> <ul style="list-style-type: none"> Gun license applicants in India must be at least 21 years and not convicted of any offence involving violence, of 'unsound mind' or a threat to public safety and peace. Upon receiving an application, the licensing authority (i.e., the Home Ministry), asks the officer in-charge of the nearest police station to submit a report about the applicant after thorough vetting. It also enlists specific provisions on curtailing the use of licensed weapons to ensure social harmony. No entity is permitted to sell or transfer any firearm which does not bear the name of the maker, manufacturer's number or any other visible or stamped identification mark. Any act of conversion (such as shortening the barrel of a firearm or converting an imitation firearm into a firearm) or unlawful import-export is punishable with an imprisonment term of seven years, which may extend to life imprisonment and be liable to monetary fines. <p><u>The Arms (Amendment) Act, 2019</u></p> <ul style="list-style-type: none"> The Arms Act amended in 2019 reduces the number of firearms that an individual can procure from three to two. The Amended Act also increases the duration of the validity of a firearm license from three years to five years.

<p>Draft amendments to IT Rules, 2021</p>	<p>In News: The Ministry of Electronics and Information Technology (MeitY) has published a fresh draft of amendments to the Information Technology Rules, 2021.</p> <p><u>What are the proposed amendments to the IT Rules, 2021?</u></p> <ul style="list-style-type: none"> • The draft proposes to create government-appointed appeal committees that will be empowered to review and possibly reverse content moderation decisions taken by social media companies. • It means in case a user is not satisfied with the content moderation decision taken by a company's grievance officer, they can appeal that decision before the proposed government-appointed appeals committee. • Every order passed by the Grievance Appellate Committee shall be complied with by the concerned intermediary. • Currently, the only recourse a user has against companies' content decisions is to approach the courts • Responsibility on grievance officers appointed by social media companies - if a user complains about content which is "patently false", infringes copyright, and threatens the integrity of India, among other things, a grievance officer will have to expeditiously address it within 72 hours. • Under current rules, grievance officers have 15 days to act on and dispose of users' complaints. <p>IT Rules, 2021</p> <ul style="list-style-type: none"> • These new rules deal with social media and over-the-top (OTT) platforms.
<p>National Mobile Monitoring Software (NMMS)</p>	<p>Context: The new National Mobile Monitoring Software application has problems that are eroding the right to work.</p> <ul style="list-style-type: none"> • In May 2021, the Ministry of Rural Development (MoRD) launched the National Mobile Monitoring Software (NMMS) app, a new application meant for "improving citizen oversight and increasing transparency" in National Rural Employment Guarantee Act (NREGA) works. • It is to be deployed by NREGA Mates, local women at the panchayat level who are selected and trained to monitor NREGA worksites. • The main feature of the app is the real-time, photographed, geo-tagged attendance of every worker to be taken once in each half of the day. • This will increase citizen oversight of the program besides potentially enabling processing payments faster.



ECONOMY



Repo Rate

In News: In its bi-monthly review of Monetary Policy the Reserve Bank of India hiked the repo rate by another 50 basis points.

Why has RBI hiked the repo rate?

- The 50-basis-point hike, which follows a 40-basis-points (bps) hike in May, has been done with a view to **taming inflation**.
- The RBI aims to bring inflation down to its targeted 4% ($\pm 2\%$).

Monetary Policy Measures:

- Monetary policy refers to the policy of **the central Bank with regard to use of monetary instruments** under its control to **manage money supply**.
- In 2016, the **Reserve Bank of India (RBI) Act, 1934** was amended to provide a **statutory basis** for the implementation of the flexible inflation targeting framework.
- Under amended RBI Act, 1934, the **central government is empowered to constitute a six-member Monetary Policy Committee (MPC)**.
 - **Composition:** the MPC shall consist of 6 members:
 - **RBI Governor** as its ex officio chairperson,
 - **Deputy Governor** in charge of monetary policy,
 - **An officer of the Bank to be nominated by the Central Board,**
 - **Three persons to be appointed by the central government.**

Tools	Features
Cash Reserve Ratio (CRR)	The average daily balance that a bank is required to maintain with the Reserve Bank as a share of such per cent of its Net demand and time liabilities (NDTL) that the Reserve Bank may notify from time to time.
Statutory Liquidity Ratio (SLR)	The share of NDTL that a bank is required to maintain on itself, in safe and liquid assets , such as, government securities, cash and gold.
Repo Rate	The interest rate at which the Reserve Bank provides overnight liquidity to banks against the collateral of government and other approved securities under the liquidity adjustment facility (LAF).
Reverse Repo Rate	The interest rate at which the Reserve Bank absorbs liquidity, on overnight basis, from banks against the collateral of eligible government securities under the LAF.
Marginal Standing facility (MSF)	It is the rate at which Banks can borrow short term funds from RBI . Under MSF, banks can borrow funds from the

		RBI by pledging government securities within the limits of the SLR.
	Open Market Operations (OMOs)	These include both, outright purchase and sale of government securities , for injection and absorption of durable liquidity, respectively.
	Market Stabilisation Scheme (MSS)	It is a monetary policy intervention by the RBI to withdraw excess liquidity (or money supply) by selling government securities in the economy , the mobilised cash is held in a separate government account with the Reserve Bank.
Black swan event	<p>In News: A study by the Reserve Bank of India (RBI) has spoken about the possibility of capital outflows to the tune of \$100 billion from India in case of a major global risk scenario or a “black swan” event.</p> <p><u>What is a ‘black swan’ event?</u></p> <ul style="list-style-type: none"> A black swan is a rare, unpredictable event that comes as a surprise and has a significant impact on society or the world. These events are said to have three distinguishing characteristics – they are extremely rare and outside the realm of regular expectations; they have a severe impact after they hit; and they seem probable in hindsight when plausible explanations appear. <p><u>When did the term originate?</u></p> <ul style="list-style-type: none"> The black swan theory was put forward by author and investor Nassim Nicholas Taleb in 2001, and later popularized in his 2007 book – The Black Swan: The Impact of the Highly Improbable. The term itself is linked to the discovery of black swans. Europeans believed all swans to be white until 1697, when a Dutch explorer spotted the first black swan in Australia. The metaphor ‘black swan event’ is derived from this unprecedented spotting from the 17th century, and how it upended the West’s understanding of swans. <p><u>When have such events occurred in the past?</u></p> <ul style="list-style-type: none"> Taleb’s book predated the 2008 global financial crisis – a black swan event triggered by a sudden crash in the booming housing market in the US. The fall of the Soviet Union, the terrorist attack in the US on September 11, 2001, also fall in the same category <p><u>Is the Covid-19 pandemic a black swan event?</u></p> <ul style="list-style-type: none"> The author called it a “white swan”, arguing that it was predictable, and there was no excuse for companies and governments not to be prepared for something like this. 	

Primary agricultural credit societies (PACS)	<p>In News: The Cabinet Committee on Economic Affairs approved computerization of Primary Agricultural Credit Societies (PACS) with the aim of increasing efficiency of PACS, bringing transparency and accountability in their operations.</p> <ul style="list-style-type: none"> This project proposes computerization of about 63,000 functional PACS over a period of five years with a total budget outlay of Rs 2,516 crore with the central government's share of Rs 1,528 crore. <p>Primary Agricultural Cooperative credit societies (PACS)</p> <ul style="list-style-type: none"> The PACS constitute the lowest tier of the three-tier short-term cooperative credit (STCC) in India comprising of nearly 13 crore farmers as its members. Through computerization PACS will become nodal service delivery point for interest subvention scheme (ISS), PM Fasal Beema Yojana, Direct Benefit Transfer and provision of inputs like fertilizers, seeds etc. It will ensure speedy disposal of loans, lower transition cost, faster audit and reduction in imbalances in payments and accounting with State Cooperative Banks (SCBs) and District Central Cooperative Banks (DCBs) PACS account for 41% of the Kisan Credit Card (KCC) loans given by all entities in the country and 95 % of these KCC loans through PACS are to the small and marginal farmers. The other two tiers viz. SCBs and DCCBs have already been automated by the NABARD and brought on Common Banking Software (CBS).
Performance Grading Index for Districts (PGI-D) for 2019-20	<p>In News: The Department of School Education and Literacy, Ministry of Education (MoE) has released the Performance Grading Index for Districts (PGI-D).</p> <ul style="list-style-type: none"> PGI-D assesses the performance of school education system at the district level by creating an index for comprehensive analysis. It is based on 83 indicators grouped in six categories. These categories are outcomes, effective classroom transaction, infrastructure facilities and student's entitlements, school safety and child protection, digital learning and governance process. PGI-D grades the districts into ten grades — highest achievable grade is Daksh, which is for districts scoring more than 90% of the total points in that category or overall. The lowest grade in PGI-D is called Akanshi-3 which is for scores up to 10% of the total points. Rajasthan's Sikar is the top performer followed by Jhunjhunu and Jaipur The other States whose districts have performed best in the latest index are Punjab with 14 districts in Ati-uttam grade followed by Gujarat and Kerala with each having 13 districts in this category. <p>Digital learning:</p> <ul style="list-style-type: none"> The PGI-D for 2019-20 shows that schools across India performed poorly under the category of digital learning.

	<ul style="list-style-type: none">In the index, as many as 180 districts scored less than 10 per cent on digital learning,																																							
State Food Safety Index (SFSI) 2021-22	<p>In News: the Food Safety and Standards Authority of India (FSSAI) released the State Food Safety Index (SFSI) 2021-22.</p> <p>What is the SFSI?</p> <ul style="list-style-type: none">The index aims to measure the performance of states and Union Territories on selected “parameters” of food safety.The index is aimed at encouraging states and UTs to “improve their performance and work towards establishing a proper food safety ecosystem in their jurisdiction.The SFSI is released annually for a financial year.This is the fourth edition of the SFSI since its inception in 2018-19. <p>The SFSI takes into account the performance of the states on five key parameters, each of which is assigned a different weightage in the assessment:</p> <ul style="list-style-type: none">Human Resources and Institutional DataComplianceFood Testing - Infrastructure and SurveillanceTraining and Capacity BuildingConsumer Empowerment <p>Performance:</p> <ul style="list-style-type: none">In the category of the 20 large states, Tamil Nadu with an overall score of 82 out of 100 has performed the best and been ranked 1st on SFSI 2021-22, while Andhra Pradesh with an overall score of 26 has been ranked at the bottom —17th place.Among the eight small states, Goa with a score of 56 has been ranked at the top, while Arunachal Pradesh (rank 8th and score 21) is at the bottom.Among the eight Union Territories, Jammu and Kashmir with a score of 68.5 has been ranked 1st and Lakshadweep (score 16) as the bottom. <div><p>Safety check Tamil Nadu topped 20 large States in terms of food safety, according to the 4th State Food Safety Index. A look at the top 10 States</p><table><tr><th>RANK</th><th>STATE</th><th>SCORE</th></tr><tr><td>1</td><td>TAMIL NADU</td><td>82</td></tr><tr><td>2</td><td>GUJARAT</td><td>77.5</td></tr><tr><td>3</td><td>MAHARASHTRA</td><td>70</td></tr><tr><td>4</td><td>HIMACHAL</td><td>65.5</td></tr><tr><td>5</td><td>WEST BENGAL*</td><td>58.5</td></tr><tr><td>5</td><td>MADHYA PRADESH*</td><td>58.5</td></tr><tr><td>6</td><td>KERALA</td><td>57</td></tr><tr><td>7</td><td>UTTARAKHAND</td><td>55</td></tr><tr><td>8</td><td>ODISHA*</td><td>54.5</td></tr><tr><td>8</td><td>UTTAR PRADESH*</td><td>54.5</td></tr><tr><td>9</td><td>KARNATAKA</td><td>52.5</td></tr><tr><td>10</td><td>RAJASTHAN</td><td>50.5</td></tr></table><p><i>*Ranks 5 and 8 were shared by two States each</i></p></div>	RANK	STATE	SCORE	1	TAMIL NADU	82	2	GUJARAT	77.5	3	MAHARASHTRA	70	4	HIMACHAL	65.5	5	WEST BENGAL*	58.5	5	MADHYA PRADESH*	58.5	6	KERALA	57	7	UTTARAKHAND	55	8	ODISHA*	54.5	8	UTTAR PRADESH*	54.5	9	KARNATAKA	52.5	10	RAJASTHAN	50.5
RANK	STATE	SCORE																																						
1	TAMIL NADU	82																																						
2	GUJARAT	77.5																																						
3	MAHARASHTRA	70																																						
4	HIMACHAL	65.5																																						
5	WEST BENGAL*	58.5																																						
5	MADHYA PRADESH*	58.5																																						
6	KERALA	57																																						
7	UTTARAKHAND	55																																						
8	ODISHA*	54.5																																						
8	UTTAR PRADESH*	54.5																																						
9	KARNATAKA	52.5																																						
10	RAJASTHAN	50.5																																						

Liquid Nano Urea	<p>In News: Recently Prime Minister of India officially inaugurated the country's first liquid Nano urea plant at Kalol, Gujarat.</p> <ul style="list-style-type: none"> • This patented product is expected to not only substitute imported urea, but to also produce better results in farms. • IFFCO commissioned the Kalol liquid nano urea plant, the country's first, in August 2021. <p><u>Liquid Nano urea:</u></p> <ul style="list-style-type: none"> • It is essentially urea in the form of a nanoparticle. • Urea is a chemical nitrogen fertilizer, white in colour, which artificially provides nitrogen, a major nutrient required by plants. • The product has been developed by Indian Farmers Fertilizer Cooperative Limited (IFFCO) Nano Biotechnology Research Centre (NBRC) at Kalol. • While conventional urea has an efficiency of about 25 per cent, the efficiency of liquid Nano urea can be as high as 85-90 per cent. • Conventional urea fails to have the desired impact on crops as it is often applied incorrectly, and the nitrogen in it is vaporized or lost as gas - A lot of nitrogen is also washed away during irrigation. • Liquid Nano urea is sprayed directly on the leaves and gets absorbed. • Fertilizers in Nano form provide a targeted supply of nutrients to crops, as they are absorbed by the stomata, pores found on the epidermis of leaves. • The size of a Nano nitrogen particle varies from 20-50 nm. • Liquid Nano urea has a shelf life of a year, and farmers need not be worried about "caking" when it comes in contact with moisture.
GM cotton seed	<p>In News: Illegal variety occupies about a fifth of GM cotton seed market</p> <ul style="list-style-type: none"> • A flourishing illegal trade in a new unapproved herbicide-tolerant variety has come to occupy nearly a fifth of the genetically modified (GM) cotton seeds market in India. • Farmers' organizations say since the unapproved seeds help them in weed management and cut costs, they would continue to use it. • The illegal seed manufacturers claim the presence of herbicide trait (HTBt) in the seeds they sell are capable of controlling pink bollworm. • Bayer-Mahyco has submitted the application for the approval for HTBt cotton last year, the regulator (GEAC) is yet to take a call. <p><u>Why HTBt?</u></p> <ul style="list-style-type: none"> • Since its introduction two decades ago, Bt cotton has led to a dramatic rise in India's cotton yield and thereby, production but over the last two-three years, the yield has come down marginally. • Since the introduction of Bollgard-I, which was the country's first GM crop, approved for commercialization in 2002, followed by Bollgard II, a pest-resistant variety which protects the crop from bollworm, in 2006, the GEAC has not approved any new varieties.

✔ Benefits of GMOs	✘ Risks of GMOs
Nutritional value of foods could be improved (e.g. by introducing proteins, vitamins or vaccines)	New traits could cause adverse health reactions (e.g. new proteins may cause allergic responses)
Crops can be produced that lack known allergens	Removal of traits could have unknown effects
Crops can grow in arid conditions for better yield (e.g. by introducing drought resistant genes)	Crops may limit biodiversity of local environment (increased competition with native species)
GM crops can produce herbicides to kill pests	Cross pollination could lead to 'super weeds'
Improve food supply / agriculture in poor countries (GM crops can be engineered for improved yields)	Patents restrict farmers from accessing GM seeds (biotech companies hold monopolies over crop use)
GM crops may have longer shelf lives (less spoil)	Foods with GM components may not be labeled
Reduces economic costs and carbon footprint – less need for land clearing and pesticide usage	Different governments may have conflicting regulatory standards concerning safe usage

- **HTBt plants allow farmers to spray herbicides to get rid of weeds without harming the plants**
- Cotton production in the **2021-22 crop years (July-June) declined 5%** to 34 million bales (MB) from its peak of 35.9 MB in 2013-14.

What should be done?

- Since the illegal seeds contain unknown and unapproved traits, these could contaminate regular seeds, thereby putting legitimate seed growers at risk.
- The **government should facilitate faster approval of newly-developed seeds so that farmers can get access to quality seeds and thereby, reduce the labour cost and input cost.**

Genetic Engineering Appraisal Committee:

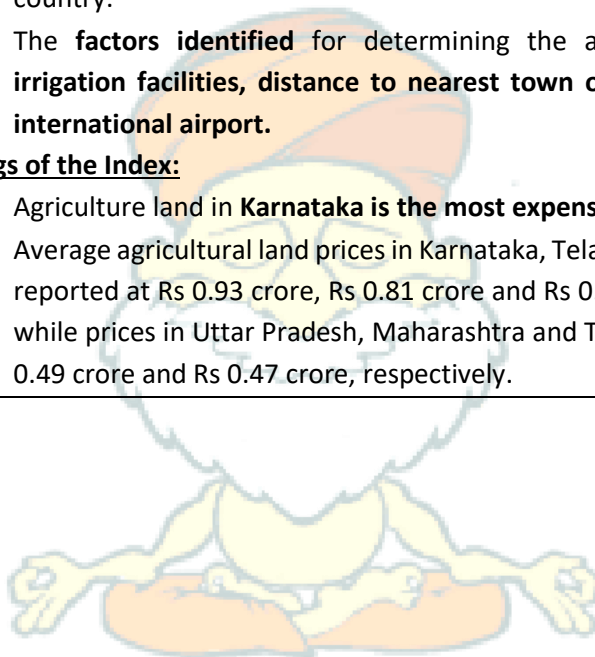
- GEAC is India's top biotech regulatory agency and a **statutory organization under the Environment Protection Act, 1986**
- It functions under **Ministry of Environment, Forest and Climate Change**
- It is **responsible for appraisal of activities involving large scale use of hazardous microorganisms and recombinants** in research and industrial production from the environmental angle.
- The committee is also **responsible for appraisal of proposals relating to release of genetically engineered (GE) organisms and products** into the environment including experimental field trials.
- GEAC is chaired by the **Special Secretary/Additional Secretary of MoEF & CC** and co-chaired by a representative from **the Department of Biotechnology.**

Agri Land Price Index (ALPI)**In News: IIM-Ahmedabad launches Agri land price index**

- The index is aimed at **removing uncertainty in the agricultural land valuation**.
- The index, a **prelude to a nationwide gauge to monitor farm land prices**, was developed for **107 districts** of Andhra Pradesh, Telangana, Karnataka, Maharashtra, Tamil Nadu and Uttar Pradesh, benchmarking land prices for rural and semi-urban areas.
- It would be reliable source in terms of **benchmarking land prices** and help in **conversion of agricultural land into real estate or for industrial use**.
- The index would **help the government in adopting more scientific measures** for providing **compensation for land acquisition** besides helping **financial institutions in underwriting of loan and insurance contracts**.
- It would also ensure visibility in movement of agricultural land prices across the country.
- The **factors identified** for determining the agricultural land price **include irrigation facilities, distance to nearest town or an airport and proximity to international airport**.

Findings of the Index:

- Agriculture land in **Karnataka is the most expensive followed by Telangana**
- Average agricultural land prices in Karnataka, Telangana and Andhra Pradesh, are reported at Rs 0.93 crore, Rs 0.81 crore and Rs 0.77 crore per acre, respectively, while prices in Uttar Pradesh, Maharashtra and Tamil Nadu are Rs 0.58 crore, Rs 0.49 crore and Rs 0.47 crore, respectively.





INTERNATIONAL RELATIONS



Free trade deal between Israel and UAE

In News: Israel signed a free trade deal with the United Arab Emirates its first with an Arab country, building on their U.S - brokered normalization of relations in 2020 i.e. Abraham Accords.

- The UAE was the first Gulf country to normalize ties with Israel and only the third Arab nation to do so after Egypt and Jordan.

Abraham Accords:

- [Abraham Accords](#) deal, sponsored by the US, was part of the country's regional security agenda to counter Iran.
- As part of the Abraham Accords, Israel agreed to stop further annexation of Palestinian territory.
- The accords **were signed by the leaders of Bahrain, Israel and the UAE in September 2020.**
- After **Egypt in 1979 and Jordan in 1994**, the **UAE became the third Arab country** to agree to formally normalize relations with Israel, as well as the first Persian Gulf country to do so.



U.S. India Trade Policy Forum (TPF)

In News: With the re-appearance of Indian mangoes in the U.S. market, after the November 2021 U.S. India Trade Policy Forum (TPF) helped overcome a pandemic-induced hiatus in mango trade.

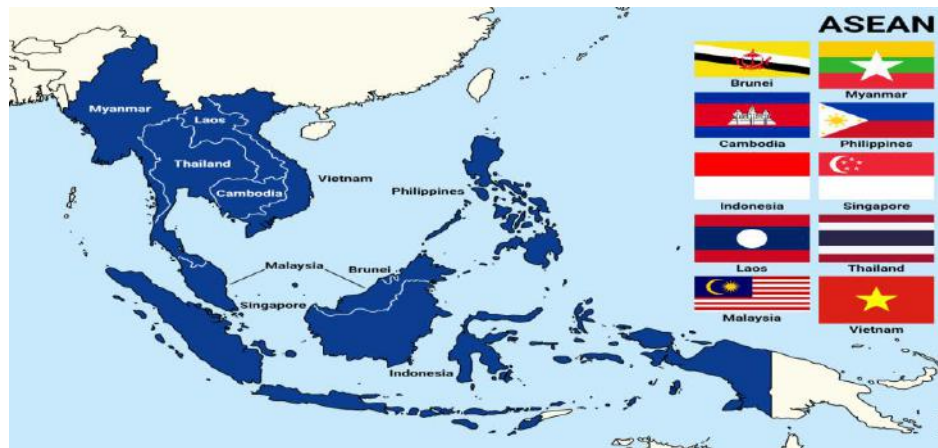
- For the U.S., **exporting ethanol and an associated animal feed ingredient, called DDGS (Distillers' Dried Grains with Soluble) to India**, is important, in the agricultural goods category.
- For India the **export of carabeef (water buffalo meat) to the U.S.**, as well as **table grapes, resumption of Indian wild caught shrimp exports** are among the agricultural trade priorities currently under discussion.

	<p><u>India-U.S Trade Policy Forum:</u></p> <ul style="list-style-type: none"> • The Trade Policy Forum (TPF), a premier forum to resolve trade and investment issues between India and the United States. • The TPF was established in July 2005 to discuss about trade and investment. • Representative of the USA are the co-chairs of the Trade Policy Forum. <p><u>The India-US Trade Policy Forum has five focus groups:</u></p> <ul style="list-style-type: none"> ○ Agriculture ○ Investment ○ Innovation and Creativity (intellectual property rights) ○ Services ○ Tariff and Non-tariff barriers <p><u>Distillers' Dried Grains with Soluble:</u></p> <ul style="list-style-type: none"> • Distillers' dried grain with soluble (DDGS) is a byproduct of bioethanol fermentation, which uses the dry milling technology for starch-rich grains such as corn, wheat, and barley. • Since DDGS is rich in crude protein, fat, fiber, vitamins, and minerals, it is currently used as aquaculture, livestock, and poultry feeds.
Organization of Islamic Cooperation (OIC)	<p>In News: The General Secretariat of the Organization of Islamic Cooperation (OIC) "condemned and denounced" the comments on Prophet Muhammad made by two erstwhile national spokespersons of a political party in India.</p> <p><u>What is the OIC?</u></p> <ul style="list-style-type: none"> • The OIC (57-nation grouping) was established at a 1969 summit in Rabat (Morocco). • It endeavors to establish solidarity among member states, support restoration of complete sovereignty and territorial integrity of any member state under occupation; protect, defend and combat defamation of Islam, prevent growing dissention in Muslim societies and work to ensure that member states take a united stand on the international stage. • India is not member of OIC, in spite of having second largest Muslim population.
India-ASEAN conclave	<p>In News: India hosted the two-day conclave to mark the 30th anniversary of its relations with the 10-nation Association of Southeast Asian Nations (ASEAN).</p> <p><u>ASEAN:</u></p> <ul style="list-style-type: none"> • The Association of Southeast Asian Nations was established on 8 August 1967 in Bangkok, Thailand, with the signing of the ASEAN Declaration (Bangkok Declaration) • The motto of ASEAN is "One Vision, One Identity, One Community". • Founding Members Indonesia, Malaysia, Philippines, Singapore and Thailand. • Brunei Darussalam (1984), Vietnam (1995), Lao PDR and Myanmar (1997), and Cambodia (1999), joined the ASEAN later.

- ASEAN Secretariat – Indonesia, Jakarta.

ASEAN-led Forums:

- **ASEAN Regional Forum (ARF):** Launched in 1993, a **twenty-seven-member multilateral grouping** was developed to facilitate **cooperation on political and security** issues to contribute to regional confidence-building and preventive diplomacy.
- **ASEAN Plus Three:** The consultative group initiated in 1997 brings together **ASEAN's ten members, China, Japan, and South Korea.**
- **East Asia Summit (EAS):** The summit seeks to **promote security and prosperity in the region and is usually attended by the heads of state** from ASEAN, Australia, China, India, Japan, New Zealand, Russia, South Korea, and the United States.



Geneva Package (WTO)

In News: The recently held **12th Ministerial Conference of the WTO** agreed to a series of deals relating to the **temporary waivers on Covid-19 vaccines, a moratorium on e-commerce trade, food security and setting limits on harmful fishing subsidies.**

- Together these agreements are referred to as the **"Geneva Package".**

Ministerial Conference (MC):

- The Ministerial Conference is the **WTO's top decision-making body and usually meets every two years.**
- **All members of the WTO are involved** in the MC and they can take **decisions on all matters covered under any multilateral trade agreements.**
- The WTO's 12th Ministerial Conference was held in Geneva.

Key takeaways:

Curtailling harmful fishing subsidies:

- A multilateral agreement was passed to **curb 'harmful' subsidies on illegal, unreported and unregulated fishing for the next four years,** to better protect global fish stocks.

Global Food Security:

- Members agreed to a binding decision to **exempt food purchased by the UN's World Food Program (WFP)** for humanitarian purposes, from any export restrictions.

	<ul style="list-style-type: none"> However, countries would be allowed to restrict food supplies to ensure domestic food security needs. <p><u>Covid-19 vaccine production:</u></p> <ul style="list-style-type: none"> Members agreed to temporarily waive intellectual property patents on Covid-19 vaccines without the consent of the patent holder for 5 years, so that they can more easily manufacture them domestically. The waiver did not cover all medical tools like diagnostics and treatments. <p><u>E-commerce transactions:</u></p> <ul style="list-style-type: none"> All members agreed to continue the long standing moratorium on custom duties on e-commerce transmissions until the subsequent Ministerial Conference. <p><u>India's interest secured:</u></p> <ul style="list-style-type: none"> India and other developing countries were able to win some concessions on fishing subsidies. They successfully lobbied to remove a section of the proposal that would threaten some subsidies which would assist small-scale artisanal fishing. The agreements hold that there would be no limitation on subsidies granted or maintained by developing or least-developed countries for fishing within their exclusive economic zones (EEZ). <p><u>Current moratoriums on electronic transmissions been extended:</u></p> <ul style="list-style-type: none"> Member countries agreed to extend the current moratorium on not imposing customs duties on electronic transmission (ET) until MC13. ETs consist of online deliveries such as music, e-books, films, software and video games. They differ from other cross-border e-commerce since they are ordered online but not delivered physically.
2022 Resilient Democracies Statement	<p>In News: India, along with the G7 nations and four other countries, signed a statement that called for “guarding the freedom, independence and diversity of civil society actors” and “protecting the freedom of expression and opinion online and offline”.</p> <ul style="list-style-type: none"> The “2022 Resilient Democracies Statement” was signed after Prime Minister attended a summit of the G7 countries. Apart from India, the signatories to the statement were Germany, Argentina, Canada, France, Indonesia, Italy, Japan, Senegal, South Africa, the United Kingdom, the United States of America and the European Union The signatories said that democracies enable “open public debate, independent and pluralistic media” and the “free flow of information online and offline”, fostering legitimacy, transparency, responsibility and accountability for citizens and elected representatives alike and that they are prepared to defend these principles. <p><u>Key Resolutions:</u></p> <ul style="list-style-type: none"> Protecting the freedom of expression and opinion online and offline. Ensuring an open, free, global, interoperable, reliable and secure internet. Increasing the cyber resilience of digital infrastructure.

	<ul style="list-style-type: none"> • Countering hybrid threats, in particular information manipulation and interference, including disinformation. • Cooperating to counter information manipulation, promote accurate information, and advocate for our shared democratic values worldwide. • Promoting affordable access to diverse sources of reliable and trustworthy information and data, online and offline, including through a multi-stakeholder approach. • Enhancing transparency about the actions of online platforms to combat violent, extremist and inciting content online. • Guarding the freedom, independence and diversity of civil society actors, speaking out against threats to civic space, and respecting freedom of association and peaceful assembly. • Building resilience against malign foreign interference and acts of transnational repression that seek to undermine trust in government, society and media, reduce civic space and silence critical voices. • Advancing programs for the protection of human rights defenders and all those exposing corruption.
Partners in the Blue Pacific	<p>In News: The US and its allies — Australia, New Zealand, Japan and the United Kingdom — have launched a new initiative called ‘Partners in the Blue Pacific’ for “effective and efficient cooperation” with the region’s small island nations.</p> <p><u>What is Partners in the Blue Pacific (PBP) initiative?</u></p> <ul style="list-style-type: none"> • The PBP is a five-nation “informal mechanism” to support Pacific islands and to boost diplomatic, economic ties in the region. • It speaks of enhancing “prosperity, resilience, and security” in the Pacific through closer cooperation. • Through the PBP, the counties — together and individually — will direct more resources here to counter China’s aggressive outreach. • The initiative members have also declared that they will “elevate Pacific regionalism”, and forge stronger ties with the Pacific Islands Forum. • The areas where PBP aims to enhance cooperation include “climate crisis, connectivity and transportation, maritime security and protection, health, prosperity, and education”. <p><u>Pacific Island Forum:</u></p> <ul style="list-style-type: none"> ○ Pacific Island Forum is an ‘Inter-governmental organization’ established in year 1971. ○ The objective of the organization is to work in support of Forum member governments, to enhance the economic and social well-being of the people of the South Pacific by fostering cooperation between governments and between international agencies. ○ The summit of the organization is held annually and is presided by the host country.

- The summit discusses about decisions related to the development and implementations of policies in the region.
- The forum has **18 members**, which are as follows- Australia, Cook Islands, Federation of Micronesia, Fiji, French Polynesia, Kiribati, Nauru, Palau, Republic of Marshal Island, New Caledonia, New Zealand, Niue, Papua New Guinea, Samoa, Solomon Islands, Tonga, Tuvalu and Vanuatu.





HISTORY, ART & CULTURE

Telangana Rebellion & Movement

Telangana rebellion

- The Telangana rebellion was **started by a group of peasants in late 1945, against the prevalent jagirdari system** where power to collect revenue and govern certain landholdings was installed in certain officers.
- Represented by the **Comrades Association**, which was affiliated to the **Communist Party of India**, the rebellion turned violent and clashed with the **Razakars**, a militia headed by **Kasim Rizvi**.

Linguistic reorganization of States:

- In 1955, **States Reorganization Committee recommended that Hyderabad be linguistically reorganized.**
- Andhra had expressed desire to integrate the Andhra State and Telangana in order to **create Vishalandhra**, however the SRC was against this.
- On passing the **States Reorganization Act** later that year, Andhra State and Telangana were merged into a single state called **Andhra Pradesh**, with Hyderabad becoming the capital.

The 'Mulki Rules' agitation:

- Telangana region also had what were called the Mulki Rules, which were safeguards in place to ensure that **Mulkis or native residents** did not face difficulty in procuring government jobs.
- The rules had 4 conditions to be met in order to be classified as a Mulki. When in 1952, the Hyderabad government accepted a large number of non-Mulkis into government positions, protests broke out.
- January 1969 was a turning point as Andhra Pradesh witnessed widespread student protests over the violations of the safeguards that the Gentlemen's Agreement signed between Telangana and Andhra State in February 1956 to allow the formation of Andhra Pradesh.

Call for Telangana statehood:

- In 1969, the **Telangana Praja Samiti** was formed to further the call for a **separate Telangana state.**
- In 1972, when the **Supreme Court upheld the Mulki Rules**, the **Jai Andhra movement** asking for a separate Andhra state picked up, causing the state to be put under President's Rule in January 1973.

The Telangana movement and KCR

- **K Chandrashekhar Rao** revived the movement in **2001 when he established his own political party — the Telangana Rashtra Samithi** which had the singular aim of establishing a separate Telangana.

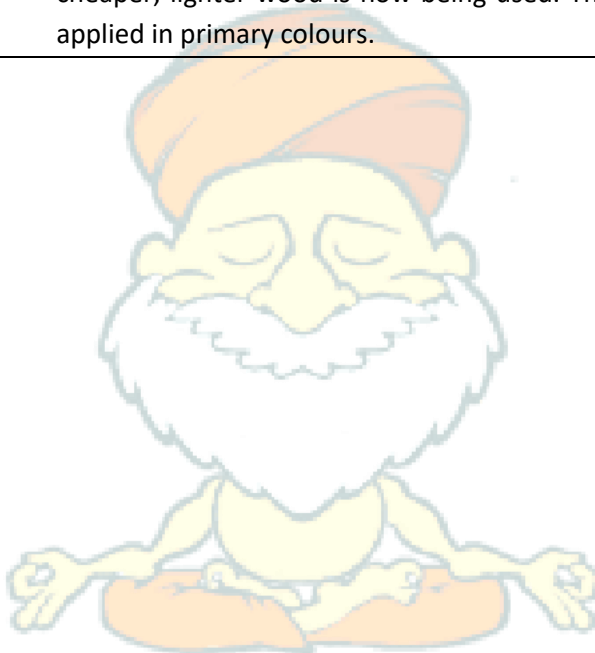
	<ul style="list-style-type: none"> The state of Telangana was finally created on June 2, 2014 after years of political turmoil.
<p>The Sant Tukaram Temple</p>	<p>In News: The Prime Minister of India inaugurated the Sant Tukaram Shila Mandir in the temple town of Dehu in Pune district.</p> <ul style="list-style-type: none"> Shila refers to a rock that is currently on the Dehu Sansthan temple premises, and that for centuries has been the starting point of Wari, the annual pilgrimage to Pandharpur. <p><u>The Shila Mandir:</u></p> <ul style="list-style-type: none"> The Bhakti saint Sant Tukaram had sat on this piece of rock for 13 continuous days when challenged about the authenticity of the Abhyangs he had written. The very rock where Sant Tukaram Maharaj sat for 13 days is pious and a place of pilgrimage for the Warkari sect. <div data-bbox="467 737 846 1152" data-label="Image"> </div> <div data-bbox="868 737 1344 1152" data-label="Image"> </div> <p><u>The Warkari sect:</u></p> <ul style="list-style-type: none"> Sant Tukaram and his work are central to the Warkari sect spread across Maharashtra. His message about a casteless society and his denial of rituals had led to a social movement. Sant Tukaram is credited with starting the Wari pilgrimage. The Wari sees lakhs of devotees congregating in the temple towns of Dehu and Alandi to accompany the padukas of Sant Tukaram and Sant Dyaneshwar respectively as they start for Pandharpur. <p><u>Tukaram (1608-1650):</u></p> <ul style="list-style-type: none"> Tukaram was born in the Indian state of Maharashtra. Tukaram Bolhoba Ambile was his full name. His Guru was Saint Chaitanya Mahaprabhu of the Bhakti movement. He was contemporary of Maratha ruler Shivaji Maharaj and saints such as Eknath and Ramdas. His poetry was dedicated to Vithoba or Vitthala, an avatar of Vishnu.

	<ul style="list-style-type: none"> • He is most known for his Marathi Abangas (dohas), which are a rich inheritance of Gatha - devotional poetry. • He emphasized community-based worship through spiritual melodies known as Kirtans. He promoted the virtues of piety, forgiveness, and inner tranquility. • He was a vocal critic of caste and gender injustice. • Tukaram is considered to be the pinnacle of the Bhagawat tradition, which began with Namdev.
Ahobilam	<p>Context: 'Nava Narasimha' a thematic dance production on the presiding deity of Ahobilam.</p> <ul style="list-style-type: none"> • Ahobilam, or Singavezhkundram, one of the 108 divyadesams, located in Kurnool district, Andhra Pradesh, consists of nine separate shrines for the deity that are divided into lower and upper Ahobilam, some of which are located on a hilly terrain and a few amid thick forest. • According to the sthala purana, Lord Narasimha, who took this fierce form to protect his devotee Prahlada, came to Ahobilam to vanquish demon Hiranyakasipu. • Apart from this, Ahobilam has abundant architectural and epigraphical evidences, chronicled right from the times of the Chalukyas in the eighth century AD. • Nalayira Divyaprabhandam, Abeethi Stavam, Narayaneeyam, Avanthika Parinayam (the Sanskrit play written by Yateendra Mahadesikan, the seventh Jeer of Ahobila Mutt, about the wedding of Narasimha (Ahobaleshwar) with Mahalakshmi (Chenchu Lakshmi)), Ashtapadi, Karavalamba Stotram, and Annamacharya kritis, are some of the hymns that highlight the different qualities of the deity. • The Telugu folk songs, (chosen in consultation with Aparna Srikanth), which are used in the production, signifies the importance of the Chenchu tribe in Ahobilam.
Gulabi Meenakari and Varanasi Wooden Lacquerware and Toys	<p>In News: The Prime Minister had taken along a plethora of artistic gifts for each of the G7 leaders.</p> <p>Gulabi Meenakari:</p> <ul style="list-style-type: none"> • Gulabi Minakari is one of the rarest crafts in India that is practiced in Varanasi. • This art was brought to the city of Varanasi by Persian enamellists during the Mughal era. • Minakari is an art form from Persia and involves coloring the surface of metals by fusing different colors. • In Varanasi, it is practiced on jewelry and home decor items. • It was given a GI Tag in the year 2015.



Varanasi Wooden Lacquerware & Toys

- Varanasi wooden lacquerware & toys is an ancient craft, where the toys are made in wood with sets of birds, animals, orchestras, and dance ensembles available packed in boxes.
- Earlier Sal or Seesham was used in the making of the toys, due to price rise cheaper, lighter wood is now being used. The paints are bright and usually applied in primary colours.





PERSONALITIES IN NEWS



Prasanta Chandra Mahalanobis

In News: June 29, is national 'Statistics Day', in 'recognition of the contributions made by **Prof. Prasanta Chandra Mahalanobis**, the 'Plan Man' of India.

- Every year, the Statistics Day is celebrated on 29th June, the **birth anniversary of Prof. Prasanta Chandra Mahalanobis**, to recognise his invaluable contribution in establishing the National Statistical System.
- The **theme** of Statistics Day, 2022 is '**Data for Sustainable Development**'.
- On this occasion, MoSPI declare the winners of **Prof. P C Mahalanobis National Award and Prof. P. V. Sukhatme Award 2020**.

Prasanta Chandra Mahalanobis (1893-1972):

- He is considered the **father of modern statistics in India**, founded the **Indian Statistical Institute (ISI)** and shaped the Planning Commission of India.
- He also devised a statistical method called '**Fractile Graphical Analysis**', used to compare **socio-economic conditions of varied groups**.

Contributions:

- **Mahalanobis Distance:** In 1930 he proposed the Mahalanobis Distance for the first time, which is a measure of comparison between two data sets.
- **Indian Statistical Institute:** In 1932 he founded ISI in **Kolkata**.
- **Journal:** In 1933 he started '**Sankhya: The Indian Journal of Statistics**'.
- He established **National Sample Survey** and set up the **Central Statistical Organization** to coordinate statistical activities in 1950
- In 1955 he became the **member of Planning Commission**
- He was instrumental in **formulating India's second five-year-plan (1956-1961)**, which laid the **blueprint for industrialization and development**.



GEOGRAPHY



Kaliningrad

In News: Moscow warned Lithuania of serious consequences over its restriction of rail traffic to Russia's Kaliningrad exclave.

Kaliningrad:

- Kaliningrad is a **Russian exclave sandwiched between Poland and Lithuania.**
- It was **captured by Soviet troops from Nazi Germany in April 1945** and then became part of Soviet territory as a result of the Potsdam Agreement.
- It was renamed from the German Königsberg in 1946.



Importance of Kaliningrad:



- Kaliningrad is the **only Russian port on the Baltic Sea** that is ice-free year round and is an important launch point for the nation's naval fleet.
- Its **strategic location prevents ships from having to circumnavigate Scandinavia by way of a northern passage**, traveling through the Arctic Ocean.

Mortara (Italy)

- The **worst drought Italy has faced in 70 years** is thirsting paddy fields in the **river Po valley** and jeopardizing the harvest of the **premium rice.**
- Italy's largest river is turning into a long stretch of sand due to the lack of rain, leaving the Lomellina rice flats — nestled between the river Po and the Alps — without the necessary water to flood the paddies.
- The lack of rainfall has brought governors of **various Italian regions to declare a state of emergency in order to conserve water** and coordinate the management of minimal resources.

Po River Basin:

- The Po River is the **longest river in Italy** (661 km)
- It **originates from Pian del Re of Monte Viso**, and flows eastward till the **Adriatic Sea near Venice.**

	<ul style="list-style-type: none"> The basin population is close to 17 million inhabitants, almost 1/3 of the population of Italy. The main land use of the Po plain is intensive agriculture. 
<p>Kremenchuk and Mykolaiv (Ukraine)</p>	<ul style="list-style-type: none"> Two Russian missiles slammed into a crowded shopping Centre in the central Ukrainian city of Kremenchuk. Russian forces struck targets in the Mykolaiv region of southern Ukraine.  <p>Source: UK MoD / Institute for the Study of War (21:00 GMT, 18 March) BBC</p>
<p>Chulliyar Dam</p>	<ul style="list-style-type: none"> Chulliyar Dam is one of the major irrigation projects in Palakkad (Kerala). Constructed in 1960, it is built across Chulliyar River, one of the tributaries of the river Gayathripuzha. Gayathripuzha is one of the main tributaries of the Bharathapuzha River, the second-longest river in Kerala, south India. The adjacent Nelliampathy Mountains multiply the charm of this locality.
<p>Aegean sea & Islands</p>	<p>In News: Turkish President has demanded Greece to demilitarize islands in the Aegean Sea</p> <ul style="list-style-type: none"> Turkey says Greece has been building a military presence in violation of treaties that guarantee the unarmed status of the Aegean islands. It argues the islands were ceded to Greece on the condition they remained demilitarized.

- Greece and Turkey are NATO allies, but the **neighboring countries have a history of disputes over a range of issues, including mineral exploration in the eastern Mediterranean and rival claims in the Aegean Sea.**

Aegean Sea

- It is an **elongated embayment of the Mediterranean Sea between Europe and Asia.**
- It is **located between the Balkans and Anatolia**, and covers an area of some 215,000 square kilometers.
- In the north, the **Aegean is connected to the Marmara Sea and the Black Sea** by the **straits of the Dardanelles and the Bosphorus.**
- The **Aegean Islands** are located within the sea and some bound it on its southern periphery



Aegean Islands:

- The Aegean Islands are the group of islands in the Aegean Sea, **with mainland Greece to the west and north and Turkey to the east**; the island of Crete delimits the sea to the south, those of Rhodes, Karpathos and Kasos to the southeast.
- The **vast majority of the Aegean Islands belong to Greece**, being split among nine administrative regions.
- The only **sizable possessions of Turkey** in the Aegean Sea are **Imbros and Tenedos** in the **northeastern part of the Sea**. Various smaller islets off Turkey's western coast are also under Turkish sovereignty.


Lake Sawa (Iraq)

In News: This year, for the first time in its centuries-long history, **Iraq Lake Sawa dried up.**

- A combination of mismanagement by local investors, government neglect and climate change has ground down its azure shores to chunks of salt.

Sawa Lake:

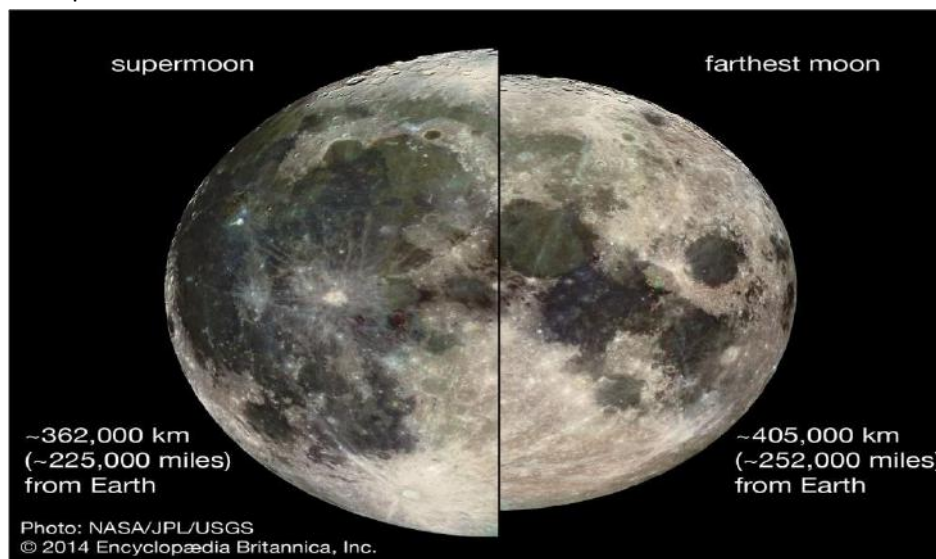
- Sawa Lake is an **endorheic basin located in the Iraqi governorate of Muthanna** near to the **Euphrates River.**

	<ul style="list-style-type: none"> This lake has no inlet or outlet, but it draws water from the Euphrates through a system of joint cracks and fissures which transport water to aquifers beneath it. Because of its saline water, no plants grow in the lake or on its shores. Fish and algae are the most important aquatic organisms.
Snake Island and the Black Sea	<p>Context: Ukraine has caused “significant losses” to the Russian military in airstrikes on Zmiinyi Island, also known as Snake Island, in the Black Sea.</p> <p>Strategic island:</p> <ul style="list-style-type: none"> Zmiinyi Island, also known as Snake or Serpent Island, is a small piece of rock less than 700 metres from end to end, that has been described as being “X-shaped”. Located 35 km from the coast in the Black Sea, to the east of the mouth of the Danube and roughly southwest of the port city of Odessa. The island, which has been known since ancient times and is marked on the map by the tiny village of Bile that is located on it, belongs to Ukraine. <p>Black Sea:</p> <ul style="list-style-type: none"> The Black Sea, also known as the Euxine Sea, is one of the major water bodies and a famous inland sea of the world. The Black Sea is also connected to the Sea of Azov by the Strait of Kerch. <p>The famed water body bound by</p> <ul style="list-style-type: none"> Ukraine to the north and northwest Crimea in the north Russia and Georgia to the east Turkey to the south, and Bulgaria and Romania to the west, which links to the Sea of Marmara through the Bosphorus and then to the Aegean through the Dardanelles It is the largest water body with a meromictic basin. It means the movement of water between the lower and upper layers of the sea is a rare phenomenon which is also responsible for its Anoxic Water (significant absence of oxygen in the water). 

Supermoon

In News: The Super moon was seen worldwide in different time zones

- A super moon occurs when the Moon's orbit is closest to the Earth at the same time that the Moon is full.
- As the Moon orbits the Earth, there is a point of time when the distance between the two is the least (perigee).
- Also, there is a point of time when the distance is the most (apogee)
- Now, when a full moon appears at the point when the distance between the Earth and the Moon is the least, not only does it appear to be brighter but it is also larger than a regular full moon.
- In a typical year, there may be two to four full super moons and two to four new super moons in a row.



Lightning

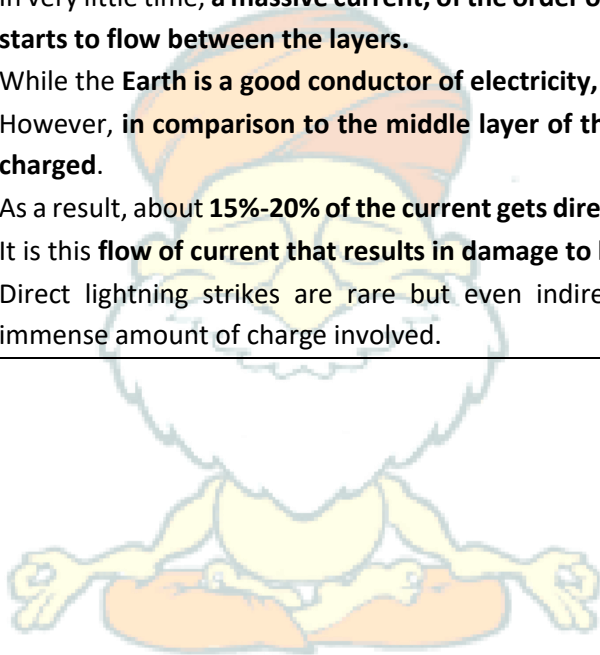
Context: Several deaths are being reported due to lightning across India

- Of all the atmospheric phenomena, lightning perhaps is the most dangerous and mysterious.
- In India, lightning kills about 2,000-2,500 people every year.

What is lightning?

- Scientifically, lightning is a rapid and massive discharge of electricity in the atmosphere some of which is directed towards earth.
- The discharges are generated in giant moisture-bearing clouds that are 10-12 km tall.
- The base of these clouds typically lies within 1-2 km of the Earth's surface, while the top is 12-13 km away.
- Temperatures in the top of these clouds are in the range of -35° to -45°C .
- As water vapour moves upward in the cloud, the falling temperature causes it to condense.
- As they move to temperatures below 0°C , the water droplets change into small ice crystals.

- They continue to move up, gathering mass until they are so heavy that they start to fall to Earth.
- This leads to a system in which, **simultaneously, smaller ice crystals are moving up and bigger crystals are coming down.**
- **Collisions follow and trigger the release of electrons**, a process that is very similar to the generation of sparks of electricity.
- As the moving free electrons cause more collisions and more electrons, **a chain reaction ensues.**
- This process **results in a situation in which the top layer of the cloud gets positively charged, while the middle layer is negatively charged.**
- The **electrical potential difference between the two layers is huge**, of the order of a billion to 10 billion volts.
- In very little time, **a massive current, of the order of 100,000 to a million amperes, starts to flow between the layers.**
- While the **Earth is a good conductor of electricity**, it is electrically neutral.
- However, **in comparison to the middle layer of the cloud**, it becomes **positively charged.**
- As a result, about **15%-20% of the current gets directed towards the Earth as well.**
- It is this **flow of current that results in damage to life and property on Earth.**
- Direct lightning strikes are rare but even indirect strikes are fatal given the immense amount of charge involved.





ENVIRONMENT

**Valmiki Tiger Reserve**

In News: The forest department of Bihar has established an elephant rescue center at Bihar's Valmiki Tiger Reserve (VTR) to rehabilitate stray, abandoned and injured elephants

- VTR is spread over 899 square kilometers in West Champaran district, with Nepal to its north and Uttar Pradesh to its west.
- VTR provides the perfect atmosphere for elephant habitation.
- Several elephants stray into VTR from neighboring Chitwan National Park in Nepal

Valmiki Tiger Reserve:

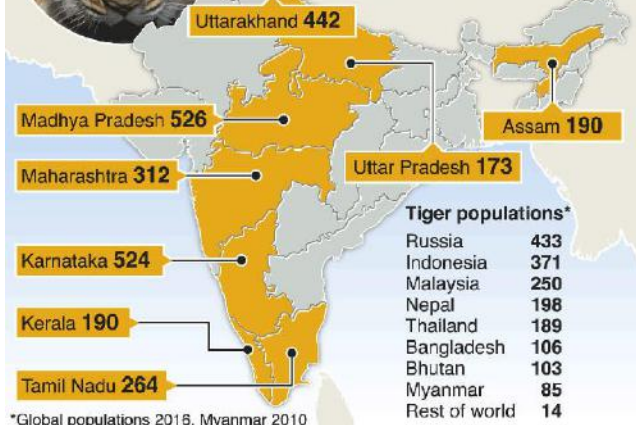
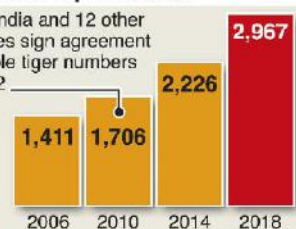
- Valmiki Tiger Reserve is the **only tiger reserve in Bihar and forms the easternmost limit of India's Himalayan Terai forests.**
- The forest contains a **mix of bhabar and terai tracts** and is located in the **Gangetic Plains bio-geographic zone.**
- The **Valmiki Wildlife Sanctuary and National Park** is the country's 18th Tiger Reserve. Valmiki National Park and Valmiki Wild Sanctuary make up the **Valmiki Tiger Reserve.**
- The tiger reserve **shares a border with Nepal's Chitwan National Park.**
- The park is **bisected by two rivers: the Gandak and the Masan River.**
- It enters India at Valmikinagar, where it is joined by two rivulets, Sonha and Pachnad, to form the holy Triveni confluence.
- A **diverse range of flora and fauna** can be found in the Valmiki National Park. **Moisture-bearing Sal forests, dry-bearing Sal forests, moist mixed deciduous forests without Sal,**

India is home to 2,967 tigers

The total number of tigers in India stands at 2,967, or more than 70 percent of the wild tigers that inhabit the world, according to the All India Tiger Estimation Report for 2018

India's tigers (states with highest populations)

2010: India and 12 other countries sign agreement to double tiger numbers by 2022

**Tiger populations***

Russia	433
Indonesia	371
Malaysia	250
Nepal	198
Thailand	189
Bangladesh	106
Bhutan	103
Myanmar	85
Rest of world	14


*Global populations 2018, Myanmar 2010

Source: All India Tiger Estimation Report







Picture: Getty Images

© GRAPHIC NEWS

	<p>cane, and tropical seasonal swamp forests with reed beds and wet grasslands make up the park.</p> <ul style="list-style-type: none"> • Fauna includes - Mammals: tiger, rhinoceros, black bear, leopard, wild dog, wild buffalo, wild boar, hyena, leopard cat, wild cat, etc.
Deepor Beel	<p>In News: Assam's Deepor Beel is perishing from concretization and waste dumping.</p> <ul style="list-style-type: none"> • Deepor Beel has shrunk around 35 per cent in size since 1991. <p><u>What's happening?</u></p> <ul style="list-style-type: none"> • Threatened habitats, littered lake: <ul style="list-style-type: none"> ○ A 24-hectare garbage dumping yard lies to the east of the lake in Boragaon. Birds and animals feed on rotten flesh and waste from the site, littering the waterbody and threatening their lives. ○ Concrete factories, houses and warehouses built illegally on the wetland. • <u>Rail track impacts wildlife</u> <ul style="list-style-type: none"> ○ A railway line passing through the bird sanctuary has also been posing a danger to the wildlife in and around the lake. ○ At least 14 jumbos were killed crossing the railway track till 2014 between Rani Reserve Forest and Deepor Beel. • <u>Lost livelihoods</u> <ul style="list-style-type: none"> ○ The deterioration of the lake harmed the livelihoods of several hundred fishers who have depended on it for generations. The government has banned fishing in the core area of the lake. ○ Discharge from a local oil refinery has been further polluting the water and inducing kerosene-like smell in the fish <p><u>Deepor Beel:</u></p> <ul style="list-style-type: none"> • It is one of the largest freshwater lakes in Assam and the State's only Ramsar site besides being an Important Bird Area. • It is located towards the southwest of Guwahati city, Assam and is the erstwhile water channel of River Brahmaputra.
National Chambal sanctuary	<p>In News: To end illegal mining, Madhya Pradesh plans to make it (mining) legal in parts of Chambal sanctuary</p> <ul style="list-style-type: none"> • To free its forest department from devoting too much time, resources, and efforts in fighting illegal mining in the National Chambal Sanctuary, the Madhya Pradesh government has proposed to open 292 hectares for mining in five stretches on Chambal and its tributary Parvati rivers. • Sand mining has been banned in the sanctuary since 2006. <p><u>National Chambal sanctuary:</u></p> <ul style="list-style-type: none"> • The National Chambal Sanctuary was set up in 1979 as a riverine sanctuary along an approximately 425 km length of the Chambal River and its ravines stretching over 2-6 km wide along the river.

	<ul style="list-style-type: none"> National Chambal Sanctuary is the main area for the species reintroduction program of the crocodilian species Gavialis gangeticus (Gharial). National Chambal Sanctuary is lying in three states of Madhya Pradesh, Uttar Pradesh and Rajasthan. Chambal supports the largest population of Gharials in the wild. One of the few places to spot the Platanista gangetica - Gangetic Dolphins. The National Chambal Sanctuary is listed as an important bird area. Chambal supports more than 320 resident and migrant birds.
Fishing Cat Survey	<p>In News: World's first fishing cat census was conducted by Chilika Development Authority (CDA) in collaboration with The Fishing Cat Project (TFCP)</p> <ul style="list-style-type: none"> This is the world's first population estimation of the fishing cat, which has been conducted outside the protected area network. The Chilika Lake, Asia's largest brackish water lagoon, has 176 fishing cats. <p>Fishing Cat:</p> <ul style="list-style-type: none"> It is about twice the size of a typical house cat. Scientific Name: Prionailurus viverrinus The fishing cat is an adept swimmer and enters water frequently to hunt. Habitat: Wetlands are the favorite habitats of the fishing cat. In India, fishing cats are mainly found in the mangrove forests of the Sundarbans, on the foothills of the Himalayas along the Ganga and Brahmaputra river valleys and in the Western Ghats. The fishing cat is nocturnal and apart from fish also preys on frogs, crustaceans, snakes, birds, and scavenges on carcasses of larger animals. It is capable of breeding all year round It is a state animal of West Bengal  <p>Protection Status</p> <ul style="list-style-type: none"> IUCN Red List: Endangered CITES: Appendix II Wildlife (Protection) Act, 1972: Schedule I <p>Chilika Lake:</p> <ul style="list-style-type: none"> Chilika is Asia's largest and world's second largest lagoon. It is located in Odisha, India.

	<ul style="list-style-type: none">• In 1981, Chilika Lake was designated the first Indian wetland of international importance under the Ramsar Convention.• Major attraction at Chilika is Irrawaddy dolphins which are often spotted off Satapada Island.• The large Nalabana Island (Forest of Reeds) covering about 16 sq km in the lagoon area was declared a bird sanctuary in 1987.• Chilika Lake hosts birds migrating from thousands of miles away from the Caspian Sea, Lake Baikal, Aral Sea, remote parts of Russia, Kirghiz steppes of Mongolia etc.						
Reintroduction of Cheetahs	<p>Context: The Union Environment Ministry stated that India is set to bring cheetahs from South Africa to Madhya Pradesh’s Kuno-Palpur National Park by August this year.</p> <ul style="list-style-type: none">• The cheetah is the only large carnivore to have gone extinct in India, primarily due to hunting and habitat loss.• In 1952, the Indian government officially declared the Cheetah extinct in the country. <p><u>Extinction Causes:</u></p> <p>Hunting with the cheetahs</p> <ul style="list-style-type: none">• For centuries, hunting was a favored activity for royalty in India.• The cheetah, which was relatively easy to tame and less dangerous than tigers, was frequently used by Indian nobility for sport-hunting.• Emperor Akbar, who reigned from 1556-1605, was particularly fond of the activity and is recorded to have collected 9,000 cheetahs in total.• The capture of wild cheetahs for hunting and the difficulty to breed them in captivity was leading to a decline in the cheetah population, even before the entry of the British. <p><u>Near extinction under the British Raj</u></p> <ul style="list-style-type: none">• While tigers were the choice animals for the British hunters, Indian and British “sport” hunters also targeted cheetahs.• There is evidence to suggest that British officials considered the animal as “vermin” and also distributed monetary rewards for the killing of cheetahs from at least 1871 onwards.						
	<table><tr><th>Features</th><th>Asiatic Cheetah</th><th>African Cheetah</th></tr><tr><td>Physical Characteristics</td><td>Smaller and paler. Have smaller head and a longer neck. Usually have red eyes and they have a more cat-like appearance.</td><td>Bigger in size as compared to Asiatic Cheetah.</td></tr></table>	Features	Asiatic Cheetah	African Cheetah	Physical Characteristics	Smaller and paler. Have smaller head and a longer neck. Usually have red eyes and they have a more cat-like appearance.	Bigger in size as compared to Asiatic Cheetah.
	Features	Asiatic Cheetah	African Cheetah				
	Physical Characteristics	Smaller and paler. Have smaller head and a longer neck. Usually have red eyes and they have a more cat-like appearance.	Bigger in size as compared to Asiatic Cheetah.				

	Image		
	Distribution	Around 40-50 found only in Iran.	Around 6,500-7,000 African cheetahs present in the wild.
	Status	IUCN status: Critically Endangered CITES: Appendix-I of the List	IUCN status: Vulnerable CITES: Appendix-I of the List
The world's largest plant	<p>In News: The world's largest plant has recently been discovered off the West Coast of Australia: a seagrass 180 km in length.</p> <ul style="list-style-type: none"> The ribbon weed, or <i>Posidonia australis</i>, has been discovered in Shark Bay by a group of researchers These researchers have also found that the plant is 4,500 years old, is sterile, has double the number of chromosomes than other similar plants, and has managed to survive the volatile atmosphere of the shallow Shark Bay. <p>Plant's Size</p> <ul style="list-style-type: none"> The ribbon weed covers an area of 20,000 hectares. The next on the podium, the second largest plant, is the clonal colony of a quaking Aspen tree in Utah, which covers 43.6 hectares. The largest tree in India, the Great Banyan in Howrah's Botanical Garden, covers 1.41 hectares. 		
	<p>EXPRESS explained.</p> <div> <p>THE PLANT IS LONG enough to stretch for a distance longer than between Mumbai and Pune</p>  </div> <div> <p>SIZE</p> <div>  <p>The ribbon weed covers an area of 20,000 HECTARES</p> </div> <div>  <p>The second largest plant is the clonal colony of a quaking Aspen tree in Utah, which covers 43.6 HECTARES</p> </div> <div>  <p>The largest tree in India, the Great Banyan in Howrah's Botanical Garden, covers 1.41 HECTARES</p> </div> </div>		

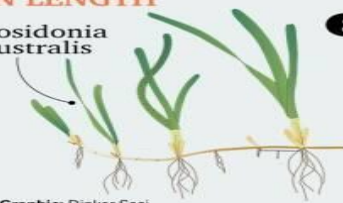
EXPRESS explained.

A 4,500-YEAR OLD PLANT, SPREAD OVER 20,000 FOOTBALL FIELDS

The world's largest plant has recently been discovered off the West Coast of Australia: a seagrass

180 km
IN LENGTH

Posidonia australis



Graphic: Dinkar Sasi



SHARK BAY



AUSTRALIA

The ribbon weed, *Posidonia australis*, has been discovered in Shark Bay by a group of researchers from Flinders University and The University of Western Australia

- Just one plant has expanded over 180km in Shark Bay, making it the largest known plant on earth.

How did it grow, and survive for, so long?

- The researchers found that the **ribbon weed cannot spread its seeds**, something that helps plants overcome environmental threats.
- The ribbon weed has **managed to survive environmental threats - a part of the reason may be that it is a polyploid** – instead of taking half-half genome from both parents, it took 100 per cent.
- **Polyploid plants often reside in places with extreme environmental conditions**, are often sterile, but can continue to grow if left undisturbed, and this giant sea grass has done just that.

Sea grass:

- These are **flowering plants that grow submerged in shallow marine waters like bays and lagoons**.
- These have **tiny flowers and strap-like or oval leaves**.
- Sea grasses evolved from **terrestrial plants that colonised the ocean 70-100 million years ago**.
- Like terrestrial plants, sea grasses also **require sunlight for photosynthesis** from which these manufacture their own food and release oxygen.

Reproduction:

- **Sexual Reproduction Method:** The pollen from the flower of the male plant is transferred to the ovary of the female flower through this method.
- **Asexual Reproduction Method:** Sea grasses can also reproduce asexually by branching off at their rhizomes.

	<p>Significance:</p> <ul style="list-style-type: none"> • Sea grasses are considered 'Ecosystem Engineers' as they are known for providing many ecosystem services and are also called 'the lungs of the sea' as they release oxygen into the water through photosynthesis. • Sequesters up to 11% of the organic carbon buried in the ocean even though they occupy only 0.1% of the ocean floor and absorb 83 million tons of carbon from the atmosphere annually. • Sea grasses can capture carbon from the atmosphere up to 35 times faster than tropical rainforests. • Help maintain water quality by trapping fine sediments and suspended particles in the water column and increase water clarity. • Filter nutrients released from land-based industries before they reach sensitive habitats like coral reefs. • Prevent soil erosion as the extensive vertical and horizontal root systems of sea grasses stabilize the sea bottom. • Provide food as well as habitat for fishes, octopuses, shrimp, blue crabs, oysters, etc. • Endangered marine organisms like dugong (Sea Cow), green turtle, etc., graze directly on sea grass leaves.
Environment Performance Index	<p>In News: Environment Performance Index-2022, an international ranking system that measures environmental health and sustainability of countries.</p> <p>India's Performance:</p> <ul style="list-style-type: none"> • India was ranked last among 180 countries that have been ranked. • With a score of 18.9, India's 180th ranking comes after Pakistan, Bangladesh, Vietnam and Myanmar — the bottom five together make up the poorest performing countries for environmental health. • India has also scored low on rule of law, control of corruption and government effectiveness • India was ranked 168th in EPI-2020, with a score of 27.6 <p>About EPI:</p> <ul style="list-style-type: none"> • The EPI, a biennial index, was started in 2002 as Environmental Sustainability Index. • EPI is published by the World Economic Forum in collaboration with the Yale Center for Environmental Law and Policy and the Columbia University Center for International Earth Science Information Network • Using 40 performance indicators across 11 issue categories, EPI ranks 180 countries on climate change performance, environmental health, and ecosystem vitality. • Top five rank holders: Denmark, UK, Finland, Malta and Sweden

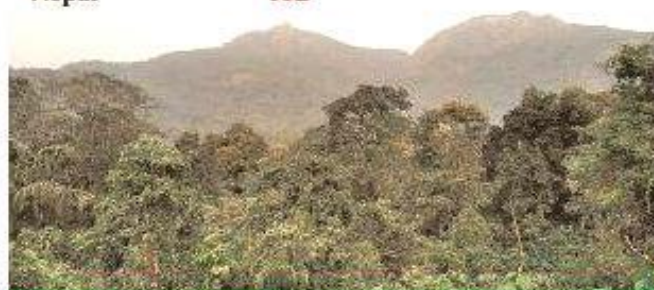
Findings of the report:

- It has found that good policy results are associated with wealth, meaning economic prosperity makes it possible for nations to invest in policies and programs that lead to desirable outcomes
- This is especially true under environmental health, as building the necessary infrastructure to provide clean drinking water and sanitation, reduce air pollution, control hazardous waste etc., yields large returns for human well-being

ENVIRONMENT PERFORMANCE INDEX

NEIGHBOURHOOD: WHERE INDIA STANDS

Afghanistan	81	Pakistan	176
Sri Lanka	132	Bangladesh	177
China	160	India	180
Nepal	162		



TOP5: Denmark, UK, Finland, Malta, Sweden

SOME KEY INDICATORS, AND INDIA

■ Biodiversity	179	■ Green House Gas emissions	171
■ Protected Areas	177	■ Biodiversity habitat index	170
■ Species Protection Index	175	■ PM 2.5	174
■ Air Quality	179	■ Waste management	151
■ Climate Policy	165		
■ Ecosystem vitality	178		

- The report says that top-performing countries have paid attention to all areas of sustainability, while their lagging peers tend to have uneven performance.
- It highlights that countries making concerted efforts to decarbonize their electricity sectors have made the greatest gains in combating climate change, with associated benefits for ecosystems and human health.

Carbon bombs

- **In News:** A group of environmentalists, lawyers, and activists have come together to identify and 'defuse carbon bombs'— coal, oil and gas projects that have the potential to contribute significantly to global warming.
- The usage of the term 'carbon bombs' picked up after an investigative project of The Guardian
- The project reported the plans of countries and private companies all over the world to engage in 195 'carbon bomb' projects.

- Each such project, will release **huge amounts of CO2 emissions** into the atmosphere.

What are carbon bombs?

- It is an **oil or gas project** that will result in **at least a billion tonnes of CO2 emissions** over its lifetime.
- Whenever **coal, oil, or gas is extracted** it results in **pollution and environmental degradation**.
- In total, around 195 such projects have been identified world over, **including in the US, Russia, West Asia, Australia and India**.
- These projects will collectively overshoot the limit of emissions that had been agreed to in the Paris Agreement of 2015.

What does the investigation say?

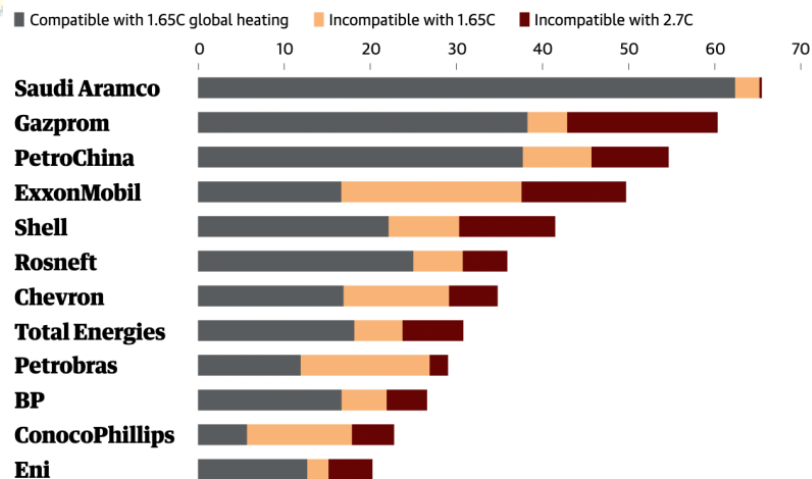
- More than **60% of these carbon bomb projects are already underway**
- Apart from coal, oil, and gas operations, the report highlighted the **threat of methane, which routinely leaks from gas operations and is a powerful greenhouse gas**, trapping 86 times more heat than CO2 over 20 years.

What is the plan for 'defusing' carbon bombs?

- The network working towards this goal is called **Leave It in the Ground Initiative (LINGO)**.
- Its mission is to leave fossil fuels in ground and learn to live without them.
- It believes the root of climate change is the burning of fossil fuels, and **the 100% use of renewable energy sources is the solution**.
- LINGO aims to organize ground support for protesting such projects, challenge them through litigation, and conduct analysis and studies.

Major companies plan to spend many millions a day to 2030 on exploiting new oil and gas

Capital expenditure per day 2021-2030, \$m



Guardian graphic. Source: Carbon Tracker Initiative / Rystad Energy

Eco-sensitive zone (ESZ)

In News: Protest is **mounting in the hilly regions of Kerala** against the Supreme Court direction that every protected forest tract and wildlife sanctuary must have **an eco-sensitive zone (ESZ) of one kilometer from its boundaries**.

Background:

- A three-judge bench of the apex court **directed all states to leave a mandatory eco-sensitive zone of one kilometer** from the boundaries of national parks, wildlife sanctuaries and other protected forest land.

Concerns:

- The total extent of the wildlife sanctuaries in Kerala is eight lakh acres.
- If one km of ESZs is demarcated from their boundaries, around 4 lakh acres of human settlements, including farmlands, would come within that purview.

What are Eco-Sensitive Zones (ESZs)?

- Eco-Sensitive Zones or Ecologically Fragile Areas are **areas within 10 kms around Protected Areas, National Parks and Wildlife Sanctuaries**.
- ESZs are **notified by MoEFCC, Government of India under Environment Protection Act 1986**.
- **In case of places with sensitive corridors**, connectivity and ecologically important patches, crucial for landscape linkage, even **area beyond 10 km width can also be included in the eco-sensitive zone**.
- The basic aim is to **regulate certain activities around National Parks and Wildlife Sanctuaries so as to minimize the negative impacts** of such activities on the fragile ecosystem encompassing the protected areas.

Activity Regulation in ESZs:

- **Prohibited activities:** Commercial mining, saw mills, industries causing pollution, establishment of major hydroelectric projects (HEP), commercial use of wood, Tourism activities like hot-air balloons over the National Park, discharge of effluents or any solid waste or production of hazardous substances.
- **Regulated activities:** Felling of trees, establishment of hotels and resorts, commercial use of natural water, erection of electrical cables, drastic change of agriculture system, e.g. adoption of heavy technology, pesticides etc., widening of roads.

- **Permitted activities:** Ongoing agricultural or horticultural practices, rainwater harvesting, organic farming, use of renewable energy sources, and adoption of green technology for all activities.



Four new corals recorded from Indian waters

In News: Scientists have recorded **four species of azooxanthellate corals** for the first time from Indian waters.

- These new corals were **found from the waters of Andaman and Nicobar Islands**.
- **Azooxanthellate corals** are a group of corals that do not contain zooxanthellae and **derive nourishment** not from the sun but **from capturing different forms of plankton**.
- These groups of corals are **deep-sea representatives**, with the majority of species reporting from **between 200m to 1000m**.
- **Their occurrences are also reported from shallow coastal waters**. Zooxanthellate corals, meanwhile, are restricted to shallow waters.
- All the four groups of corals are from the **same family Flabellidae**.
- Truncatoflabellum crassum, T. incrustatum, T. aculeatum and T. irregulare
- Under the family Flabellidae were **previously found from Japan to the Philippines and Australian waters** while only **T. crassum** was reported within the range of **Indo-West Pacific** distribution including the Gulf of Aden and the Persian Gulf.

- **Azooxanthellate corals are a group of hard corals** and the four new records are not only solitary but have a highly compressed skeletal structure.



Hard corals:

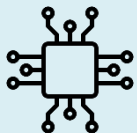
- Hard corals **grow in colonies** and are often **referred to as “reef-building corals.”**
- Hard corals **create skeletons out of calcium carbonate**, a hard substance that eventually becomes rock.
- Overtime, this rock builds up to form the foundation of a coral reef and provides a structure upon which baby corals can settle.
- Hard corals can be further **separated into two sub-groups.**

Zooxanthellate

- **The zooxanthellate (reef-building or hermatypic) corals are ones that depend on zooxanthellae algae for nutrients.**
- These shallow water corals have a **major reef-building function.**
- They are **generally found in clear water less than 50 meters deep** as the **algae need light for photosynthesis.**

Azooxanthellate:

- The azooxanthellate (deep water or ahermatypic) corals **do not contain zooxanthellae** and therefore gain their **nutrition solely from filtering plankton from seawater.**
- These **isolated, solitary or colonial forms rarely build big constructions.**



SCIENCE & TECHNOLOGY



CAPSTONE	<p>In News: NASA's new satellite will test a unique lunar orbit that will be used by future missions.</p> <ul style="list-style-type: none"> NASA launched CAPSTONE, a microwave oven-sized CubeSat weighing just 55 pounds (25 kg). CAPSTONE, short for Cislunar Autonomous Positioning System Technology Operations and Navigation Experiment, is designed to test a unique, elliptical lunar orbit. The satellite, launched on Rocket Lab's Electron rocket, is heading toward an orbit intended in the future for Gateway, a Moon-orbiting outpost that is part of NASA's Artemis program. CAPSTONE aims to help reduce risk for future spacecraft by validating innovative navigation technologies, and by verifying the dynamics of the halo-shaped orbit. The orbit is known as a near-rectilinear halo orbit (NRHO). It is significantly elongated, and is located at a precise balance point in the gravities of Earth and the Moon. This offers stability for long-term missions like Gateway. <p>Artemis mission:</p> <ul style="list-style-type: none"> NASA's Artemis mission is the next generation of lunar exploration, and is named after the twin sister of Apollo from Greek mythology. With the Artemis program, NASA aims to land humans on the moon by 2024, and it also plans to land the first woman and first person of color on the moon. NASA will establish an Artemis Base Camp on the surface and a gateway (the lunar outpost around the Moon) in lunar orbit to aid exploration by robots and astronauts. Artemis II will be the first crewed flight test and is targeted for 2023. Artemis III will land astronauts on the Moon's South Pole in 2024.
Astra Mk-1	<p>In News: The Ministry of Defense signed a contract with the Hyderabad-based public-sector Bharat Dynamics Ltd (BDL) for supply of the Astra Mark-1, for deployment on fighter jets of the Indian Air Force and Indian Navy.</p> <p>Astra Mk-1</p> <ul style="list-style-type: none"> The Astra Mk-1 is a beyond visual range (BVR), air-to-air missile (AAM). Beyond Visual Range Air-to-Air Missile (BVRAAM) technology enables the fighter-pilots to shoot precisely at the enemy targets which are beyond their visual range. The missile has been designed and developed by the Defence Research and Development Organisation (DRDO) for deployment on fighter jets like Sukhoi-30 MKI and Tejas of the IAF and the Mig-29K of the Navy. Range: While the range for Astra Mk-1 is around 110 km, the Mk-2 with a range over 150 km is under development.

- **Speed:** The missile can travel at speeds more than four times that of sound and can reach a maximum altitude of 20 km, making it extremely flexible for air combat.



Strategic significance:

- The missile has been **designed based on requirements specified by the IAF** for BVR as well as close-combat engagement, **reducing the dependency on foreign sources.**
- AAMs with BVR capability provides large stand-off ranges to own fighter aircraft.
- Astra is technologically and economically superior to many such imported missiles and has met all parameters.
- The successful test reaffirms India's policy of having a '**Credible Minimum Deterrence**' Capability.

Agni-4

Agni-IV

- Agni-IV is the fourth in the Agni series of missiles which was earlier known as Agni II prime. Agni-IV bridges the gap between Agni II and Agni III.
- **CLASS: Intermediate-range ballistic missile (IRBM)**
- **It is surface to surface missile.**
- **WARHEAD: Nuclear or conventional.**
- **RANGE: 3,000 – 4,000 km.**
- **PROPULSION: Two-stage solid propellant.**
- **PAYLOAD: 1,000 kg.**

BrahMos

Context: On June 12, 2001, the BrahMos supersonic cruise missile was first tested from a land-based launcher in Chandipur.

- In the 21 years since, BrahMos has been upgraded several times, with versions tested on land, air and sea platforms.
- **An Inter-Governmental Agreement was signed with Russia in Moscow in 1998 by Dr Kalam, who headed the DRDO and N V Mikhailov, Russia's then Deputy Defence Minister.**
- This led to the formation of **BrahMos Aerospace**, a joint venture between DRDO and NPO Mashinostroyenia (NPOM), the Indian side holding 50.5% and the Russians 49.5%.


	<p><i>The missile system has since reached some key milestones, with the first major export order of \$375 million received from the Philippines Navy this year.</i></p> <p>About BrahMos:</p> <ul style="list-style-type: none"> • BrahMos is named on the rivers Brahmaputra and Moskva. • Multiplatform Missile: it can be launched from land, air, and sea and multi capability missile with pinpoint accuracy that works in both day and night irrespective of the weather conditions. • BrahMos is a two-stage missile with a solid propellant booster engine. • The missile has a very low radar signature, making it stealthy, and can achieve a variety of trajectories. • Fire and Forget Principle: It operates on the “Fire and Forget” principle i.e. it does not require further guidance after launch. • Cruise missiles such as BrahMos, called “standoff range weapons”, are fired from a range far enough to allow the attacker to evade defensive counter-fire. • The BrahMos has three times the speed, 2.5 times flight range and higher range compared to subsonic cruise missiles. • With missiles made available for export, the platform is also seen as a key asset in defense diplomacy.
Prithvi-II	<p>In News: India successfully test-fired it’s indigenously developed nuclear capable Prithvi-II missile.</p> <p><u>Prithvi missile</u></p> <ul style="list-style-type: none"> • Prithvi is a tactical surface-to-surface short-range ballistic missile (SRBM) developed by Defence Research and Development Organisation (DRDO) of India under the Integrated Guided Missile Development Program (IGMDP). • The Prithvi missile project encompassed developing three variants for use by the Indian Army, Indian Air Force and the Indian Navy. <ul style="list-style-type: none"> ○ Prithvi I – Army version (150 km range with a payload of 1,000 kg) ○ Prithvi II – Air Force version (350 km range with a payload of 500 kg) ○ Prithvi III – Naval version (350 km range with a payload of 1,000 kg) • Prithvi II class is also a single-stage liquid-fueled missile having a maximum warhead mounting capability of 500 kg, with an extended range of 250 km • The state-of-the-art missile uses advanced inertial guidance system with maneuvering trajectory to hit its target.

C

Prithvi-II Twin Trial Successful

India has once again successfully test-fired its indigenously developed nuclear capable Prithvi II missile twice in quick succession from a test range at Chandipur in Odisha

- Length: **8.56 m** ● Diameter: **110 cm** ● Payload: **500-1000 kg**
- Propulsion: **Single stage, twin engine—liquid** ● Range: **350 km**
- Launch platform: **Mobile** ● Warheads: **Conventional and Nuclear**
- Inducted into India's armed forces: **2003** ● Earlier successful twin trail: **Oct 12, 2009**



KBK Infographics

catchnews

VL-SRSAM

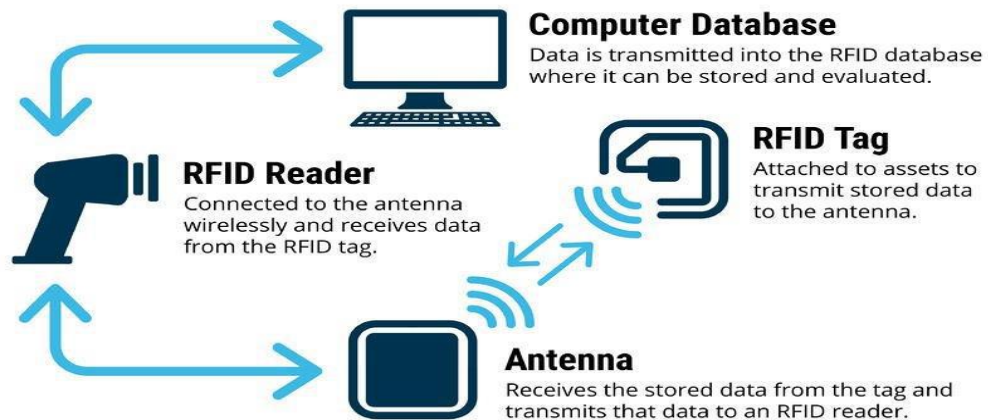
In News: India has successfully flight-tested the Vertical Launch Short Range Surface to Air Missile (VL-SRSAM) from a ship at Integrated Test Range (ITR), Chandipur, off the coast of Odisha.

About VL-SRSAM

- The VL-SRSAM, a ship-borne weapon system, is meant for neutralizing various aerial threats at close ranges, including sea-skimming targets.
- The weapon system will prove to be a force-multiplier for the Indian Navy.
- Designed to strike at the high-speed airborne targets at the range of 40km to 50km and at an altitude of around 15km.
- Two key features of the VL-SRSAM are cruciform wings and thrust vectoring.

	<ul style="list-style-type: none"> VL-SRSAM is a canisterised system, which means it is stored and operated from specially designed compartments. In the canister, the inside environment is controlled, thus making its transport and storage easier and improving the shelf life of weapons.
Iskander-M missile system	<p>In news: Russia has promised its ally Belarus delivery of nuclear- capable missiles in the coming months to take on an “aggressive” West.</p> <p><u>What is the Iskander-M missile system?</u></p> <ul style="list-style-type: none"> Codenamed “SS-26 Stone” by NATO, Iskander-M is a term used by Russia to define both the transporter-erector launch system and the short-range ballistic missile (SRBM) it fires. The system can also fire ground-launched cruise missiles (GLCMs). The Iskander-M system has been exclusively used by the Russian military, whereas Iskander-E is the one meant for export. <p><u>What is the missile’s capability and range?</u></p> <ul style="list-style-type: none"> The Iskander-M missile has a range of 500 km and it can carry a payload of up to 700 kg. It is capable of carrying both conventional and nuclear warheads. The conventional warheads can be equipped with include cluster bombs, electromagnetic pulse (EMP) warheads and bunker-buster munitions. The export variant, Iskander-E, has a range of 280 km with a reduced 480 kg payload.
Barcodes and Radio-frequency identification tags	<p>In News: Baggage tags equipped with radio-frequency identification (RFID) will soon be available at Delhi’s Indira Gandhi International Airport, marking a first of its kind for the country.</p> <p><u>What is Radio-frequency identification (RFID) technology?</u></p> <ul style="list-style-type: none"> RFID is a wireless tracking method that uses tags and readers to track. Transponder, receiver, and transmitter are the three components of an RFID system. The RFID reader continually sends radio waves of a specific frequency in RFID system. If the object to which the RFID tag is attached is within the range of the radio waves, it provides feedback to the RFID reader, which then identifies the object based on the feedback

Basic RFID System



What is a barcode?


- A barcode is a **printed series of parallel bars** or lines of **varying width** used for **entering data into a computer system**.
- The bars are black on a white background and vary in width and quantity depending on the application.
- **The bars represent the binary digits zero and one, which represent the digits zero to nine processed by a digital computer.**
- These barcodes are **scanned using special optical scanners known as barcode readers**
- One of the most well-known examples of a barcode is the QR code.

Radio-frequency identification (RFID) technology Vs barcodes

- RFID uses radio waves to communicate data from RFID chips to readers that do not require line of sight in order to obtain the data, whereas barcodes use light to read the black-and-white pattern printed on the sticky tag.
- An RFID tag can communicate with a powered reader even when the tag is not powered.
- When printed on paper or sticky labels, barcodes are more susceptible to wear and breakage, which can affect their readability. RFID tags, on the other hand, are sometimes placed in plastic labels or into the object itself, making them more durable than barcodes.
- **In contrast to barcode scanners, RFID scanners can process dozens of tags in a single second. Also, barcodes are simple and easy to copy or counterfeit, whereas RFID is more complicated and difficult to replicate or counterfeit.**
- RFID tags are expensive compared to barcodes.

Is RFID enhanced version of barcode?

	<ul style="list-style-type: none"> When it comes to speed, there is a noticeable difference between barcodes and RFID. This is because barcodes must be read manually, making them more susceptible to human error and more difficult to evaluate their accuracy. However, RFID's accuracy may be compromised if the tags are applied to metals or liquid. Since RFID frequencies can be transmitted over greater distances than barcode frequencies, there is also concern that RFID technology raises data protection issues, resulting in personal information becoming accessible without consent.
Direct-2-Mobile technology	<p>In News: The Department of Telecommunications (DoT) and India's public service broadcaster Prasar Bharati are exploring the feasibility of a technology that allows to broadcast video and other forms of multimedia content directly to mobile phones, without needing an active internet connection.</p> <ul style="list-style-type: none"> The technology, called 'direct-to-mobile' (D2M) broadcasting, promises to improve consumption of broadband and utilization of spectrum. <p><u>What is direct-to-mobile broadcasting?</u></p> <ul style="list-style-type: none"> The technology is based on the convergence of broadband and broadcast, using which mobile phones can receive terrestrial digital TV. It would be similar to how people listen to FM radio on their phones, where a receiver within the phone can tap into radio frequencies. Using D2M, multimedia content can also be beamed to phones directly. The idea behind the technology is that it can possibly be used to directly broadcast content related to citizen-centric information and can be further used to counter fake news, issue emergency alerts and offer assistance in disaster management, among other things. It can be used to broadcast live news, sports etc. on mobile phones. More so, the content should stream without any buffering whatsoever while not consuming any internet data. <p><u>What could be the consumer and business impact of this?</u></p> <p>For consumers:</p> <ul style="list-style-type: none"> A technology like this would mean that they would be able to access multimedia content from Video on Demand (VoD) or Over the Top (OTT) content platforms without having to exhaust their mobile data, at a nominal rate. The technology will also allow people from rural areas, with limited or no internet access, to watch video content. <p>For businesses:</p> <ul style="list-style-type: none"> One of the key benefits of the technology is that it can enable telecom service providers to offload video traffic from their mobile network onto the broadcast network, thus helping them to decongest valuable mobile spectrum. This will also improve usage of mobile spectrum and free up bandwidth which will help reduce call drops, increase data speeds etc. <p><u>What is the government doing to facilitate D2M technology?</u></p>

	<ul style="list-style-type: none"> The DoT has set up a committee to study the feasibility of a spectrum band for offering broadcast services directly to users' smartphones. Public service broadcaster Prasar Bharati had last year announced collaboration with IIT Kanpur to test the feasibility of the technology.
Electric Vertical Takeoff and Landing (eVTOL) aircraft	<p>In News: The Government of India is exploring the possibility of inviting manufacturers of Electric Vertical Takeoff and Landing (eVTOL) aircraft to set up base in India.</p> <p><u>What is eVTOL?</u></p> <ul style="list-style-type: none"> As the acronym suggests, an electric vertical take-off and landing (eVTOL) aircraft is one that uses electric power to hover, take off, and land vertically. Most eVTOLs also use what is called as distributed electric propulsion technology which means integrating a complex propulsion system with the airframe. It has grown on account of successes in electric propulsion based on progress in motor, battery, fuel cell and electronic controller technologies Thus, eVTOL is one of the newer technologies and developments in the aerospace industry. eVTOL is being described as "a runway independent technological solution" for the globe's transportation needs - it opens up new possibilities which aircraft with engines cannot carry out in areas such as maneuverability and efficiency. The global market for eVTOLs was put at \$8.5 million in 2021 and is to grow to \$30.8 million by 2030. The demand will be on account of green energy and noise-free aircraft, cargo carrying concepts and the need for new modes of transport.  <p><u>Origin</u></p> <ul style="list-style-type: none"> It all began in 2009-10 by NASA researcher Mark D. Moore who came up with the concept of a personal (one man) air vehicle "Puffin" <p><u>What are the challenges?</u></p> <ul style="list-style-type: none"> As the technology so far is a mix of unpowered and powered aircraft, the areas in focus include "crash prevention systems". There are also issues such as ensuring safety in case of power plant or rotor failure. Aircraft protection from cyber-attacks is another area of focus.

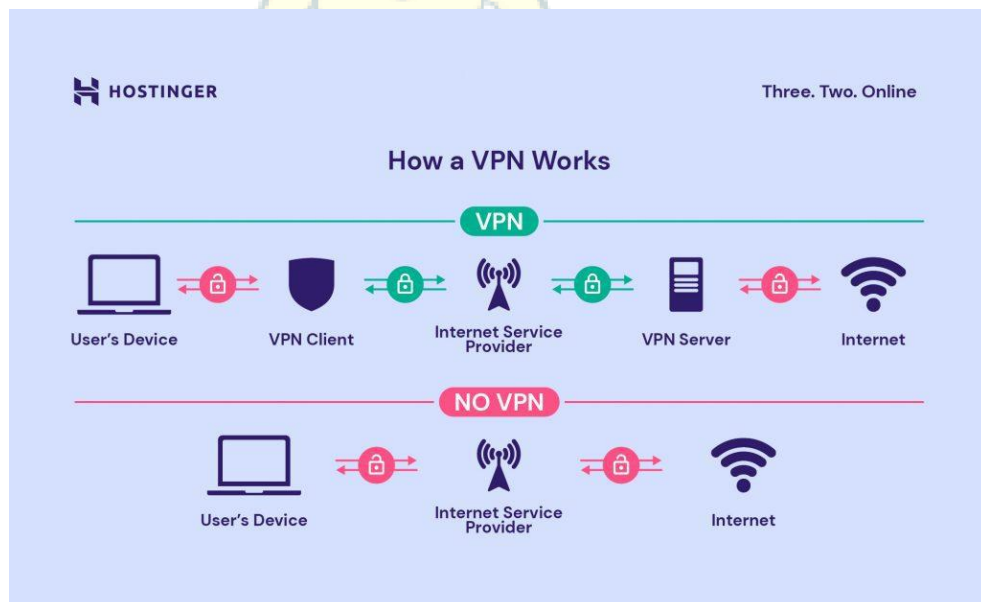
	<ul style="list-style-type: none"> Operating in difficult terrain, unsafe operating environments and also bad weather are cause of concern.
Treatment of Mismatch repair deficient cancer	<p>In News: In a medical trial, 12 patients in the United States were completely cured of rectal cancer without requiring any surgery or chemotherapy.</p> <ul style="list-style-type: none"> The trial used a monoclonal antibody called dostarlimab every three weeks for six months for the treatment of a particular kind of stage two or three rectal cancer. The trial showed that immunotherapy alone – without any chemotherapy, radiotherapy, or surgery that have been staples of cancer treatment – could completely cure the patients with a particular kind of rectal cancer called ‘mismatch repair deficient’ cancer”. No cases of progression or recurrence had been reported during the follow-up. <p><u>What is this deficiency, and how was it cured?</u></p> <ul style="list-style-type: none"> ‘Mismatch repair deficient’ cancer is most common among colorectal, gastrointestinal, and endometrial cancers. Patients suffering from this condition lack the genes to correct typos in the DNA that occur naturally while cells make copies. The immunotherapy belongs to a category called PD1 blockades that are now recommended for the treatment of such cancers rather than chemotherapy or radiotherapy. PD1 is a type of protein that regulates certain functions of the immune system, including by suppressing T cell activity, and PD1 blockade therapy looks to release the T cells from this suppression. By giving the PD1 blockades, we release and T cells to destroy the cancerous growth This study shows that even the surgery was not needed in these patients. <p><u>Cost is a concern:</u></p> <ul style="list-style-type: none"> Expensive and unaffordable for most people in India. An immunotherapy treatment can cost around Rs 4 lakh per month, with patients needing the treatment for six months to a year.
Web 5.0	<p>In News: Former Twitter CEO Jack Dorsey recently announced his vision for a new decentralized web platform that is being called Web 5.0</p> <p><u>What do the terms Web 1.0, Web 2.0 and Web 3.0 mean?</u></p> <ul style="list-style-type: none"> Web 1.0 was first generation of global digital communications network. It is often referred to as the “read-only” Internet made of static web-pages that only allowed for passive engagement. The next stage in evolution of web was the “read and write” Internet. Users were now able to communicate with servers and other users leading to the creation of the social web. This is the World Wide Web that we use today.

	<ul style="list-style-type: none"> • Web 3.0 is an evolving term used to refer to next generation of Internet – a “read-write-execute” web – with decentralization as its bedrock. • It speaks about a digital world, built leveraging the block chain technology, where people are able to interact with each other without the need of an intermediary. • Web 3.0 will be driven by Artificial Intelligence and machine learning where machines will be able to interpret information like humans. <p><u>What is Web 5.0?</u></p> <ul style="list-style-type: none"> • Web 5.0 is aimed at “building an extra decentralized web that puts you in control of your data and identity”. • Simply put, Web 5.0 is Web 2.0 plus Web 3.0 that will allow users to ‘own their identity’ on the Internet and ‘control their data’. • Both Web 3.0 and Web 5.0 envision an Internet without threat of censorship – from governments or big tech, and without fear of significant outages.
Virtual Private Network (VPN)	<p>In News: New directions from Computer Emergency Response Team (CERT-In) for regulating VPN providers will be effective from June 28.</p> <p><u>Directives:</u></p> <ul style="list-style-type: none"> • The rule mandates VPN providers to record and keep their customers’ logs for 180 days. • It requires firms to collect and store customer data for up to five years. • It further mandated that any cybercrime recorded must be reported to the CERT within 6 hours of the crime. • The directions applicable to data centers, virtual private server (VPS) providers, cloud service providers, virtual asset service providers, virtual asset exchange providers, custodian wallet providers and Government organizations. • Firms that provide Internet proxy-like services through VPN technologies also come under the ambit of the new rule. <p>In response to CERT-In rules many VPN providers are planning to shift servers out of the country or cater to users in India through virtual servers located in Singapore and UK.</p> <p><u>What is a virtual server, and what are its uses?</u></p> <ul style="list-style-type: none"> • A virtual server is a simulated server environment built on an actual physical server. • It recreates the functionality of a dedicated physical server. • The virtual twin functions like a physical server that runs software. • It uses resources of the physical server. • Multiple virtual servers can run on a single physical server. <p><u>Uses of Virtual Server:</u></p> <ul style="list-style-type: none"> • Virtualizing servers helps reallocate resources for changing workloads. • Converting one physical server into multiple virtual servers allows organisations to use processing power and resources more efficiently • Running multiple operating systems and applications on a single physical machine reduces the cost as it consumes less space, hardware.

- Virtualization also **reduces cost as maintaining a virtual server infrastructure is low compared to physical server infrastructure.**
- Virtual servers are also said to offer **higher security than a physical server infrastructure** as the operating system and applications are enclosed in a virtual machine.
- This helps **contain security attacks and malicious behaviors inside the virtual machine.**
- Virtual servers are also useful in testing and debugging applications in different operating systems and versions without having to manually install and run them in several physical machines.

Virtual Private Network(VPN):

- Virtual Private Network (VPN) is a **service that helps internet users to stay private online by hiding their (Internet Protocol) IP addresses.**
- VPN establishes an **encrypted connection between the user's computer and the internet**, providing a **private tunnel for their data, making them anonymous and blocking anyone from tracking their movements** like where they are going or what they are doing.
- It is the IP address – a special number unique to the user's internet network– that helps websites, law enforcement agencies, cybercriminals or anyone else looking into an individual's internet activities and track down their accurate location.
- **Without a VPN, the user's IP address is visible to the web.** VPNs obscure the user's internet usage by jumping the signal off multiple servers.
- VPN extends through **encrypted connections over the Internet.**
- Since the line is encrypted between the network and the device connected to it, the traffic remains private.





GOVERNMENT SCHEMES IN NEWS

**Open network for digital commerce (ONDC)**

Context: The government of India announced the launch of the pilot phase of **open network for digital commerce (ONDC)** with an aim to “democratize” the country’s fast-growing digital e-commerce space that is currently dominated by the two U.S.-headquartered firms — Amazon and Walmart.

What is ONDC?

- A not-for-profit organization that will offer a **network to enable local digital commerce stores across industries to be discovered and engaged** by any network-enabled applications.
- Neither an aggregator application nor a hosting platform
- All existing digital commerce applications and platforms can voluntarily choose to adopt and be a part of the ONDC network.

Aim: To enable buying of products from all participating e-commerce platforms by consumers through a single platform.

- Under ONDC, a buyer registered on one participating e-commerce site (for example, Amazon) may purchase goods from a seller on another participating e-commerce site (for example, Flipkart).
- The ONDC model is trying to replicate the success of the Unified Payments Interface (UPI) in the field of digital payments.

What led to formation of ONDC?

- An outreach conducted by The Department for Promotion of Industry and Internal Trade (DPIIT), under Ministry of Commerce and Industries, found that there is a huge disconnect between the scale of online demand and the ability of the local retail ecosystem (small sellers and hyper local supply chain) to participate.
- ONDC will be required to get funding independently and have a self-sustaining financial model.

Benefits of ONDC:

- Standardize operations like cataloguing, inventory management, order management and order fulfillment, hence making it simpler and easier for small businesses to be discoverable over network and conduct business.

Challenges:

- Such as getting enough number of e-commerce platforms to sign up, along with issues related to customer service and payment integration.

UPSC 2023



TLP CONNECT

Integrated Prelims cum Mains Test Series

FEATURES



Complete Prelims & Mains Syllabus through
68 Mains Tests & 69 Prelims Tests



Prepare through Reverse Engineering



1:1 Mentorship



Master Current Affairs with
Babapedia & Current Affairs Tests



Discussion classes after
Every Mains Test



Approach Paper, Enriched
Synopsis & Ranking



ADMISSIONS OPEN

📍 Admission Centre : #38, 3rd Cross Rd, 60 feet Main Road, Chandra Layout, Bengaluru-560040, Landmark: Opp BBMP Office / Cult Fit



www.iasbaba.com



support@iasbaba.com



91691 91888

MAINS



INDIAN POLITY & GOVERNANCE



Inclusive Parliament

Context: In 1952, in the first parliamentary session Indian Republic had 39 strong, intelligent, and passionate women leaders in its parliament.

- India was **leading the way in the fight towards more inclusive world democracies with 5.5% women representation**. But 70 years post-independence, it seems we have strayed from that path.

Current stats: As per the latest Election Commission of India (ECI) data

- Women represent **10.5% of the total members of the Parliament**.
- The scenario for women **Members of Legislative Assemblies (MLAs)** across all state assemblies in India is even worse, **with the national average being 9%**.
- In the last 75 years of independence, **women's representation in Lok Sabha has not even increased by 10%**.

Reasons:

Lack of Political Education:

- **Education influences the social mobility of women**. Formal education such as provided at educational institutions creates opportunities for leadership, and impart leadership essential skills.
- Because of a **lack of understanding of politics**, they do not know about their basic political rights.

Stereotypes:

- The role of **managing household activities has been traditionally assigned to women**.

Work and Family:

- **Uneven distribution of family care responsibilities** means that women spend far more time than men in home and child-care.

Lack of Resources:

- Because of their low proportion in the inner political party structure of India, women fail to gather resources and support for nurturing their political constituencies.

Unfriendly Environment:

- Rise in **criminalization, corruption, insecurity** has driven women out of the political arena.

Absence of gender-neutral language:

- For instance - in the **Rajya Sabha, the Rules of Procedure continue to refer to the Vice-President of India as the ex-officio Chairman**, stemming from the lack of gender-neutral language in the Constitution of India.
- The degree of **usage of masculine pronouns** assumes a power structure biased towards men.

Lack of gender-neutral Acts:

- Acts have made references to women not as leaders or professionals (such as policemen), but usually as victims of crimes.

Government measures:**Reservation for Women in Panchayati Raj Institutions:**

- Article **243D of the Constitution** ensures participation of women in Panchayati Raj Institutions by mandating not less than one-third reservation for women out of total number of seats to be filled by direct election and number of offices of chairpersons of Panchayats.

Parliamentary Committee On Empowerment Of Women:

- The **Committee on Empowerment of Women** was constituted for the first time in 1997 during the 11th Lok Sabha of the Parliament for improving the status of women.

Rules of Procedure of the Lok Sabha:

- In 2014, under the leadership of the then Speaker of the Lok Sabha, Meira Kumar, and the **Rules of Procedure of the Lok Sabha were made entirely gender neutral**.
- Since then, each Lok Sabha Committee Head has been referred to as Chairperson in all documents.

The Women's Reservation Bill 2008:

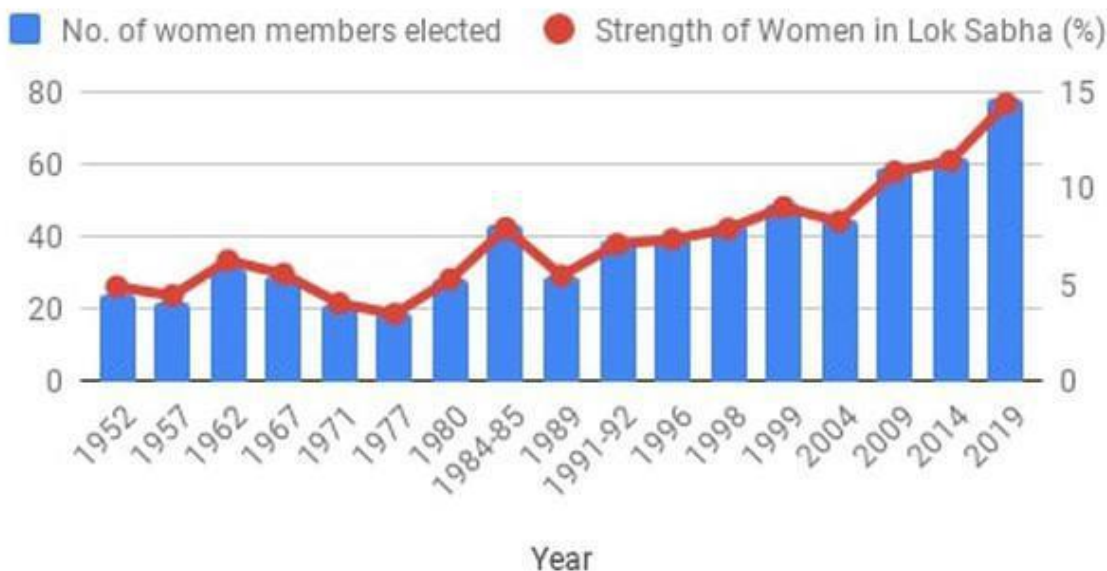
- It proposes to amend the Constitution of India to reserve 1/3rd of all seats in the Lower house of Parliament of India, the Lok Sabha, and in all state legislative assemblies for women.

Way forward:

- Bring women quotas in political parties
- Promoting Inner party democracy
- Passage of Women's Reservation Bill
- Fighting stereotypes
- Bringing gender neutral languages

The pre-requisite of inclusive society is inclusive parliament; the need of the hour is to have equal participation of all the sections of society in mainstream political activity and decision making.

Women in Lok Sabha



Death penalty

Context: Recently, the Supreme Court, in **Manoj & others v. State of MP**, embarked on a **significant attempt to reform the administration of the death penalty**.

Background:

- There has long been a **judicial crisis in death penalty sentencing** on account of **unprincipled sentencing, arbitrariness and worrying levels of subjectivity**.
- The crisis has been acknowledged by the Supreme Court, the Law Commission of India, research scholars and civil society groups.
- At the **heart of this concern** is the fact that **death penalty sentencing has been, by and large, crime-centric**.

Bachan Singh case (1980)

- The ruling of the five-judge bench in this case **laid down a framework to be followed by judges who have to choose between life imprisonment and death sentence**.
- This framework made it **binding for the sentencing judges** to take into account factors **relating to both the crime and accused and assign them appropriate weight**.
- The **background of the accused, the personal circumstances, mental health and age** were considerations a sentencing judge had to account for.
- Judges were required to **weigh mitigating and aggravating factors** to ascertain if a case was fit for the death sentence and also determine if the **option of life imprisonment was unquestionably foreclosed**.
- There is confusion **across all levels of the judiciary** on the requirements of this framework and its implementation.
- An important reason for the breakdown is that factors relating to the crime — **the nature of the crime and its brutality** — **are often dominant considerations**, and there is barely any consideration of mitigating factors.
- A vast majority of India's death row prisoners are extremely poor and often do not receive competent legal representation.
- **Thus in the last four decades Bachan Singh framework has not been implemented in letter and spirit**.

The significance Manoj & others v. State of MP

- The judgment is clear that certain procedural **thresholds must be met for sentencing to be fair** and explicitly rejects the idea that death sentences can be determined solely on crime-based considerations.

Key points:

- Commitment to **recognizing reformation as integral to the Indian criminal justice system**, especially death penalty sentencing
- It asks the **state and sentencing judges to establish that there is no probability of reformation of the accused**.
- It **recognizes that aspects of the accused's life**, both pre-offence and post-offence in prison, are relevant.
- As practical steps in this process, the judgment asks **courts to call for reports from the probation officer as well as prison and independent mental health experts**.

- The **state too must present material** that speaks to a wide range of factors. **The right of the accused to present mitigating factors and rebut the state, if necessary, is also recognized.**

Challenges:

- The attempts to bring about procedural coherence and integrity **will face significant challenges in the trial courts and the high courts it is far from certain that these reforms will be meaningfully implemented in those forums.**
- The Supreme Court will have to provide basis for consideration of the above mentioned factors, in the absence of such foundations, death penalty sentencing will continue to be unprincipled and sentencing judges are not going to understand the need for this wide range of sentencing information.

All our actions are a result of a complex web of biological, psychological, and social factors and that understanding has a very significant bearing on discussions on criminality and punishment including death penalty.

Uniform Civil Code (UCC)

- **Context:** Uttarakhand Chief Minister recently set up a committee to prepare a draft Uniform Civil Code (UCC) for the State. Goa is, at present, the only state in India with a uniform civil code.

What are Personal Laws?

- Personal laws regulate marriage, divorce, maintenance, inheritance and succession for Indian citizens. We can see that personal law governs and regulates subjects or areas of a private sphere.
- These laws are largely influenced by religious customs of different communities. This is to say that, the Hindus, have their separate personal laws; as do the Muslims, Christians, Parsis, Jews and others.

What is Uniform Civil Code?

- A uniform civil code here refers to a single law, applicable to all citizens of India in their personal matters such as marriage, divorce, custody, adoption and inheritance.
- The **Uniform Civil Code (UCC)** in India proposes to replace the personal laws based on the scriptures and customs of each major religious community in the country with a common set governing every citizen.

What does the Constitution say about UCC?

- Article 44 of the Constitution, which is one of the Directive Principles of State Policy, says the state shall endeavor to secure for citizens a uniform civil code throughout the territory of India
 - However, governments since Independence have allowed respective religion-based civil codes to respect the diversity of India.
- The Constitution's framers used the term "uniform" in Article 44 and not "common", because "common" means "one and the same in all circumstances", while "uniform" means "the same in similar conditions".

What has been the Judiciary's view of UCC?

- In order to bring uniformity, the courts have often said in their judgements that the government should move towards a UCC.
- **Shah Bano Case, 1985**
 - Under Muslim personal law, maintenance, after divorce, was to be paid only till the period of iddat. (Three lunar months-roughly 90 days).
 - However, Section 125 of CrPC (criminal procedure code) that applied to all citizens, provided for maintenance of the wife for a lifetime or until she is remarried.
 - Supreme Court ruled in Shah Bano's favour and passed the verdict to pay maintenance each month.
 - However, the government of the day overturned the judgement by passing the Muslim Women (Protection on Divorce Act), 1986. This law said the maintenance period can only be made liable for the iddat period.
- **Sarla Mudgal Case:-**
 - In this case, the question was whether a Hindu husband married under the Hindu law, by embracing Islam, can solemnize a second marriage.
 - The court held that the Hindu marriage solemnized under Hindu law can only be dissolved on any of the grounds specified under the Hindu Marriage Act 1955.
- **John Vallamattom Case:**
 - In this case, a priest from Kerala, John Vallamattom challenged the Constitutional validity of Section 118 of the Indian Succession Act, which is applicable for non-Hindus in India.

What are the merits of having Uniform Civil Code?

- **Promotes Real Secularism:** Secularism is enshrined in the Preamble, a secular republic needs a common law for all citizens rather than differentiated rules based on religious practices.
- **Simplification of the Laws:** The code will simplify the complex laws around marriage ceremonies, inheritance, succession, adoptions making them one for all.
- **Promotes Equality:** A Uniform Civil Code would, in theory, provide equal status to all citizens irrespective of the community they belong to. The same civil law will then be applicable to all citizens irrespective of their faith.
- **Supports national integration:** A Common Civil Code will help the cause of national integration by removing disparate loyalties to laws which have conflicting ideologies.
- **Promotes Gender Justice:** It is commonly observed that personal laws of almost all religions are discriminatory towards women. Men are usually granted upper preferential status in matters of succession and inheritance. Uniform civil code will bring both men and women at par.
- **Reformative and aligned with Constitutional Ideals:** Aim is to liberalize the personal laws and broaden the freedom of the individual. It is also meant to address the issue of equality of men and women. Therefore, having UCC that will cover entire society will remove any oppressive practices and bring reforms in society that upholds Constitutional ideals of equality and liberty.

- **Reduces Burden on Judiciary:** Judiciary will also be better off with lesser litigation originating from religious customs and personal laws. The nation can also focus on more important issues such as economy, quality of life of its citizens, and politics of development.
- **Sign of Modern Progressive Nation:** Personal laws were formulated in specific spatio-temporal context and should not stand still in a changed time and context. Having UCC will help the society move forward based on modern constitutional value system of liberty, equality & justice.

What are the Challenges with enacting UCC?

- **Diversity poses challenge:** It is practically tough to come up with a common and uniform set of rules for personal issues like marriage due to tremendous cultural diversity India across the religions, sects, castes, states etc.
- **Dilutes Freedom of Religion:** The constitution provides for the right to freedom of religion of one's choice. With codification of uniform rules and its compulsion, the scope of the freedom of religion will be reduced.
- **Tool of Majoritarianism:** Many communities, particularly minority communities fear that a common code will neglect their traditions and impose rules which will be mainly dictated and influenced by the majority religious communities.
- **Sensitive & Tough Task:** Such a code, in its true spirit, must be brought about by borrowing freely from different personal laws, making gradual changes in each and adopting expansive interpretations on each of the aspects of personal law. Hence, the government has to be accommodative and sensitive lest it becomes the basis for communal violence.

What is the way forward?

- At the end of the day, a UCC can only emerge through an evolutionary process, which preserves India's rich legal heritage, of which all the personal laws are equal constituents.
- Major sensitization efforts are needed to reform current personal law reforms which should first be initiated by the communities themselves.
- The law commission of India was adjoined with the responsibility of formulating a uniform civil code and has opined that a country of such diverse dimensions in the matter of religion and culture does not require uniformity of laws. What is required is reforms to all the personal laws making them gender just.
- If each of the existing law of every community is made progressive and gender just, we may not even require a uniform law for all the communities

Equality Commission

Context: The demand for an Equality Commission has been proposed from time to time by academics and activists, to end social discrimination.

When an Equality Commission was first conceptualised?

- In March 2005, then Prime Minister Dr Manmohan Singh constituted a High Level Committee to prepare a report on the social, economic, and educational status of the Muslim community of India.

- The seven-member committee was chaired by former Chief Justice of the Delhi High Court, **Justice Rajinder Sachar**, and it submitted its final report in November 2006.
- In its observations on the 'development deficit' among Muslims, the **Sachar Committee Report** recommended the setting up of an **Equal Opportunity Commission ('EOC')** to "*look into grievances of all deprived groups*".
- In 2008, an expert group, headed by civil servant, lawyer and legal educator Prof. N.R. Madhava Menon, was set up by the Union Ministry of Minority Affairs to implement the EOC model, including developing a legislative framework.
- The **Menon Committee Report** recommended the structure, scope, and functions of the proposed EOC, and advised on an appropriate legislative foundation for its implementation.
 - It proposed an Equal Opportunity Commission Bill, 2008 to constitute an EOC.
 - The Bill aimed to address discrimination or any distinction, exclusion, or restriction made on the basis of sex, caste, language, religion, descent, place of birth, residence, disability, descent, place of birth, residence, race, or any other unjustified criteria.
- The EOC, as conceptualised by the Sachar Committee and developed into an implementation model by the Menon Committee, represented a **Commission to supplement reservations**.
- Reservations or 'removal of disabilities', as the Menon Committee Report observed, do not warrant equality of opportunities. Hence, the EOC was meant for the deprived groups to access their rights and entitlements, and to address **inter-group inequalities**, as a move beyond the existing policies on reservations.
- The Equal Opportunity Commission Bill, 2008, as prepared by the Menon Committee, was approved by the Union Cabinet in February 2014, with the mandate of ensuring no minority community (restricting its ambit from a broader 'deprived groups') is discriminated on grounds of religion and redressing complaints therewith. However, the bill has been ignored since then.

How was the functioning of the EOC, proposed by the Menon Committee Report, interpreted?

- As per the Menon Committee Report, the EOC would have a grievance redressal function only in a limited and supportive capacity.
- The report emphasized the **positive obligation of the State** to control direct and indirect discrimination against minorities and marginalised communities.
- In a letter to the then Union Minority Affairs Minister, the then Prime Minister, Dr. Manmohan Singh and the then Union Minister for Law and Justice in June 2009, pointed out that while the Menon Committee report provided for equal opportunities and diversity, it **failed to define and prevent direct and indirect discrimination**.
- It was highlighted that the EOC, under the Menon Committee report, was restricted to explicitly prohibiting discrimination only in the employment and education sectors.
- The EOC, as proposed by the Menon Committee, **relied on voluntary compliance and mediated settlements**, thus lacking an enforcement mechanism.
- It was underlined the need for the proposed EOC to provide relief to individual victims of discrimination, in addition to its 'group-driven' model.

Has there been an effort to introduce legislation on Equality Commission?

- The Anti-Discrimination and Equality Bill, 2016, a Private Member's bill presented by Congress Parliamentarian Shashi Tharoor, aimed to protect every citizen against all forms of social discrimination.
- It was a step toward reintroducing anti-discrimination legislation.
- The Bill proposed the constitution of Central and State Equality Commissions toward
 - eliminating discrimination
 - promoting awareness
 - assisting aggrieved persons in seeking remedies
 - issuing guidelines for protection from discrimination from harassment
 - Submitting annual reports.
- The Bill provides 'symmetric protection', that is, it **protects minorities as well as majorities**.
- It focuses on **all forms of discrimination**, and is not confined to caste, sex or religion.
- The Bill prohibits **discrimination in public as well as private spheres**, including by employers, landlords, retailers and service providers.
- Thus, in addition to protecting the right to equality as an affirmative action, the Bill overtly prohibits discrimination in the areas of housing, education, work, and medical facilities, among other things
- The Centre for Law & Policy Research ('CLPR') introduced an Equality Bill, 2019 as an anti-discrimination bill based on multiple identities, not restrictive in protecting only specific grounds of discrimination.

Despite constitutional protections in place, why do we need an Equality Commission?

- Part III of the Indian Constitution guarantees the fundamental right to equality under
 - Article 14 (equality before law)
 - Article 15 (prohibition of discrimination on grounds of religion, race, caste, sex or place of birth)
 - Article 16 (equality of opportunity in matters of public employment)
 - Article 17 (abolition of untouchability)
- **Article 15 prohibits discrimination on the limited grounds** of religion, race, caste, sex or place of birth. It, thus, excludes other pervasive forms of discrimination; for instance, sexual orientation, disability, marital status, pregnancy, occupation, and linguistic identity.
- Although Article 15(2) of the Constitution prohibits discrimination perpetrated by private individuals, **few cases are litigated against private discrimination**. Most litigation in courts is initiated against discrimination by the State.
- Furthermore, in the majority of cases, **courts have restricted the interpretation of discrimination exclusively to its direct form**, excluding other indirect discrimination including harassment, segregation, and victimization.
- Since only the High Courts and the Supreme Court have the power to address violations of constitutional rights, approaching these courts for every instance of discrimination is hardly a feasible choice. Moreover, the judiciary continues to be overburdened with a considerable backlog of cases.
- Thus, local enforcement mechanisms, in the form of equality commissions, fit the bill.

Apart from the already existing Commissions addressing discrimination, do we need an Equality Commission?

- Commissions like the National Commissions for Women, Minorities, Scheduled Castes, Scheduled Tribes and Backward Classes, among others, exist to deal with and handle thousands of cases of discrimination each year.
- Notably, these individual commissions focus on protecting the rights of specific communities against specific discrimination.
- While these Commissions handle complaints against inequalities, **they do not provide an umbrella view of the discrimination** witnessed in the country.
- Each of the Commissions operates with a different understanding of the term 'discrimination'.
- An entity like the Equality Commission, which is based on multiple identities and discrimination, can benefit from the complaints handled by the other Commissions.
- An Equality Commission can **pose as a comprehensive mechanism** that covers all forms of discrimination, as opposed to commissions that focus on caste, religion, or sex alone.
- However, it is imperative that the shortcomings of the proposed EOC under the Menon Commission be addressed, so that the functions of an Equality Commission do not overlap with the already existing Commissions dealing with varied forms of discrimination.

Has similar kind of commission been established in other country?

- The Equality and Human Rights Commission (EHRC) is Great Britain's national equality body. As a statutory non-departmental public body established by the Equality Act 2006, the Commission operates independently.

Way Forward:

- A coherent anti-discrimination or Equality Commission is, however, ineffective without the backing of a single, comprehensive anti-discrimination or equality law. While such legislation has been proposed time and again, it is now up to the government to adopt a singular equality law.
- The Private Member's Bill of 2016 lapsed, with the government not showing any interest in adopting it. In view of the recent upsurge in violence against minority communities in India, such legislation acquires significance



INTERNATIONAL RELATIONS



India and Vietnam relations

In News: India and Vietnam signed a **Memorandum of Understanding (MoU) on mutual logistics support**.

- Also signed the '**Joint Vision Statement on India-Vietnam Defence Partnership towards 2030**', which will significantly enhance the scope and scale of existing defence cooperation
- And agreed for early finalization of \$US 500 million Defence Line of Credit extended to Vietnam.

What are Logistics agreements?

- Logistics agreements are **administrative arrangements facilitating access to military facilities for exchange of fuel and provisions on mutual agreement simplifying logistical support** and increasing operational turnaround of the military when operating away from India.

India- Vietnam Relations

- Relations between India and Vietnam have been **governed by several areas of shared political interests**.

Areas of Cooperation:

Economic ties:

- India is now the **8th largest trading partner of Vietnam**.
- Vietnam is the **4th largest trading partner of India among ASEAN countries**
- Vietnam is also the second largest export destination for India after Singapore in the ASEAN region.
- India is investing in development and capacity assistance for Vietnam through **quick impact projects (QIP), proposals in the area of water resource management in Vietnam's Mekong Delta region, Sustainable Development Goals (SDGs), and digital connectivity**.

Defence Cooperation:

- The relations between the two countries especially **defence ties, benefited extensively from India's Look East policy**.
- Vietnam is interested in **India's Akash surface-to-air systems and Dhruv advanced light helicopters and Brahmos missiles**.
- Apart from this, the defence relations include **capacity building, dealing with common security concerns, training of personnel, and cooperation in defence R&D**.
- Both countries reaffirm the strong **India-Vietnam Defence cooperation which is a key pillar of Comprehensive Strategic Partnership**.

Strategic partnership:

- Bilateral relations were upgraded to a **"Strategic Partnership" in 2017**, and upgraded to a **"Comprehensive Strategic Partnership" in 2016**
- Cooperation in the **UN Security Council has been exemplary**. The shared respect for international law, including **UNCLOS 1982**, and a rules-based order is a strong commonality.

Cooperation at Multiple Forums:

- India and Vietnam closely **cooperate in various regional forums** such as East Asia Summit, Mekong Ganga Cooperation, Asia Europe Meeting (ASEM), and UNSC.

Tourism:

- Around 169,000 Indians visited Vietnam and over 31,000 Vietnamese visited India in 2019, recording a growth of 28% and 32% over 2018 respectively.
- **India is a favored spiritual destination for many Vietnamese because it is home to many famous Buddhist temples**

China factor:

- Both countries have **border problems with China**.
- China aggressively continues to encroach in the territories of the two countries.
- Hence, it is **natural for both the countries to come closer with a view to restrain China from its aggressive actions**.

Way Forward:

- **Mutual Co-ordination and Co-operation:** Considering the unique challenges of Indo-Pacific region, both the countries should work in close coordination at multiple forums
- **Promoting Common areas:** India and Vietnam both can mutually benefit each other in the arena of **Blue Economy and ocean security**.
- **Providing financial resources, improving connectivity** and establishing good relations in the region, helps both the country to fight Chinese presence in the region

India-Iran Relations

Context: Recent Iranian Foreign Minister's first visit to India has many implications for bilateral relations.

Political relationship:

- India and Iran shared a border till 1947 and share several common features in their language, culture and traditions.
- Independent India and Iran established diplomatic links on 15 March 1950

Economic relationship:**Energy**

- India-Iran commercial ties have traditionally been **dominated by import of Iranian crude oil**.
- Iran has been **one of the top sources of crude oil for India**.
- The proposed **Iran-Oman-India undersea gas pipeline** can help India move towards clean energy

Geo-Strategic/connectivity

- Infrastructure projects like **Chahbahar Port, International North South Transport Corridor** will help India to bypass the overland route through Pakistan and help in better trade relations with West and Central Asia.

Geopolitical:

- Iran would act as a **gateway to Central Asia and Afghanistan**.
- **India and Iran can engage each other to strengthen the demand for rule based order** in Afghanistan.

Cultural relations:

- A MoU was signed in 2008 on holding of **"Days of Culture"** in two countries.
- India over the years has emerged as one of the **favourite tourist destinations for Iranian tourists and every year around 40,000 Iranians visit India for various purposes**.

Terrorism:

- India and Iran both face **the threat of terrorism by outfits like Al-Qaeda and Islamic State**. Hence both the countries can merge their interest to counter terrorism

Challenges:

Perception of Intolerance:

- The **comments made in India on the Prophet** were criticized by the 57-member Organization for Islamic Cooperation (OIC).
- The controversy has overshadowed India's other diplomatic engagements.

China factor:

- Iran is a part of **China's ambitious Belt and Road initiative (BRI)**. This might come in conflict with India's interests in Iran.

USA Sanctions on Iran

- **India has drastically cut its Iranian engagement due to sanctions** (oil import), while Iran has looked to China for more infrastructure investment
- **Bilateral trade dropped to just over \$2 billion (2020-21) from \$17 billion (2017-18).**

India-Israel ties

- Ties appeared to have been hit by New Delhi's decision to join the **Israel-India-UAE-U.S. group**, portrayed as an "anti-Iran" coalition.

Way forward

India needs to play a balancing act between the Middle East and the west. India needs to closely watch the space created by its exit, given India's loss is an opportunity for other countries, especially China.



India- Bangladesh relations

In News: 7th round of India-Bangladesh Joint Consultative Commission was held recently.

- India extended its assistance in management of the annual flood in Bangladesh
- And also stated its wish to work with Bangladesh on Artificial Intelligence, start-ups, Fintech and cyber security.

India-Bangladesh relations

India was one of the first countries to recognize Bangladesh and establish diplomatic relations immediately after its independence in December 1971.

Economic Relations:

- **Bangladesh is India's biggest trade partner in South Asia and India is the second biggest trade partner of Bangladesh.**
- In the FY 2019-20, India's exports to Bangladesh were \$8.2 bn and imports were \$1.26 bn.

Connectivity:

- Both countries jointly inaugurated the newly restored **railway link between Haldibari (India) and Chilahati (Bangladesh).**
- Agreed to an **early operationalization of the Bangladesh-Bhutan-India-Nepal (BBIN) initiative Motor Vehicles Agreement** through the expeditious signing of the Enabling MoU
- The second addendum to the **Protocol on Inland Water Transit and Trade (PIWTT) was signed recently**
- **Kolkata-Dhaka-Agartala Bus Service** also launched in 2015. This reduced the distance between Kolkata and Agartala from 1,650 km to just 500 km.

Cooperation over Rivers:

- India and Bangladesh share **54 common rivers.**
- A bilateral **Joint Rivers Commission (JRC)** has been working since June 1972 to maintain liaison between the two countries to maximize benefits from common river systems.

Defence Cooperation:

- **Border Management:** India and Bangladesh share **4096.7 km. of border, which is the longest land boundary** that India shares with any of its neighbors.
- The **India-Bangladesh Land Boundary Agreement (LBA)** came into force following the exchange of instruments of ratification in June 2015.
- Various **Joint exercises** of Army (Exercise Sampriti) and Navy (Exercise Milan) take place between the two countries

Medical tourism:

- Bangladesh accounts for more than **35% of India's international medical patients.**
- Bangladesh alone contributes to more than **50% of India's revenue from medical tourism**

Cooperation in multilateral platforms:

- Members of major regional organizations like **South Asian Association for Regional Cooperation (SAARC)** and the **Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC)**
- Solidarity at global platforms like UNSC, working together in achieving SDGs

- Cooperation to tackle the challenge of COVID-19 pandemic - participation of Bangladesh in **SAARC leaders Video Conference in March 2020** and for creation of the **SAARC Emergency Response Fund** to counter effects of the global pandemic in the South Asian region.

Recent Advancements

- Recently, **India and Bangladesh signed seven agreements** and also inaugurated three projects to deepen their partnership.
- The use of the **Chattogram and Mongla ports** in Bangladesh for movement of goods to and from India, particularly from Northeastern India.
- Use of **Bangladesh's Feni River for drinking water supply in Tripura**.

Challenges:

The Teesta river water dispute:

- The 2011 interim deal aims to share the Teesta river water between India and Bangladesh about 42.5 per cent and 37.5 per cent respectively.
- But, the **state of West Bengal object to this demand and never signed the deal**, and strain in this issue goes on

The issue of Illegal migrants:

- Bangladesh has already raised concerns over roll out of the **National Register of Citizens (NRC) in Assam**, an exercise carried out to identify genuine Indian citizens living in Assam and weed out illegal Bangladeshis.

China Factor

- Bangladesh is an active partner of the **Belt and Road Initiative (BRI)** that India has not signed up to.
- Bangladesh is also a **major recipient of Chinese military inventory, including submarines**.

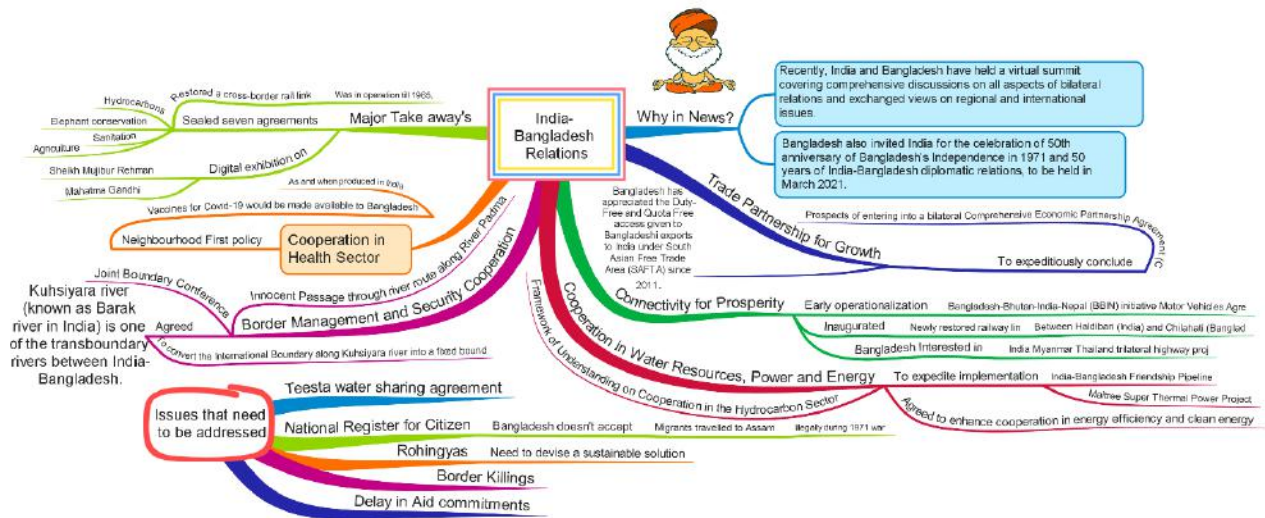
Other issues:

- **Armed Dacoity** in border districts, **fake money transfer, cattle smuggling** is also a cause of concern for India.
- Trafficking of Illegal migrants and involving them in **terrorist activities, prostitution** in India is also a challenge in India-Bangladesh relations.
- Apart from that, **Bangladesh is also opposing India's proposed the Tapaimukh Dam on the Barak River in Manipur and the Interlinking of the rivers project by India**.

Way forward:

- The early resolution of river water disputes like Teesta is the better way to boost India-Bangladesh relations.
- Involvement of joint forces to reduce border issues such as illegal trading, trafficking, cattle smuggling, etc.
- Strengthening of regional groups like SAARC, BIMSTEC etc. and focusing on Neighborhood First policy.

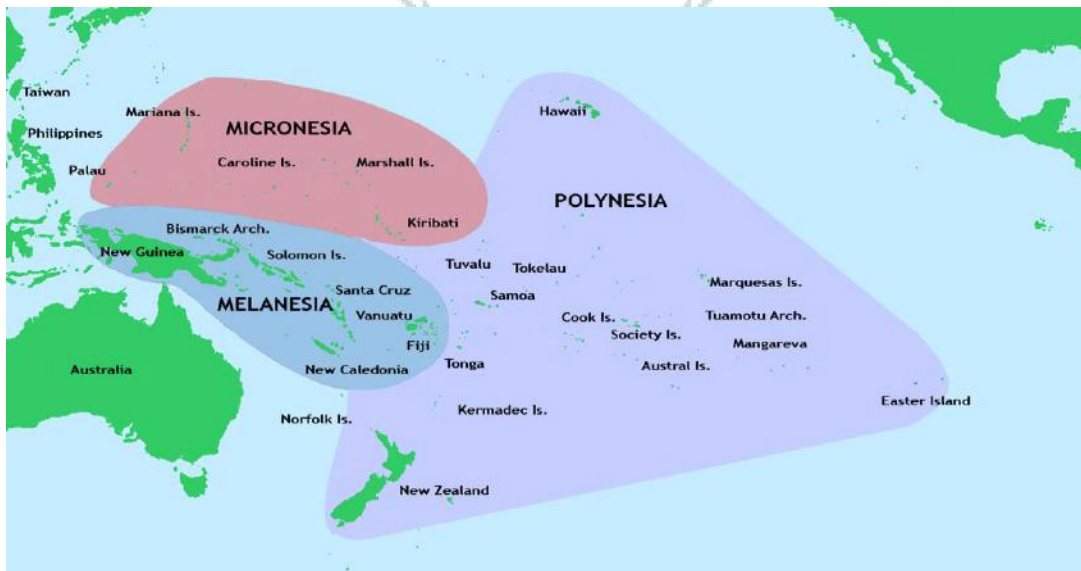
Good relation between India and Bangladesh is essential for the development of North-east region, exploring the Indo-Pacific region and for greater connectivity to South Asian countries.



China and Pacific Islands Nations

Context: China's growing footprint in the Pacific Islands

- The Foreign Minister of China, is currently on an **eight-day visit to ten Pacific Island Countries (PICs)**, and has co-hosted with Fiji the **Second China-Pacific Island Countries Foreign Ministers meeting**.
- During the meeting, **China's effort to push through a comprehensive framework deal failed to gain consensus among the PICs**.
- Though this has raised regional concerns about China's growing footprint in the Pacific islands, it has also been seen as a demonstration of China's limitations in the region.



What is the strategic significance of the PICs?

- The Pacific Island Countries are a **cluster of 14 states** which are located largely in the **tropical zone of the Pacific Ocean**

- They include **Cook Islands, Fiji, Kiribati, Republic of Marshall Islands, Federated States of Micronesia (FSM), Nauru, Niue, Palau, Papua New Guinea, Samoa, Solomon Islands, Tonga, Tuvalu and Vanuatu.**
- They are divided on the basis of physical and human geography into three distinct parts — **Micronesia, Melanesia and Polynesia.**
- Though they are some of the smallest and least populated states, **they have some of the largest Exclusive Economic Zones (EEZs) in the world.**
- Large EEZs translate into huge economic potential due to the possibility of utilising the **wealth of fisheries, energy, minerals and other marine resources present in such zones.**
- Hence, they prefer to be **identified as Big Ocean States, rather than Small Island States.**
- The major powers of the colonial era competed with each other to gain control over these strategic territories.
- The Pacific islands also acted as one of the major theatres of conflict during the Second World War between imperial Japan and the U.S
- **The 14 PICs, bound together by shared economic and security concerns, account for as many number of votes in the United Nations, and act as a potential vote bank for major powers to mobilize international opinion.**

What does China seek to achieve from the PICs and how?

- The **PICs lie in the natural line of expansion of China's maritime interest and naval power.**
- The PICs are located geo strategically in what is referred to by China as its 'Far Seas', the control of which will make **China an effective Blue Water capable Navy — an essential prerequisite for becoming a superpower.**
- At a time when the **Quad has emerged as a major force in the Indo-Pacific vis-à-vis China**, the need to influence the PICs have become an even more pressing matter for China.
- **The Taiwan factor** plays a major role in China's Pacific calculus - Wooing the PICs away from the West and Taiwan will therefore make the goal of Taiwan's reunification easier for China.
- A zero-sum game has been underway in the past few decades in the Pacific between China and Taiwan in terms of gaining diplomatic recognition.

What are the implications of China's latest move?

- China has increasingly started talking about **security cooperation in addition to its economic diplomacy towards the PICs.**
- Recently, **China signed a security deal with the Solomon Islands, which raised regional concerns.**
- The recent documents rejected by PICs gives a broad proposal about co-operation in the political, security, economic and strategic areas and outlines the more specific details of co-operation in the identified areas.

The **intensification of China's diplomacy towards the Pacific Islands has made the powers that have traditionally controlled the regional dynamics like the U.S. and Australia more cautious.**

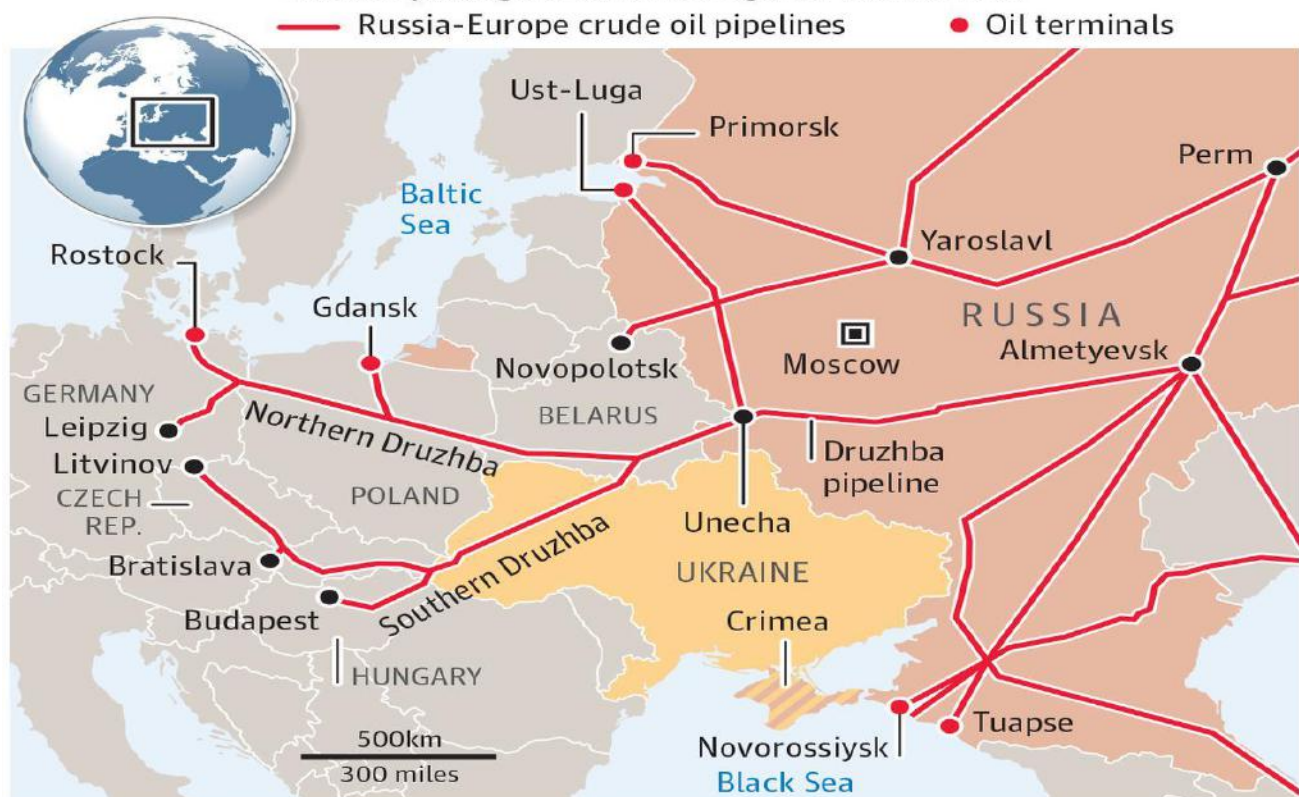
The **U.S. has started revisiting its diplomatic priority for the region** ever since the China-Solomon Islands deal. **Australia has sent its new Foreign Secretary to the islands for revitalizing ties, with promises of due priority and assistance to the PICs**

EU ban on Russia's Oil

Context: As part of the sixth package of sanctions since Russia's invasion of Ukraine, the European Union member states on May 30 reached an agreement to ban 90% of Russian crude oil imports by the end of the year. The partial embargo, worked out following extended negotiations in Brussels, exempts pipeline oil in order to bypass Hungary's objections to the ban.

EU draws its shutters on Russian oil

The European Union has agreed to ban most of the oil imports from Russia in what is its sixth package of sanctions against the Kremlin.



EU IMPORTS OF RUSSIAN OIL
Figures in million barrels per day



EU proposing complete ban in 6-8 months - covers more than two-thirds of imports

Germany, Poland pledge to halt imports by end of 2022

Total effect of EU action: Russian crude oil sales to EU could be reduced by 90% by end of 2022

Source: Bloomberg

© GRAPHIC NEWS

Why has Russia invaded Ukraine?

- Ukraine was a member of the Soviet Union until 1991 when it disintegrated, and Russia has tried to maintain the country in its orbit since then.
- The new Ukrainian government elected in 2014 **favoured Europe rather than Russia.**
- Russia worried that **Ukraine would join a military alliance – [NATO](#)**- with the U.S. and Europe that would be a threat to Russia's security interest.
- In 2014, Russia took over an area in southern Ukraine called **Crimea** so as to protect its maritime interests in Black Sea.
- Launching the invasion on 24 February, 2022 Russia President Putin told that his goal was to **"demilitarize and de-Nazify Ukraine"**. His declared aim was to protect people subjected to what he called eight years of bullying and genocide by Ukraine's government.
- Another objective was soon added: **ensuring Ukraine's neutral status.**
- Ahead of the war, Russian President Putin demanded that [NATO](#) turn the clock back to 1997 and reverse its eastward expansion, removing its forces and military infrastructure from member states that joined the alliance from 1997 and not deploying "strike weapons near Russia's borders". That means Central Europe, Eastern Europe and the Baltics.

What has been the reaction of West to Russia's invasion?

- The United States and much of Europe are on the side of Ukrainians. They believe Ukraine should be able to decide its own future.
 - The U.S. has ruled out changing [NATO's](#) "open-door policy" which means, [NATO](#) would continue to induct more members.
 - The U.S. and other European countries have said that they would continue to offer training and weapons to Ukraine.

Also, wide array of sanction are imposed by West that aims to contract Russia's economy.

- **Financial Sanctions:**
 - Russia's central bank assets have been frozen to stop it using its \$630bn (£470bn) of foreign currency reserves.
 - The United States has barred Russia from making debt payments using the \$600m it holds in US banks, making it harder for Russia to repay its international loans.
 - Major Banks are shut out of the international SWIFT payment transfer network.
- **Oil & Natural Gas:** The US has banned imports of Russian oil and gas; the EU aims to cut gas imports by two-thirds within a year and has announced new package of sanctions that aims at a ban on oil imports; the UK aims to phase out Russian oil by the end of 2022.
 - Germany, Russia's main export destination for natural gas, has announced that it would suspend the new Nord Stream 2 gas pipeline.
- **Flights:** Russian airlines have been barred from airspace over the EU, UK, US and Canada. he UK has also banned private jets chartered by Russians.
- **Military goods and mercenaries:** A ban on the export of dual-use goods - items with both a civilian and military purpose, such as vehicle parts - has been imposed by the UK, EU and US.

- **Targeting individuals:** The US, EU, UK and other countries have sanctioned more than 1,000 Russian individuals and businesses, including: wealthy business leaders, Russian government officials and family members.
 - The UK has also stopped the **sale of "golden visas"**, which allowed wealthy Russians to get British residency rights.
- **Luxury goods:** The UK and the EU have banned the export of luxury goods to Russia - including vehicles, high-end fashion and art. The UK has also imposed a 35% tax on some imports from Russia, including vodka.

What sanctions has the EU just introduced?

- Up until now, EU states have been importing 2.2 million barrels per day (bpd) of crude oil from Russia and 1.2 million bpd of oil products. Given the rising price of oil, this has been earning Russia over \$1m (£800,000) a day.
- EU nations have agreed to **stop importing any oil from Russia that comes in by sea**, which rules out about two-thirds of the total.
- However, on a temporary basis, they will **continue to import Russian oil by pipeline**. This is to benefit countries such as Hungary, the Czech Republic, Slovakia, and Bulgaria to continue imports via the **Druzhba pipeline**, the world's largest oil pipeline network.
 - Additionally, Hungary has obtained a guarantee that it could import seaborne Russian oil in case of a disruption to their pipeline supplies as it passes through the war zone in Ukraine.
- However, Germany and Poland, which also import Russian oil by pipeline, say they will stop doing so by the **end of this year**.
- This will effectively reduce the EU's oil imports from Russia to 10 or 11% of its current level.

Are there other elements in the sanctions?

Apart from the oil embargo, the package of sanctions also contains other tough measures against Russia. These include:

- cutting off Sberbank, Russia's largest bank that holds one-third of Russian banking assets, from the SWIFT messaging system;
- A ban on three **Russian-owned broadcasting** networks from the EU;
- Sanctions on individuals responsible for war crimes in Ukraine; and
- A ban on EU-based firms offering **insurance, financing, brokering or any other technical services** related to the transport of oil to Russian ships — a measure aimed at curbing Russia's ability to divert its oil to non-EU destinations.

How will the sanctions affect Russia?

- Analysts calculate that a two-thirds cut in Europe's imports of Russian oil would mean a reduction of 1.2-1.5 million barrels a day in oil, and one million barrels in refined products, which might cause **Russia an annual loss in revenue of \$10 billion**.
- Given **Russia's limited storage infrastructure**, the cutback in demand would force **Russia to find other markets**. Since that won't be easy, Russia might have to cut production by 20-30%.

- So far, Asian importers, especially India, have absorbed some of the excess inventory at discounted prices.
- But it remains unclear if the embargo would have any impact on Russian military operations in Ukraine.

How will the sanctions affect Europe?

- It is likely to further **fuel inflation in Europe**, where many countries are already facing a cost-of-living crisis.
- EU leaders have tried to balance contradictory pressures — of having to take decisive action against a military aggressor on European soil, but without causing too much pain to its citizens.
- But European lifestyles have tended to take cheap Russian energy for granted, and if inflation peaks further, the EU **runs the risk of losing public support for harsh sanctions**.

What about import of Russian gas?

- Compared to Russian oil, Europe's dependence on Russian gas is much greater, and this embargo leaves the import of Russian gas — which accounts of 40% of Europe's natural gas imports — untouched.
- In other words, **Europe will continue to pay Russia for gas imports**. But since crude is more expensive than natural gas, the oil ban is expected to hurt Russian revenues.

How has India responded to these developments?

- India increased its purchases of Russian crude at discounted prices in the months following the Russian invasion, and this policy is expected to continue.
- The announcement of the EU ban caused an immediate surge in oil prices, and as Europe seeks alternate sources — from West Asia, Africa and elsewhere — for its oil needs, **prices are expected to stay high**.
- In this context, with Russia reportedly offering discounts of \$30-35 per barrel, India has found it convenient to make the most of the cheap Russian crude on offer.

How has Russia reacted to Western measures?

- President Putin has said that Moscow will "redirect" its energy exports to "rapidly growing markets" elsewhere.
- Russia has banned exports of more than 200 products until the end of 2022, including telecoms, medical, vehicle, agricultural, electrical equipment and timber.
- In addition, it is blocking interest payments to foreign investors who hold government bonds, and banning Russian firms from paying overseas shareholders.
- And it has stopped foreign investors who hold billions of dollars' worth of Russian stocks and bonds from selling them.

India's Engagement with Taliban

Context: India has recently sent an official delegation to Kabul; it was the first time that New Delhi signaled that it wanted a formal engagement with the Taliban.

How have India's relations with Taliban evolved over the years?

- In 1996, when the Taliban came to power after tumultuous civil war, India, fearing a spillover on Kashmir insurgency, backed the Northern Alliance (opposing Taliban) with money and weapons.
- Taliban had a deep nexus with Pakistan and India bore the brunt of this nexus twice.
 - During the 1999 hijacking of IC814, when the Pakistani hijackers took the plane to Kandahar, the then ruling Taliban acted as a support arm of the hijackers.
 - Second, in 2008, the CIA traced the bombing of the Indian Embassy at Kabul to the Haqqani group, part of the Taliban and deeply embedded with the Pakistani security establishment. The bombing was reported to have been carried out at the orders of the ISI.
- Amidst the ongoing civil war (Taliban vs. US backed Afghan government), India invested money and energy into the rebuilding of Afghanistan and stood behind Afghan government.

What were the reasons that kept India's engagement with Taliban Slow and Half-hearted?

- **Did not want to upset Afghan Government:**
 - If New Delhi chooses to engage the Taliban directly, it could have made Afghanistan President Ashraf Ghani, thus far India's trusted partner, uneasy.
 - This could potentially nudge him to look towards China for national security and personal political survival.
- **Dilemma of whom to Talk to in Taliban**
 - New Delhi faces difficulty as to whom to talk to within the Taliban given that it is hardly a monolith. New Delhi also had little access to the fighters on the ground in Afghanistan.
- **Moral Principles cautioning against the rush to engage**
 - Taliban faced global criticism, including from India, in its earlier avatar for its conservative and anti-Democratic Policies.
 - Due to lack of evidence about whether Taliban is a changed outfit now, New Delhi did not want to court the Taliban so soon.
 - More so, there was little clarity about what the Taliban's real intentions are going forward and what they would do after ascending to power in Kabul.
- **Pakistan Factor**
 - There was always the possibility of Pakistan acting out more aggressively against India in Kashmir if India were to establish deeper links with the Taliban.

What are India's concerns with Taliban coming to power in Afghanistan?

India has three main concerns when it comes to the Taliban's return to Afghanistan.

- **Investments:** One, India has made investments worth billions of dollars in the past 20 years. It would want to protect these investments and retain the Afghan people's goodwill.
- **Security:** Two, when the Taliban were in power in the 1990s, Afghanistan became a safe haven for anti-India terrorist groups. India also saw a sharp rise in violence in Kashmir during the Mujahideen-Taliban

reigns of Afghanistan. New Delhi would not like history to repeat itself and would want commitments from the Taliban that they would not offer support for anti-India groups.

- **Strategic:** Three, the Taliban remaining a Pakistani satellite forever is not in India's strategic interest.

How is the world responding to Taliban coming to power?

- After the Taliban took over Kabul, 15 countries have a diplomatic presence in the country.
- Pakistan, China and Russia never shut down; others, including the EU, have re-opened to facilitate humanitarian assistance.
- The Taliban regime is not recognized formally by any country yet.

Why India should engage with the Taliban more proactively and openly?

- **Accepting the reality:** Taliban is the ruling political power in Afghanistan, and most of the international community is going to recognize/negotiate/do business with the Taliban. Non-engagement with Taliban might lead to India being left out in the country.
- **Pakistan Factor:** The less proactive the Indian engagement with the Taliban, the stronger Pakistan-Taliban relations would become, which is against India's interest in the region.
- **Political Need of Taliban:** Taliban today is looking for regional and global partners for recognition and legitimacy especially in the neighborhood. Also, to balance its neighbour Pakistan, Taliban might be looking for India as its strategic partner.
- **To ensure security of India's civilian assets:** It makes neither strategic nor economic sense to withdraw from Afghanistan after spending over \$3 billion by India in developmental aid. Therefore, India needs to engage with Taliban to ensure security of its civilian assets.
- **To shape regional destiny:** If India is not proactive in Afghanistan at least now, Russia, Iran, Pakistan and China will emerge as the shapers of Afghanistan's political and geopolitical destiny, which for sure will be detrimental to Indian interests there.
- **Opening up the congested north-western frontier:** Backchannel talks and consequent ceasefire with Pakistan, political dialogue with the mainstream Kashmiri leadership, secret parleys with Taliban all indicate that New Delhi is opening up its congested north-western frontier. Proactive engagement of the Taliban will provide this effort with more strategic heft.
- **Engagement is not endorsement:** Open engagement of the Taliban is neither tolerating nor accepting the condemnable atrocities committed by the Taliban.
- **Time for de-hyphenating the relationship:** India has de-hyphenated the Israel and Palestine relationships that is a pragmatic and the necessity in globalized multi-polar world order. There is growing view that it is time to de-hyphenate Pakistan from the Taliban.
- **Leveraging Taliban's internal dynamics:** Taliban in power are more divided than they were as a fighting force, and that the situation provides room for a layered political and diplomatic engagement with different actors. Also, Taliban have made no hostile statements on Kashmir since taking over in Kabul. All these provide increased space for India to open its engagement with Taliban.

What should be the way forward for India?

- New Delhi cannot pursue its economic and strategic interests if it does not engage with the Taliban. But, at the same time, India should not hurry in to offer diplomatic recognition to the Taliban.

- India should work with other regional and global players to push the Taliban to adopt a more inclusive regime, while at the same time maintaining a policy of gradual bilateral engagement rooted in realism.

War Crimes

Context: ON May 23, a domestic court in Ukraine sentenced a 21-year-old Russian soldier to life in prison for committing war crimes.

What are war crimes?

- War crimes are **violations of rules of international humanitarian law** that create direct criminal responsibility under international law.
- A war crime occurs when superfluous injury or unnecessary suffering is inflicted upon an enemy.
- They are considered so serious that there is **no period of limitation for such crimes** - which means that those who commit them can be prosecuted and punished no matter how much time has elapsed since the crimes were committed.
- The meaning of war crimes was clarified in the **four 1949 Geneva Conventions**.
- **International humanitarian law** regulates the actions of warring parties of a war or armed conflict. These laws are provided for under the **four Geneva Conventions**, which protect
 - 'Wounded and Sick in Armed Forces in the Field'
 - 'Wounded, Sick and Shipwrecked Members of Armed Forces at Sea',
 - 'Prisoners of War'
 - 'Civilian Persons in Time of War'.

Have individuals been prosecuted for War Crimes before?

- Individuals were prosecuted for war crimes for the first time at the **Nuremberg Tribunal** in the aftermath of the Second World War.
- The International Criminal Tribunal for **former Yugoslavia** and the International Criminal **Tribunal for Rwanda** prosecuted individuals for, inter alia, war crimes.
- Today, the International Criminal Court (ICC) and the International Court of Justice (ICJ) both have roles upholding the rules of war.
- **The International Court of Justice (ICJ)** rules on disputes between states, but cannot prosecute individuals.
- **The International Criminal Court (ICC)** investigates and prosecutes individual war criminals who are not before the courts of individual states.

What is International Criminal Court (ICC)?

- Governed by an international treaty called 'The Rome Statute' of 2002, the ICC is the world's first permanent international criminal court.
- ICC investigates and, where warranted, tries individuals charged with the gravest crimes of concern to the international community like Genocide, War crimes, Crimes against humanity and Crime of aggression.
- **India is not a party to Rome Statute** along with US and China.

- ICC Headquarters at The Hague, the Netherlands.
- The ICC is intended to complement, not to replace, national criminal systems; it prosecutes cases only when States are unwilling or unable to do so genuinely.
- ICC is not a UN organization but it has a cooperation agreement with the United Nations.
- When a situation is not within the Court's jurisdiction, the **United Nations Security Council can refer the situation to the ICC granting it jurisdiction**. This has been done in the situations in Darfur (Sudan) and Libya.



FATF and Pakistan

Context: Recently, Pakistan got a reprieve from the Financial Action Task Force (FATF) as FATF announced that the country could be removed from the grey list.

What is the FATF?

- The Financial Action Task Force is an international watchdog for financial crimes such as money laundering and terror financing and funding of weapons of mass destruction.
- It was established at the **G7 Summit of 1989 in Paris** to address loopholes in the global financial system after member countries raised concerns.
- Its Secretariat is located at the Organization for Economic Cooperation and Development (OECD) headquarters in Paris.

- The decision-making body of the FATF, known as its **plenary**, meets thrice a year. Its meetings are attended by 206 countries of the global network, including members, and observer organizations, such as the World Bank, some offices of the United Nations, and regional development banks.

What does FATF do?

- The FATF **sets standards or recommendations** for countries to achieve in order to plug the holes in their financial systems and make them less vulnerable to illegal financial activities.
- It conducts regular peer-reviewed evaluations called **Mutual Evaluations (ME)** of countries to check their performance on standards prescribed by it.
- The reviews are carried out by FATF and FATF-Style Regional Bodies (FSRBs), which then release Mutual Evaluation Reports (MERs).
- Recommendations for countries range from assessing risks of crimes to setting up **legislative, investigative and judicial mechanisms** to pursue cases of money laundering and terror funding.

What are FATF's 'grey' and 'black' lists?

- While the words 'grey' and 'black' list do not exist in the official FATF lexicon, they designate countries that need to work on complying with FATF directives and those who are non-compliant, respectively.
- **Grey List:** Countries that are considered safe haven for supporting terror funding and money laundering are put in the FATF grey list. This inclusion serves as a warning to the country that it may enter the blacklist.
 - As of March 2022, there are 23 countries on the FATF's increased monitoring list — officially referred to as **"jurisdictions with strategic deficiencies"**.
- **Black List:** It means countries designated as 'high-risk jurisdictions subject to call for action'. Countries known as Non-Cooperative Countries or Territories (NCCTs) are put in the blacklist.
 - Currently, North Korea and Iran are on the black list.

Why is Pakistan on the grey list?

- **Weakness in fighting terror financing:** Pakistan has found itself on the grey list frequently since 2008, for weaknesses in fighting terror financing and money laundering.
- **Lack of adequate Action on Terrorist groups:** Pakistan was retained on the grey list in March 2022 as it was yet to address concerns on the front of terror financing investigations and prosecutions targeting senior leaders and commanders of UN designated terrorist groups.
- **Suspicion on permanence** of Pakistani action based on its previous anecdotes.

How does grey-listing impact a country?

- **Signal of increased risk of transactions:** If a country is on grey list, it signals to the global financial and banking system about increased risks in transactions with the country in question.
- **Challenges in dealing with International Financial Institutions:** Given that major financial institutions like the IMF and World Bank are affiliated with FATF as observers, a grey-listed country faces complications in accessing international lending instruments.

- **Loss in GDP:** Pakistan's grey-listing by the FATF from 2008 to 2019 may have resulted in a cumulative GDP loss of USD 38 billion.

12th WTO Ministerial Conference

Context: The 164 member WTO's 12th Ministerial Conference (MC12) took place from 12 to 17 June 2022 at WTO headquarters in Geneva.

- The Conference was co-hosted by Kazakhstan.
- Agreement was found on WTO reform, vaccine production and fishing subsidies, among others.

What is WTO and what is its objective?

- It came into being in **1995**. The **WTO** is the successor to the **General Agreement on Tariffs and Trade (GATT)** established in the wake of the **Second World War**.
- **Its objective is to help** trade flow smoothly, freely and predictably.
- It has **164 members**, accounting for **98%** of world trade.
- The WTO Secretariat is based in Geneva (Switzerland).

About WTO's Ministerial Conference (MC)

- The MC is at the very top of WTO's organizational chart. It meets once every two years and can take decisions on all matters under any multilateral trade agreement.
- Unlike other organisations, such as the IMF or World Bank, WTO does not delegate power to a board of directors or an organisational chief.
- All decisions at the WTO are made collectively and through consensus among member countries at varied councils and committees.

What was agreed in 12th MC and what does it all mean?

1. WTO reform

- Members reaffirmed the foundational principles of the WTO and committed to an open and inclusive process to reform all its functions, from deliberation to negotiation to monitoring.
- Notably, they committed to work towards having a well-functioning dispute settlement system accessible to all members by 2024. The appellate body has been dormant since 2020 as the United States refused to agree the appointment of new judges.

Why that's important: The organization has struggled to deliver on its mandate for multiple reasons, including members failing to live up to notification requirements, impeding debate on new issues and objecting to the functioning of its dispute settlement mechanism.

2. Pandemic response

- It was decided that eligible countries **could override COVID-19 vaccine patents** until 2027.
 - Member countries agreed on authorizing the use of the subject matter of a patent for producing COVID-19 vaccines by a member country, without the consent of the rights holder.

- Further, it asks member countries to waive requirements, including export restrictions, set forth by WTO regulations to supply domestic markets and member countries with any number of vaccines.
- The decision on whether to extend this to COVID-19 therapeutics and diagnostics was delayed for six months.
- Members reiterated the importance of trade facilitation and the operation of cross-border services such as logistics, health services and IT in combating future pandemics.
- Noting the severe effect of border restrictions on tourism, countries encouraged dialogue to mitigate this.

Why that's important: A feeling that commercial considerations outweighed human health would be severely damaging to global trade. Countries need to ensure trade helps, and is seen to help, health outcomes.

3. E-commerce

- The moratorium on customs duties on electronic transmissions (the '**e-commerce moratorium**') was extended, a critical win for the digital economy.
- WTO members agreed to maintain the **current practice of not imposing customs duties** on electronic transmissions until MC13.
- Broadly, Electronic transmissions (ETs) consist of online deliveries such as music, e-books, films, software and video games. They differ from other cross-border e-commerce since they are ordered online but not delivered physically.
- 105 countries which includes the U.S. , the U.K., Australia, China and Japan among others , had sought an extension of the moratorium.
- On the other hand, India and South Africa, citing data from the UNCTAD submitted that **extending duty-free market access** due to the moratorium resulted in a loss of \$10 billion per annum globally — **95% of which was borne by developing countries.**

Why that's important: This agreement maintains relative freedom for digital trade.

4. Agriculture and food security

- In the midst of a global food crisis, with wheat prices 60% higher in June 2022 than they were in January 2021, there was pressure for the WTO to deliver a meaningful outcome on trade and food security.
- Members promised to ensure that any emergency food security measures would be **minimally trade distortive**, "temporary, targeted and transparent" and notified to the WTO.
- They also agreed **not to prohibit or restrict food exports** purchased by the World Food Programme for humanitarian purposes.
- Beyond these outcomes, Members were unable to agree on a work programme for future negotiations in agriculture due to longstanding differences.

Why that's important: These actions can help tackle food security risks stemming from the war in Ukraine and poor harvests.

5. Fisheries subsidies

- Global fisheries subsidies were estimated at \$35.4 billion in 2018, of which \$22.2 billion were capacity-enhancing subsidies. The WTO was tasked by the UN General Assembly to deliver an agreement to prohibit harmful fisheries subsidies.
- Following a 21-year long negotiation, agreement was reached at WTO Ministerial Conference 2022 to **end subsidies to illegal, unreported and unregulated (IUU) fishing** and to the fishing of overfished stocks.
- **Developing country members will enjoy a two-year exemption** for subsidies granted within their exclusive economic zones (up to 200 nautical miles from their coasts).
- **No member** will be allowed to provide **subsidies to fishing in the high seas**, other than where regulated by a fisheries management organization.
- The agreement contains notification requirements and **sets up a voluntary funding mechanism** to assist developing countries.

Why that's important: While the current agreement limits, rather than eliminates, subsidies, the measure represents a step towards crafting trade rules and practice that can better protect the planet.

Why is the agreement being called historic?

- The agreement has been hailed by the WTO as historic as it is a trade deal that has been arrived at seven years after the last trade package was approved at the Nairobi Ministerial Conference in 2015.
- Also, the deal almost appeared to be collapsing on the last day of the extended ministerial and was saved through intense all-night deliberations.
- The WTO ministerial meeting demonstrated the willingness of countries to keep talking and working together multilaterally, believing in the value of trade for sustainable growth, development and resilience in the face of crisis.

How significant is the TRIPS waiver and what are the critics concerned about?

- For five years, the waiver would allow all countries the flexibility to issue authorizations for the manufacture of patented COVID vaccines without the right holder's consent even if they don't have a compulsory license regime in place.
- However, this has **not been extended to therapeutics and diagnostic tools** that India and South Africa were insisting on for going beyond preventive care.
- Another big concern is that the waiver is **only applied to patents and not to other kinds of IP rights** such as trade secrets and copyrights and thus may not help local manufacturers to access the required knowhow to manufacture a vaccine.

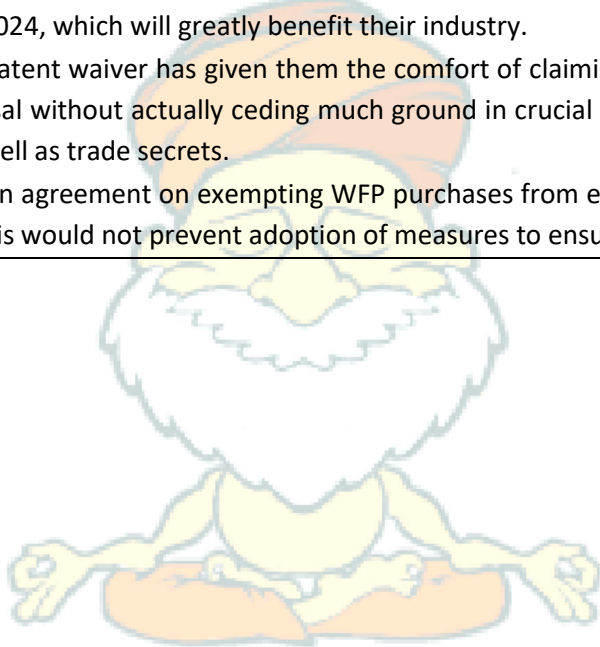
What has India gained through the deal?

- **No Permanent Solution on Public Stockholding:** India had negotiated a peace clause earlier, which protects it against action from member-countries in case its food procurement (MSP) subsidies breach the existing cap of 10% of total produce. However, even in this round WTO has been unable to reach a permanent solution for public stock-holding.

- **Partial Success in Fishery Subsidies:** India did manage to protect fishers operating within the EEZ from subsidy cut commitments. However, this exemption is not in the form of special and differential treatment for developing countries but has been extended to all. This steals the advantage that was initially envisaged by India for its own fishers.
- **Limited Waiver for COVID-19 Treatment:** On TRIPS, the limited waiver on vaccines is only a small gain for India which already has a compulsory license regime in place. Moreover, therapeutics and diagnostic tools have been excluded. Waiver on trade secrets and copyrights were also not extended.
- **G2G Exports exemptions request blocked:** India agreed to exempt WFP purchases from export restrictions but its demand of allowing G2G exports for humanitarian purpose from public stocks was blocked.

What has the West gained?

- The Western countries managed to get the moratorium on customs duties on e-commerce extended till up to March 31 2024, which will greatly benefit their industry.
- The agreement on patent waiver has given them the comfort of claiming that they have acted on the long-pending proposal without actually ceding much ground in crucial areas such as therapeutics and diagnostic tools as well as trade secrets.
- They have also got an agreement on exempting WFP purchases from export restrictions by just giving an assurance that this would not prevent adoption of measures to ensure domestic food security.





ECONOMICS



MSMEs and global value chains

Context: Bringing MSMEs into inclusive and sustainable global value chains

Stats:

- MSMEs are the **largest employer in India outside of agriculture**, employing over **11.1 crore people, or 45% of all workers**.
- It is no exaggeration to call MSMEs – privately owned enterprise with less than Rs50 crore in investments in plant and machinery and turnover below Rs250 crore – **the backbone of the Indian economy**.

Challenges

- The disruption of the **pandemic severely impacted MSMEs**.
- Their **small size and lack of access to resources** meant that many were only beginning to mount a fragile recovery just when **renewed war, supply shocks and soaring fuel, food and fertilizer prices presented a host of new threats**.
- And all of this comes against the backdrop of the **on-going climate crisis, the greatest disruption multiplier of all**.
- There is **high degree of informality in the sector**, with many enterprises unregistered, and both employers and workers are lacking awareness of and commitment to comply with labour and environmental laws.
- As a result, **informal enterprises cannot access formal MSME support and financing nor participate in global value chains** that require full compliance with all applicable regulations.

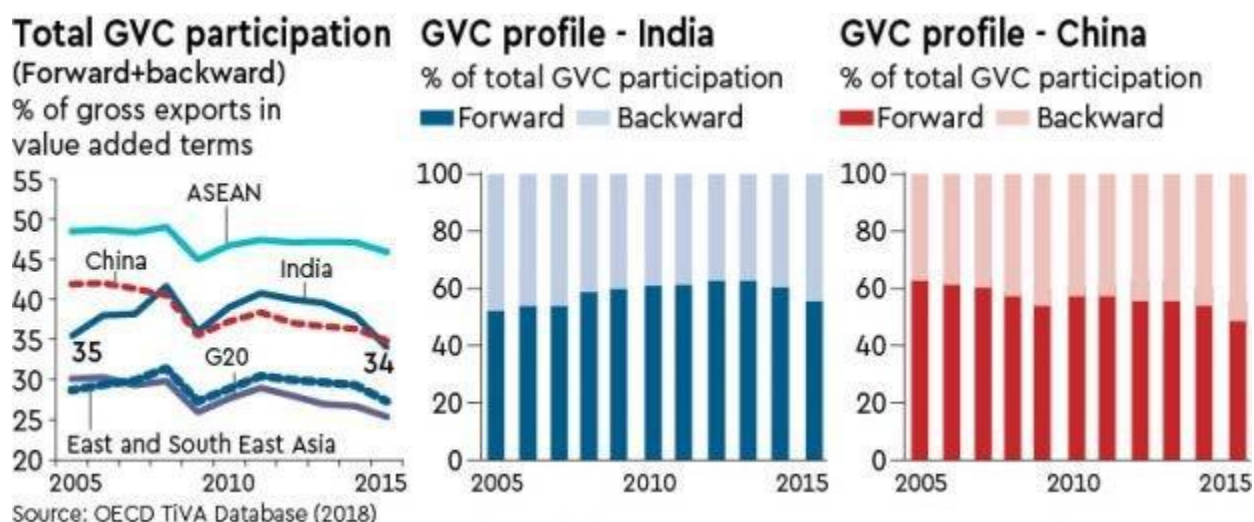
India's ambitious "Make in India" campaign aims put the country up the manufacturing value chain to position itself as a global manufacturing hub. MSMEs form the cornerstone of this initiative.

What's need to be done?

- **Digitalisation concerns:** With few exceptions, digitalisation into smart manufacturing operations is still in its infancy.
 - Therefore, there is a **need for replicable digital solutions adapted for MSMEs, including digital enhancements** for machinery and equipment currently in use.
 - Government initiatives such as the **Digital Saksham** and the interlinking of the **Udyam, e-Shram, National Career Service (NCS), and Atmanirbhar Skilled Employee-Employer Mapping (ASEEM)** portals show the promise of targeted digitalisation schemes.
- **Environmental impact:** greening reduces the environmental impact of MSME operations and fosters clean-tech innovation and entrepreneurship to accelerate the transition to a circular and low carbon economy.
 - As a result **MSMEs invested** themselves during the cash-strapped COVID period Rs 157 crore to save 13,105 tonnes of oil equivalent and Rs 81 crore in annual operating costs and preventing 83,000 tonnes of greenhouse gas emissions.

- To increase the **resilience of supply** in response to recent shocks, production locations for global value chains are increasingly shifting and diversifying across countries and regions.
 - This presents a strategic opportunity for India to tap into.
 - Supply chain relocation is often accompanied by greater involvement of suppliers in innovation and product development.
 - India should utilize this opportunities with carefully framed investment policies like incentives in tax, credit support etc.

The compelling vision of India as a world-class manufacturing and services hub for the world, moving towards upper middle-income status and achieving the SDGs, can best be achieved with the widespread and transformational uplifting of the MSME segment. Government initiatives, supported by international institutions and partners, have helped demonstrate this is doable if further scaled up, with lessons for enhancement being drawn together.



Growing freebie culture

Context: There is growing trend of freebie culture in India. Every political party is promising freebies as election promises to win votes. This has severely disrupted finances of states, making them vulnerable to economic crisis. These freebie promises are met through borrowing as most state economies are not doing so well to absorb such spending.

Resources to fund the electoral promises:

- Much of the **borrowing that funds these freebies happens off budget.**
- The typical modus operandi for **States has been to borrow on the books of their public enterprises**, in some cases by pledging future revenues of the State as guarantee.
- Effectively, the **burden of debt is on the State exchequer.**
- A certain amount of spending on transfer payments to provide safety nets to the most vulnerable segments of the population is not only desirable but even necessary.
- The problem arises when such transfer payments become the main plank of discretionary expenditure, the spending is financed by debt, and the debt is concealed to circumvent the FRBM targets.

Consequences of Freebie culture:

- The more States spend on transfer payments, the **less they have for spending on physical infrastructure** such as power and roads, and on social infrastructure such as education and health, which can potentially improve growth and generate jobs.
- Makes **beneficiaries lazy**, thus leading to **unemployment problems** and affecting the **social harmony** of the society
- The amount **States borrow collectively every year is comparable in size to the Centre's borrowing** which implies that their fiscal stance has as much **impact on our macroeconomic stability as does that of the Centre.**
- Thus instituting more effective checks that can make wayward States fall in line is compelling.

Way forward:

Amendment of FRBM Act

- Under the current FRBM provisions, **governments are mandated to disclose their contingent liabilities**, but that disclosure is restricted to liabilities for which they have **extended an explicit guarantee**
- The provision should be **expanded to cover all liabilities** whose servicing obligation falls on the Budget, or could potentially fall on the Budget, regardless of any guarantee

Strict Monitoring by the center

- Under the Constitution, States are required to take the Centre's permission when they borrow.
- The **Centre should not hesitate to impose conditionalities on wayward States when it accords such permission.**

Use of Financial Emergency Provision

- Constitution of India allows the President to declare financial emergency in any State if s/he is satisfied that financial stability is threatened.
- It is therefore important to ensure that the prospect of a financial emergency in case of gross and continuing fiscal irresponsibility is not just an abstract threat but a realistic one.

Russia - Ukraine war and the global food crisis

Context: Russia's invasion of Ukraine and the subsequent sanctions on its economy have sent global food prices soaring, threatening to push millions of people, especially those in low-income countries, into starvation.

How important are Russia and Ukraine for global food security?

- Ukraine's share in global **wheat exports** is around 10 per cent, whereas the Russian share is around 18 per cent.
 - Wheat is a staple food for at least 35% of the world's population, as per the estimates of the UN Food and Agriculture Organization (FAO)
- Around 26 countries get more than half of their wheat supplies from these two countries.
 - About 50 countries depend on Russia and Ukraine for more than 30% of their wheat imports.
 - If Azerbaijan and Georgia source more than 80% of their imported wheat from Russia and Ukraine, Turkey, Egypt, Bangladesh and Lebanon meet over 60% of their imports from these two countries.
- Russia has a 14 per cent market share of **barley** and Ukraine 12 per cent.

- Russia has a 26 per cent share of world's **sunflower oil** supplies, whereas Ukraine is the world's largest export with a whopping share of 37 per cent.
- Ukraine is the world's eighth largest producer and **fourth largest exporter of corn**, accounting for 16% of global exports.
- Russia's share in the world's **fertilizer supply** is around 17 per cent. Together, Russia and Belarus last year exported 40 per cent of the world's potash.
- While Ukraine's exports are disrupted because of diversion of farmhands from agricultural fields to battlefields and damage of food plants and ports in Russian attacks, the Russian and Belarus's exports have been hit by Western sanctions.

How serious is the food crisis?

- Climate shocks, conflicts and the COVID-19 pandemic had disrupted supply chains, pumping up prices of both commodities and crops. The war in Ukraine has aggravated this situation.
- As of June 1, 2022, the Agricultural Price Index was 40% higher compared to January 2021, according to the World Bank.
- Maize and wheat prices rose 42% and 60%, respectively, from the levels of January 2021.
- Global food, fuel and fertilizer prices are projected to be sharply higher this year and will remain elevated into 2024, the Bank estimates.
- Almost all economies in the world have been hit by higher food prices. Across the western world, there's a cost-of-living crisis with food and energy prices rocketing.
- In the U.K., inflation numbers have already hit a 40-year high. Almost 90% of emerging markets and developing economies experienced food price inflation greater than 5% this year.
- Low-income countries that are reliant on imports for basic food consumption are the hardest hit. According to the UN World Food Program (WFP), Ethiopia, Nigeria, South Sudan and Yemen remain at '**highest alert**' as hotspots with "catastrophic conditions", as Afghanistan and Somalia are added to this category.

Is there a way out?

- Russia has suggested that it would resume exports from the ports on the Sea of Azov that it controls and that it would open a corridor for commercial vessels in the Black Sea if Ukraine de-mines the ports it controls.

What has been India's reaction to global wheat crisis?

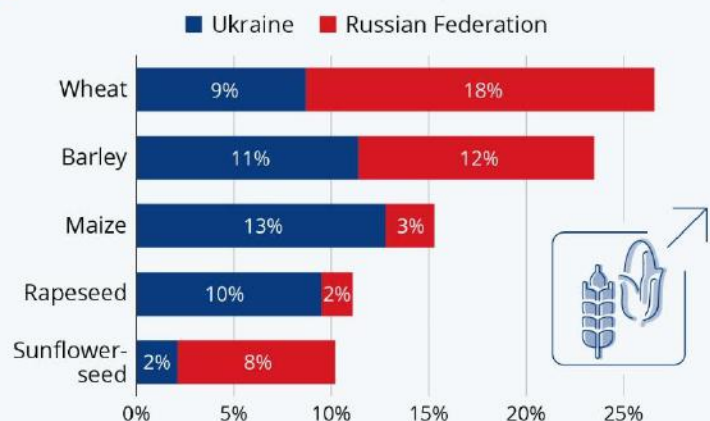
- The Government has banned wheat exports with effect from May 13, with some minor exceptions for those who have irrevocable letters of credit or where the governments of importing countries request the Indian government for food security purposes.
- **Reasons for Export Ban by India:**
 - **Low Domestic Production:** The revised estimates of wheat production are much lower than the estimated 111 mmt (million metric tonnes), primarily attributed to record shattering heat waves across India. Lower surplus forces India to curb exports.

- **Thin Procurement:** Government wheat procurement is likely to end up at around 19 to 20 mmt by June-end against 43 mmt last year indicating less wheat reaching government procurement centers. In such a situation, government has to prioritize domestic needs over export opportunities.
- **Rising Wheat Prices domestically:** Another factor could be that the April '22 wheat inflation is at 9.59 per cent (y-o-y) against overall cereal inflation of 5.96 per cent. Increasing domestic supply by curtailing export will help calm down the prices.
- **Food Distribution Obligations:** Government announced free food until Sep 2022 under PMGKAY. Hence, food procurement is essential for fulfilling its promise & to meet nutritional security of the Nation.
- **Curbs on Sugar Exports**
 - The government has recently decided to “restrict” the export of sugar. The curbs are done in the backdrop of **turbulence created in the commodity markets** in the world due to **Russia's invasion of Ukraine**.
 - The government has moved export of sugar from the ‘open category’, which requires no government intervention, to ‘**restricted**’ category.
 - This means that export of sugar is allowed only with specific **permission from Ministry of Consumer Affairs, Food & Public Distribution**.
- **Reasons for putting curbs on Sugar export now**
 - For the government, a possible worry is **low stocks at the beginning of the next season. This can lead to supply constraints** for around three months.
 - The sugar season starts in October, but picks up momentum only after December. If there is scarcity of back-up stocks during this period then prices can escalate in the domestic market.
 - When inflation, especially food inflation, is beyond the expected range, **further rise in sugar prices will hurt India's economic recovery process.**

Indian government argues that the ban on wheat exports and curbs on sugar exports is not a crisis-driven situation but a calculated measure to ensure adequate domestic supply & to keep domestic prices in check.

Why the War in Ukraine Threatens Global Food Security

Ukraine's and Russia's share in global exports of selected crops (2016-2020 average)



Source: Food and Agriculture Organization of the United Nations



statista

Agnipath Recruitment Scheme

Context: Government has launched Agnipath recruitment scheme as a common means for recruitment of soldiers to armed forces.

What is the Agnipath scheme?

- The new defence recruitment reform, which has been cleared by the Cabinet Committee on Security, will come into effect immediately, and the soldiers recruited under the scheme will be called Agniveers.
- Under the new scheme, around 45,000 to 50,000 soldiers will be recruited annually, and most will leave the service in just four years.
- Of the total annual recruits, **only 25 per cent will be allowed to continue for another 15 years under permanent commission.**
- The move will make the **permanent force levels much leaner** for the over 13-lakh strong armed forces in the country.
- This will, in turn, considerably reduce the defence pension bill, which has been a major concern for governments for many years.

What are the eligibility criteria?

- The new system is only for personnel below officer ranks (those who do not join the forces as commissioned officers).
- Under the Agnipath scheme, aspirants between the ages of 17.5 years and 21 years will be eligible.
- The recruitment standards will remain the same, and recruitment will be done twice a year.

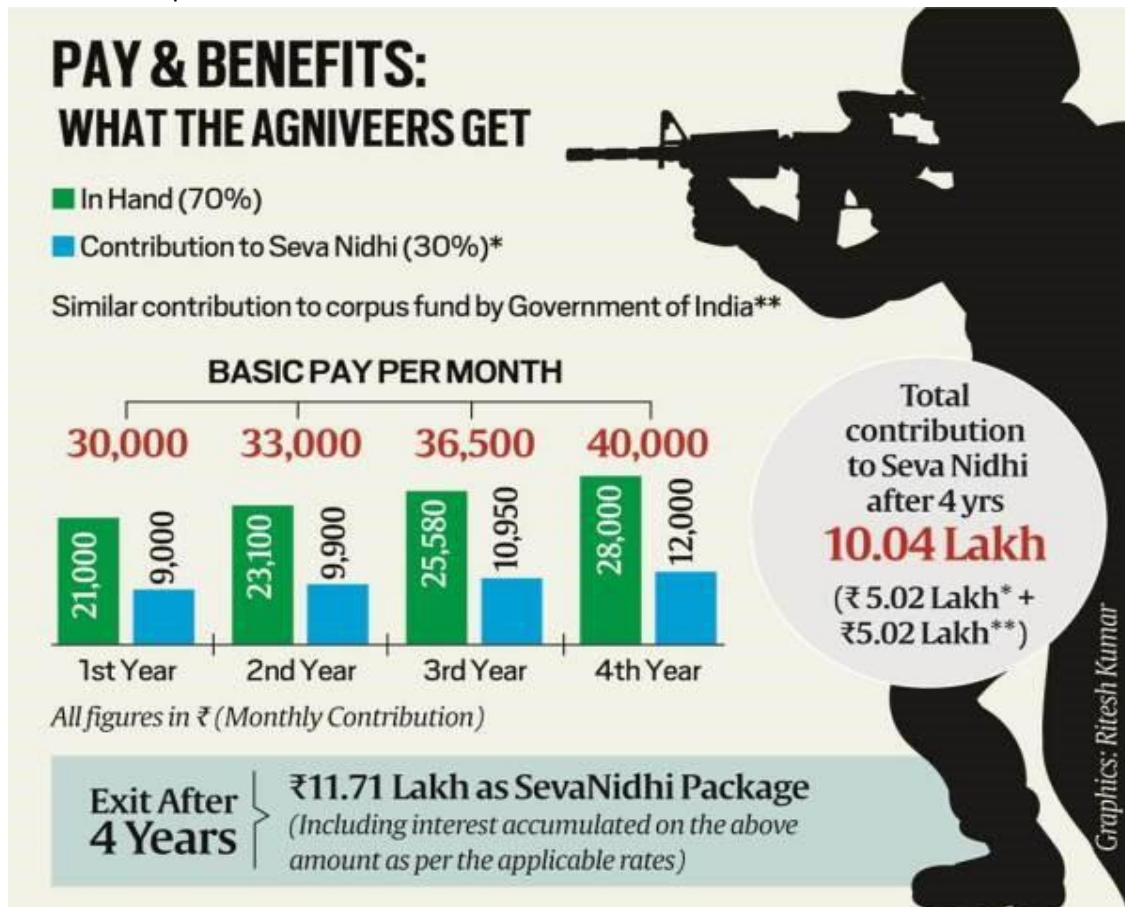
What happens after selection?

- **Training & decent salary:** Once selected, the aspirants will go through training for six months and then will be deployed for three and a half years. During this period, they will get a starting salary of Rs 30,000, along with additional benefits which will go up to Rs 40,000 by the end of the four-year service.
- **Seva Nidhi Programme:** Importantly, during this period, 30 per cent of their salary will be set aside under a Seva Nidhi programme, and the government will contribute an equal amount every month, and it will also accrue interest. At the end of the four-year period, each soldier will get Rs 11.71 lakh as a lump sum amount, which will be tax-free.
- **Insurance:** They will also get Rs 48 lakh life insurance cover for the four years. In case of death, the payout will be over Rs 1 crore, including pay for the un-served tenure.
- **Filtering for Career Progression:** However, after four years, only 25 per cent of the batch will be recruited back into their respective services, for a period of 15 years. For those who are re-selected, the initial four-year period will not be considered for retirement benefits.

How will the scheme benefit the armed forces and the recruits?

- **Reduced Average Age:** The average age in the forces is 32 years today, which will go down to 26 in six to seven years, the scheme envisions.
- **Youthful Forces:** A youthful armed forces will allow them to be easily trained for new technologies. Also, merit-driven selection procedure for 25 per cent of the Agniveers for permanent absorption will further improve the quality of permanent soldiers.

- **Employable Skills imparted:** The government also stated that it will increase employment opportunities and because of the skills and experience acquired during the four-year service such soldiers will get employment in various fields.
 - They will be provided with skill certificates and bridge courses. The impetus will be to create entrepreneur.



Why the scheme can help cut the rising salary, pension bill?

- The government has either allocated or paid more than Rs. 3.3 lakh crore in defence pension since 2020.
- For years, because of the pension bill, the revenue component of the Ministry of Defence has been larger than the capital outlay for modernization of the armed forces.
- The total pay and allowances for the three services for this year comes close to Rs 1.35 lakh crore. Added to the Rs 1.2 lakh crore of pension, the government has allocated **Rs 2.55 lakh crore for just salary and pension for FY23**, which is higher than the **Rs 2.33 lakh crore allocated for capital outlay**, to be used for modernization of the defence forces.
- The Agnipath scene has been in the making for two years and has seen considerable refinement after in-house deliberations and a raging public debate led by the veterans.
- The basic intent of the scheme is to reduce the burgeoning pension bill for better management of the defence budget and provide a youthful profile to the armed forces.

- With reduction in revenue expenditure, the government can divert the funds to **modernization of defence forces** with more infusion of funds into capital expenditure.

What are the concerns expressed with the scheme?

- **Intent of bill:** There is a political opposition that the scheme would be unjust to new recruits and will blunt the military's ability to deal with the security threats the country faces.
- **Changing Status Quo that has worked well:** The veterans have been very critical and have perceived the scheme to be impinging on the time-tested caste/religion/region-based regimental system and unit/sub-unit cohesion, which is the primary motivator in battle.
- **Needs to be part of holistic reform:** Unfortunately, the scheme is a standalone reformative decision delinked from the holistic transformation of the armed forces that must follow the time-tested sequence of a strategic review, conceptualization of a formal national security strategy, defence policy and a time bound execution plan.
 - The scheme also needs to be linked to other manpower management-related reforms based on optimization/reduction of manpower and restructuring/reorganization.
- **Not attractive enough for success**
 - The starting pay package of Rs 30,000 with fixed annual increments and a substantial death/disability package is reasonable, but the denial of Dearness Allowance seems to be unfair.
 - Compared to the terms and conditions of the Central Armed Police Forces, where one can serve up to the age of 58, the Agnipath has turned out to be unattractive.
- **Post-retirement benefits:** Keeping the tenure as four years and denying gratuity (which is as per current policy is authorised after 5 years of service) will remain a sore point as also the denial of ex-servicemen status for benefits/privileges along with a health scheme. Post-retirement incentives to the Agniveers remain a grey area and the issue needs to be addressed.

Hub airport

Context: The concept of Hub airport has been floated as a transformative measure to realize the full potential of Indian aviation market and to maximize the economic benefits to the country.

- India is the third largest domestic aviation market in the world, next only to the USA and China.
- In view of the surge in passenger demand, India's airport operators have planned investments upwards of Rs 90,000 crore to enhance capacity over the next four years or so.

What is a hub airport?

- 1) A hub airport is **one served by a multitude of airlines, connecting several airports through non-stop flights.**
- 2) There are **three basic requirements for becoming a major airport hub**, whether domestic or international, i.e.,
 - Good geographic location
 - Sufficient local consumer demand;
 - Necessary infrastructure to support high-volume traffic.
- 3) A typical hub airport **operates on the concept of waves.**

- 4) A wave of incoming flights arrives and connects with another wave of outgoing flights that departs an hour or two later.
- 5) **Hubbing allows for the maximum combination of flight pairs and a wider choice of destinations and frequencies for connecting passengers.**
- 6) Some global examples are (Hub airport/Home airline): London/British Airways; Frankfurt/Lufthansa

Significance

- A hub creates economies of scale for the airport and airlines alike and it is a win-win for all.
- The airport benefits from **increased direct connectivity** with other airports and **more revenue opportunities due to increased passenger footfalls.**
- Improved passenger throughput has a **knock-on effect on the wider airport ecosystem, such as aero and non-aero service providers at the airport, including cargo and ground handling, etc.**
- **Airlines, on their part, get to serve city pairs that are otherwise economically unviable for non-stop flights.**
- Frequent fliers get greater choice and flexibility with flights, destinations, and service frequencies, as well as lower ancillary costs, such as avoiding the time and cost of an overnight stay.
- It is well established that the **creation of one job in the aviation sector affects the creation of up to six jobs in allied sectors, such as tourism and hospitality.**
- All this propels the economic and social development of the city and its inhabitants, too.

An India perspective

- In India the first two requirements are largely addressed and the **focus is rightly on addressing the third requirement i.e. infrastructure.**

Factors in favor

- India has the **largest diaspora, or transnational community**, at 18 million people across all six continents and regions **being third largest domestic aviation market in the world** it can go for airport hub.
- India is **located on busy international air corridors that connect Europe, Africa, and the Middle East with Asia**, making it ideal for a transit hub and alternative/diversion/fuel stop/technical stop; being the fifth-largest economy.

Impediments

- There are **capacity constraints at major airports** because of a **lack of landing slots, especially during peak hours.**
- The Airports Authority of India Act (AAI), 1994 **constrains** the AAI/airport operators from **commercially exploiting available land for non-aeronautical activities.**
- A high cost-low fare operating environment and increased competition hurts airline balance sheets and financials, which hurts the growth of airports.

There is a need to develop inter-modal connectivity (rail/road/air) and logistics support infrastructure as a part of the future master plans to fully exploit potential with cargo and freight. With the carefully framed policy, India can bring down its logistic cost, increase people to people contact and raise the contribution of hospitality sector to the economy.

India's digital economy

In News: Addressing the meeting of the BRICS Business Forum, Prime Minister said the **digital transformation unfolding in India has never before been seen on the world stage.**

- India's digital economy and the infrastructure sector have a total potential for \$2.5 trillion.
- There are more than **100 unicorns in over 70,000 start-ups in India**, and their number continues to grow.
- The value of the Indian digital economy will reach \$1 trillion by 2025.

Advantages of a Digital Economy

- **Removal of Black Economy:** By restricting cash-based transactions and using only digital payments, the government can efficiently expel the black economy.
- **Empowerment to People:** Direct Benefit Transfer, fight against Corruption
- **Creation of new jobs.**
- **Increase in Revenues:** Each transaction is recorded, customers will get a bill for their purchase, and the merchants are bound to pay sales tax to the government.
- **E-governance:** Digital economy will pave a way to e-governance, where delivery of all government services would be done electronically.

Measures taken by Government

- **Digilockers:** it is a "digital locker" service operated by the Government of India that enables Indian citizens to store certain official documents on the cloud.
- **Digital Payments:** The introduction of Unified Payments Interface (UPI), which introduced the benefits of digital payments in every part of the country.
- **BHIM app**—It is an app to enable digital payments.
- **Pradhan Mantri Gramin Digital Saksharta Abhiyan** to make citizen digitally literate.
- **BharatNet Project:** world's largest rural broadband connectivity program using Optical fiber

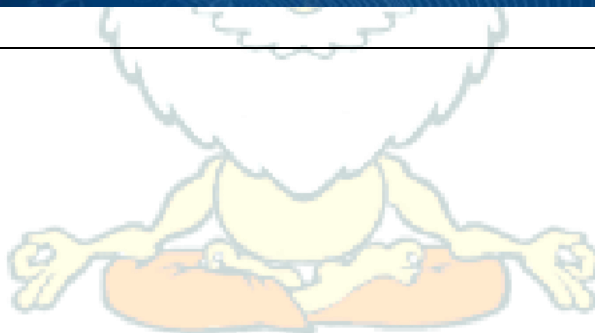
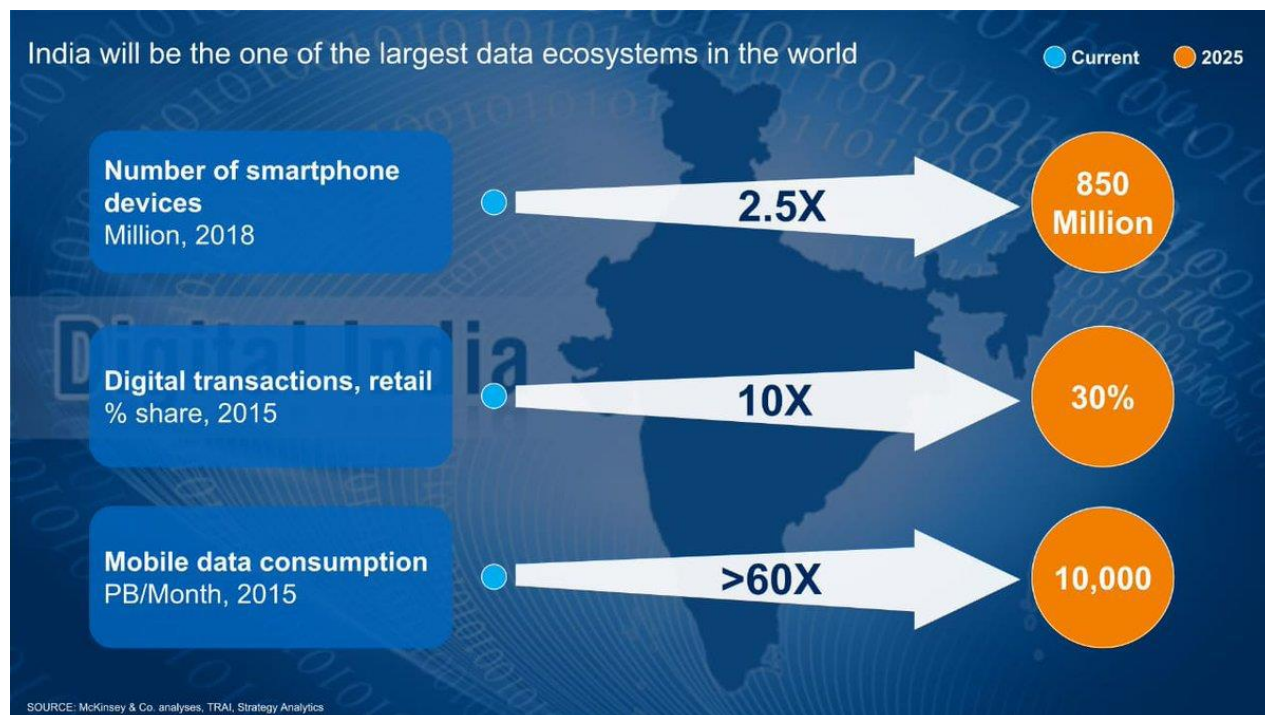
Challenges

- **Lack of connectivity/infrastructure:** Slow roll-out of Wi-Fi hotspots and the slow speed
- **Lack of incentives:** Most small and medium scale industry is struggling to adapt to modern technology
- **Digital illiteracy:** Huge digital divide between gender, regions etc.
- **Lack of skilled manpower:** Lack of user education and there are limited facilities to train personnel

Way forward

- India's technical and management institutes should revamp their curriculum to integrate and promote digital technologies
- Skill development initiatives to train manpower

- Stricter data protection laws that govern such cross border digital flows is needed he digital economy is heavily based on intellectual property, strict protection to patents and copyrighted work, whether produced in India or elsewhere is also need to be implemented.





SOCIETY & SOCIAL ISSUES



Surrogacy Regulation Act, 2021

Context: Petitioners in the Delhi High Court questioned why marital status, age, or gender were the criteria for being allowed to commission or not commission surrogacy in India.

What is the Surrogacy Act, 2021?

- The Act sought to regulate the surrogacy in India.
- The Act defines 'surrogacy' as a practice where a woman undertakes to give birth to a child for another couple and agrees to hand over the child to them after birth.

Why is there a need for a Surrogacy Act in India?

- India has emerged as a hub for infertility treatment, attracting people from the world - **due to prevailing socio-economic inequities, underprivileged women found an option to 'rent their wombs'** and thereby make money to take care of their expenses.
 - By 2012, **India had become the 'surrogacy capital' of the world** with surrogacy tourism valued at approximately \$500 million annually.
- **To curb unethical practices:** Lack of specific legislation had led to unregulated growth of Commercial Surrogacy services. Hence, to **curb unethical practices related to issues of sex selection and exploitation of the surrogate**, specific legislation was required.
- **To curb the exploitation of women:** Due to the **absence of legal regulations and lack of implementation**, surrogate mothers faced multiple challenges - there had been many cases of death related to surrogacy which neither commissioning parents nor the doctors were ready to take responsibility of.
- **Legal Issues:** Sometimes, Indian adoption laws or citizenship laws of some other countries also create problems. For example, Germany gives citizenship by mother; this creates issues in determining the nationality of child.
 - In 2008, a Japanese couple began the process with a surrogate mother in Gujarat, but before the child was born they split and there were no takers for the child.
 - In 2012, an Australian couple commissioned a surrogate mother, and arbitrarily chose one of the twins that were born.
- **Ethical Issues:** Surrogacy leads to **commodification of the child**. Renting of the womb breaks the bond between a mother and the child, interferes with natural bonding.

Key Provisions of the Act:

- The **Act prohibits commercial surrogacy, but allows altruistic surrogacy**.
- **Eligibility criteria for intending couple:** Any couple that has '**proven infertility**' is candidates. The 'intending couple' as the Act calls them, will be eligible if they have a '**certificate of essentiality**' and a '**certificate of eligibility**' issued by the appropriate authority.

- **Eligibility criteria for surrogate mother:** Only a **close relative** of the couple can be a surrogate mother, one who is able to provide a **medical fitness certificate**. She should have **been married, with a child of her own**, and **must be between 25 and 35 years**, but can be a **surrogate mother only once**.
- **Appropriate authority:** The central and state governments **shall appoint one or more appropriate authorities**. The functions of the appropriate authority include;
 - granting, suspending or cancelling registration of surrogacy clinics;
 - enforcing standards for surrogacy clinics;
- **National and State Surrogacy Boards:** The central and the state governments shall constitute the National Surrogacy Board (NSB) and the State Surrogacy Boards (SSB), respectively.
- **Parentage and abortion of surrogate child:** An **abortion** of the surrogate child requires the written consent of the surrogate mother and the authorization of the appropriate authority. This authorization must be compliant with the Medical Termination of Pregnancy Act, 1971.
 - The surrogate mother will have an option to withdraw from surrogacy before the embryo is implanted in her womb.

What are the controversies behind the Act?

- **Exclusion:** Eligibility criteria for legally availing surrogacy excludes a chunk of society like unmarried females, LGBTQ+ persons, live-in couples, and single parents who wish to have surrogate child.
- **Paternalistic:** The altruistic model expects a woman to go through the physical and emotional tolls of surrogacy free of cost and only out of compassion.
- **Autonomy of Woman:** The banning of commercial surrogacy moves from the rights-based approach to a needs-based approach, thus removing the **women's autonomy to make their own reproductive decisions** and right to parenthood.
- **Limitations of Altruistic Surrogacy:** Having a **relative as a surrogate mother may lead to emotional complications**. Altruistic surrogacy also limits the option of the intending couple in choosing a surrogate mother as very limited relatives are eligible and volunteer for surrogacy.
- **Children with Disability:** The Act considers having children with physical and special needs as childless. It further encourages considering surrogacy if the couple has a child with a life-threatening disorder.

As India is one of the major hubs of these practices, the Act is certainly a step in the right direction. More reforms are still needed recognize the rights of all stakeholders involved. The law needs to keep up with rapidly evolving demands of morality and societal changes.

Child Malnutrition

Malnutrition, in all its forms, **includes under-nutrition (wasting, stunting, underweight), obesity, and resulting diet-related non-communicable diseases**.

The term malnutrition addresses 3 broad groups of conditions:

- **Under-nutrition**, which includes wasting (low weight-for-height), stunting (low height-for-age) and underweight (low weight-for-age)
- **Micronutrient-related malnutrition**, which includes micronutrient deficiencies or micronutrient excess; and

- **Overweight, obesity and diet-related non-communicable diseases** (such as heart disease, stroke, diabetes and some cancers).

Malnutrition is a chronic problem and a longstanding challenge for the public administration of India.

- The National Family Health Survey (NFHS-5) has shown **marginal improvement in different nutrition indicators, indicating that the pace of progress is slow.**
- While there was some **reduction in stunting rates** (35.5% from 38.4% in NFHS-4) **13 States or Union Territories have seen an increase in stunted children** since NFHS-4
- The NFHS-5 survey indicates that more than **57% of women (15-49 years) and over 67% children (six-59 months) suffer from anaemia.**
- Developing countries lose up to 4.05% in GDP per annum due to iron deficiency anaemia; **India loses up to 1.18% of GDP annually.**

Reasons for Malnutrition:

- **Monoculture agricultural practices:** Though India has achieved food security, it has not sufficiently addressed the issue of malnutrition.
 - These intensive monoculture agricultural practices can perpetuate the food and nutrition security problem by degrading the quality of land, water and the food derived through them.
- **Changing food patterns:** Food consumption patterns have changed substantially in India over the past few decades, which has resulted in the disappearance of many nutritious local foods, for example, millets.
- **Poverty:** It affects the availability of adequate amounts of nutritious food for the most vulnerable populations.
- **Lack of sanitation and clean drinking water:** poor sanitation, and dangerous hygiene practices increase vulnerability to infectious and water-borne diseases
- **Gender injustice:** There is a correlation between gender discrimination and poor nutrition.
 - Malnourished girls become malnourished adolescents who marry early and have children who become malnourished, and so the cycle continues.
- **Inappropriate policies and lax implementation** - policies are not designed based on real-time data.

Measures Taken to Tackle Malnutrition:

Integrated Child Development Services (ICDS) Scheme

- It provides a **package of six services** namely supplementary nutrition, pre-school non-formal education, nutrition & health education, immunization, health check-up and referral services.

National Health Mission (NHM)

- The main programmatic components include health system strengthening in rural and urban areas for - **Reproductive-Maternal- Neonatal-Child and Adolescent Health (RMNCH+A), and Communicable and Non-Communicable Diseases.**

Mid-Day Meal Scheme

- It provides that **every child within the age group of six to fourteen years studying in classes I to VIII who enrolls and attends the school shall be provided with a hot cooked meal, free of charge every day except on school holidays.**

Poshan Abhiyan

- It is a multi-ministerial convergence mission with the vision to ensure the attainment of malnutrition free India by 2022.

Indira Gandhi Matritva Sahyog Yojna (IGMSY)

- The scheme aims to contribute to a better enabling environment by providing cash incentives for improved health and nutrition to pregnant and lactating mothers.

Way forward:

Financial commitment

- Increase investment in women and children's health and nutrition** to ensure their sustainable development and improved quality of life.
- Saksham Anganwadi** and the Prime Minister's Overarching Scheme for Holistic Nourishment (**POSHAN 2.0**) programme have seen only a marginal increase in budgetary allocation

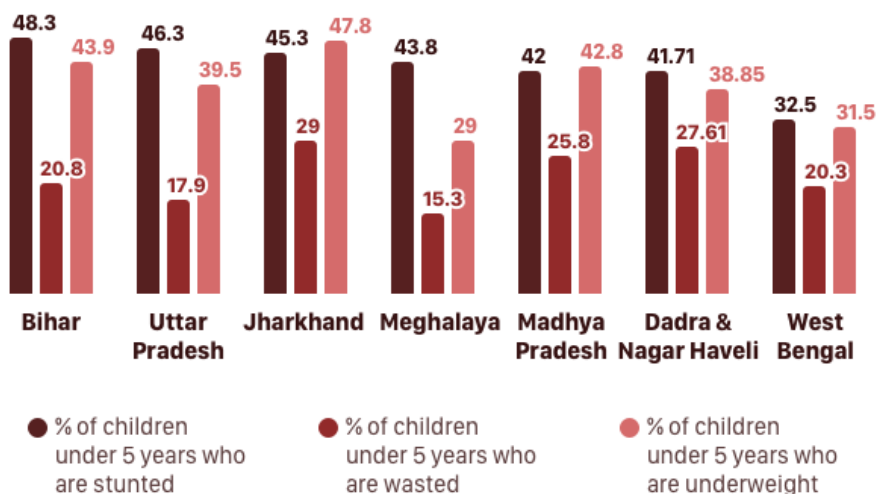
Outcome-oriented approach

- Strict monitoring and interventions** by parliamentarians in their constituencies
- Direct engagement with nutritionally vulnerable groups** and contribute toward ensuring last-mile delivery of key nutrition services and interventions.

Diversification:

- Public Distribution System** should be diversified, to include millets and other nutrient rich grains.

THE CRISIS OF MALNUTRITION IN INDIA



Source: NFHS 4 (2015-16)

#BanegaSwasthIndia

ndtv.com/swasthIndia

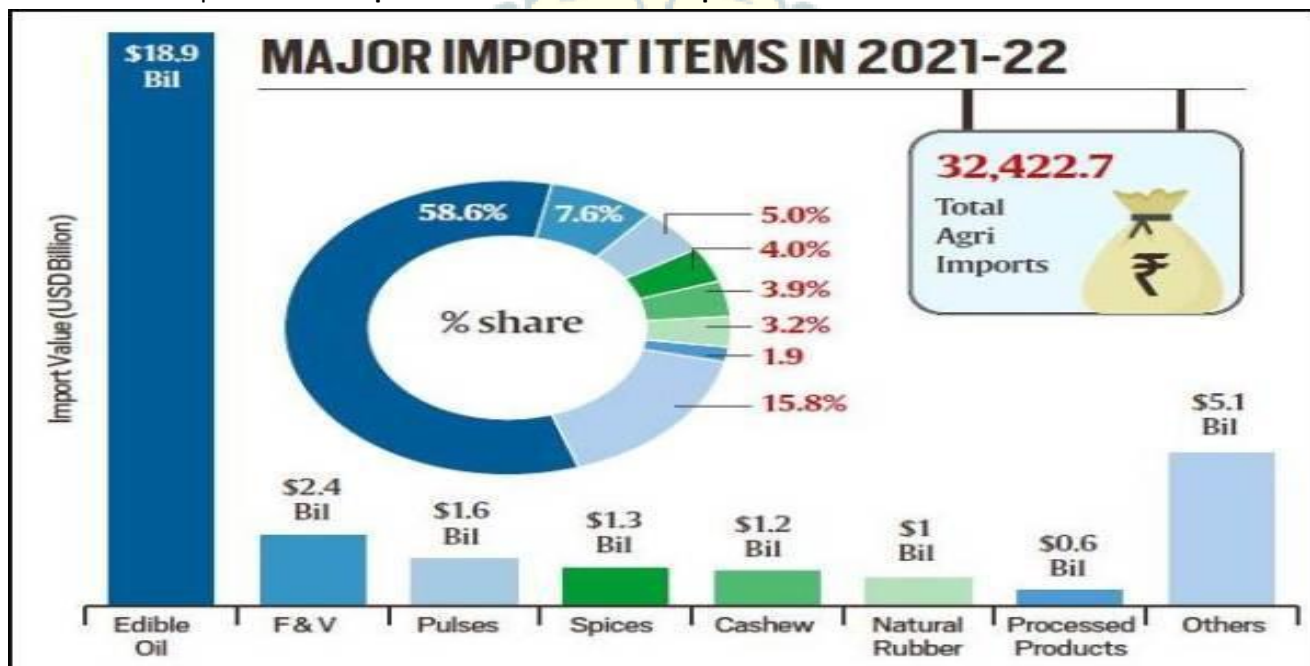
Food Security

Context: Supply disruptions during the pandemic and the **Russia-Ukraine war** have led many nations to think about self-sufficiency in critical food items.

- Examples include Russia's export ban on wheat and sunflower oil, Ukraine's ban on exports of food staples, Indonesia's ban on palm oil exports, Argentina's ban on beef exports, Turkey, Kyrgyzstan and Kazakhstan's ban on a variety of grain products, and India's wheat export ban.
- Sudden actions such as these exacerbate the **pressure on global trade leading to a spike in the prices of these commodities, threatening the food security of net food-importing countries.**
- Thus such disruptions in supply chain had made India to **rethink about self-sufficiency in critical food items** or at least reduce their excessive dependence on imports of essential food products.

Stats regarding Indian Export-Import basket:

- India Agri-exports in **FY22** touched \$ 50.3 billion against its Agri-imports of \$ 32.4 billion.
- This means that Indian agriculture is largely globally competitive.
- But its **biggest Agri-import item, edible oil, accounts for 59 per cent of India's Agri-import basket.**
- India's edible oil import bill in 2021-22 (FY22) crossed \$19 billion.
- **Palm oil comprises more than 50 per cent of India's edible oil imports**, followed by soybean and sunflower.
- India imports **55 to 60 per cent of its edible oil requirements.**



- The excessive dependence on imports has raised the pitch for atma nirbharta in edible oil.
- Thus the GoI launched National Edible Oil Mission-Oil Palm (NEOM-OP) in 2021.

National Edible Oil Mission-Oil Palm (NEOM-OP) in 2021

- It aims **raise the domestic production of palm oil by three times to 11 lakh MT by 2025-26.**
- This will involve **raising the area under oil palm cultivation to 10 lakh hectares by 2025-26 and 16.7 lakh hectares by 2029-30.**

Features:

- The special emphasis of the scheme will be in India's north-eastern states and the Andaman and Nicobar Islands due to the conducive weather conditions in the regions.
- Under the scheme, oil palm farmers will be provided financial assistance and will get remuneration under a price and viability formula.

Significance of the Scheme:

- **Reduction in Import dependence** - India is the largest consumer of vegetable oil in the world.
- **Rise in Yields** - India produces less than half of the roughly 2.4 crore tons of edible oil that it consumes annually, with financial assistance and guidance there will be rise in the yield.

Concerns

- Achieving atmanirbhar in edible oils would require an **additional area of about 39 million hectares**.
- Such a large tract of land will **not be available without cutting down the area under key staples (cereals)** – this could endanger the country's food security.
- **Long gestation period crop** it takes four to six years to come to maturity affecting farmers income.
- Price volatility.

Way Forward

- **A rational policy** to reduce import dependence in edible oils and achieve food security without affecting other essential crops.
- **Supporting farmers during gestation period** with incentives and opportunity cost of their lands.
- Proper **pricing formula** that take into account the price volatility.
- Declare **oil palm as a plantation crop** and allow the corporate players to own/lease land on a long-term basis.
- Development of **processing units and marketing mechanism without middlemen**.

The role of caste in economic transformation

Context: Caste, a structural factor that impedes economic transformation in India.

- Caste through its **rigid social control and networks facilitates economic mobility for some and erects barriers for others** by mounting disadvantages on them.
- Caste shapes the ownership pattern of land and capital and simultaneously regulates access to political, social, and economic capital too.

Ways it impedes economic transformation:

There are three ways in which **caste impedes the economic transformation in India:**

- **ownership and land inequality** related to productivity failure within the farm sector;
- **elite bias in higher education and historical neglect of mass education**, and
- **Caste-based entry barriers and exclusive networks in the modern sector**.
- All the nations which succeeded in achieving inclusive growth in the Global South had land reforms combined with human capital, invested in infrastructure by promoting capitalism from below and began industrialization in the rural sector.
- India lost on all three counts.

Land ownership, productivity:

- India has **one of the highest land inequalities in the world today**.
- **Unequal distribution of land was perpetuated by British colonial intervention** that legalized a traditional disparity.
- The prescribed categories and practices have entrenched caste inequality in land ownership.
- Even the subsequent land reform that took place after India's independence largely excluded Dalits and lower castes.
- Further **green revolution** tightened landlords' social control over others in rural India.
- Land still defines social status and pride in many parts of rural India.

Neglect of education:

- If strong growth in productivity within the farm sector is crucial for sustained economic growth, an **educated workforce is equally necessary to move to the modern sectors**.
- **India failed** on both accounts.
- The Indian education system has been suffering from an elite bias since colonial times.
- It **primarily focused on higher education for the elites neglecting basic education of mass**.
- Inequality in access to education got translated into inequality in other economic domains including wage differentials in India.
- As South East Asia and China captured low-end manufacturing jobs, India largely concentrated in high-end technology jobs.

Barrier to entrepreneurship:

- India **did not witness such capitalism from below** except in a few cases.
- Caste shaped policy outcomes, including India's highly unequal land reform and lack of public provision of education and health, which in turn erected barriers to economic diversification.
- Castes that were already in control of trading and industrial spaces resisted the entry of others.

Caste is an important factor in growth and development in India. For caste is not a residual variable, but is an active agent which stifles economic transformation.

Demography Dividend

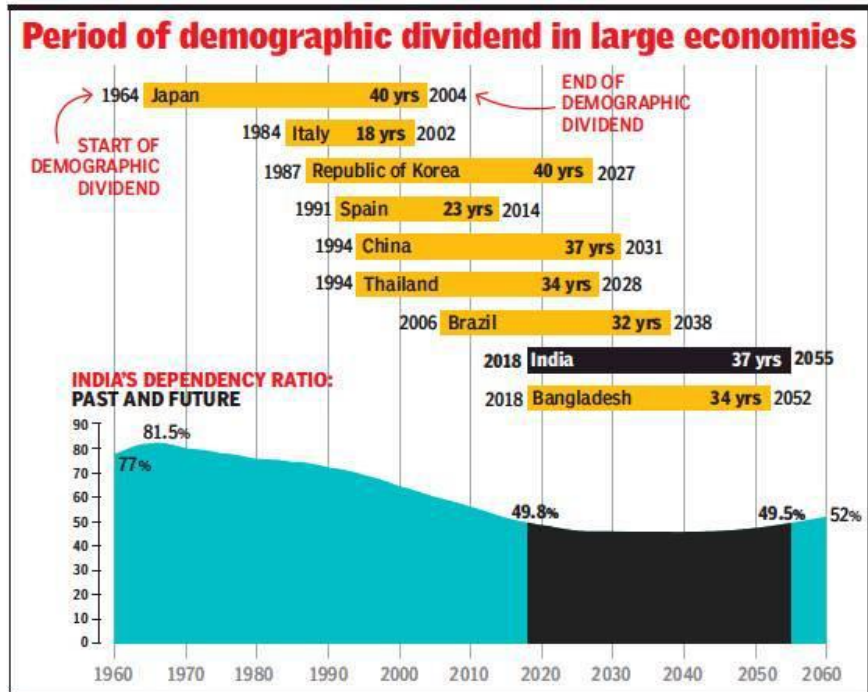
Context: DEMOGRAPHY has, for some years now, been recognized as a driver of various key parameters of a nation.

- Developing policies and investments to secure the future of citizens requires that governments know the size, sex, location and age structure of their present and future populations.

What is demographic dividend?

- The demographic dividend is **the economic growth potential that can result from shifts in a population's age structure**, mainly when the share of the working-age population (15 to 64) is larger than the non-working-age share of the population (14 and younger, and 65 and older)

- With more people in the labor force and fewer children to support, a country has a window of opportunity for economic growth if the right social and economic investments and policies are made in health, education, governance, and the economy.
- However, with the passage of time, the share of the older population rises and that of the working age population begins to fall and hence the dividend is available for a period of time, 'the window of demographic opportunity'.
- Also the realization of the benefits of demographic dividend is not automatic. Without proper policies, the increase in the working-age population may lead to rising unemployment, fueling economic and social risks. This calls for forward-looking policies incorporating population dynamics, education and skills, healthcare, gender sensitivity, and providing rights and choices to the younger generation.



Is India in a stage of reaping Demographic dividend?

- India has the largest youth population in the world; around 66 per cent of the total population (more than 808 million) is below the age of 35.
- In 2020, the median age of the population in India was 28, compared to 37 in the US and China, and 49 in Japan.
- Since 2018, India's working-age population (people between 15 and 64 years of age) has grown larger than the dependent population. This bulge in the working-age population is going to last till 2055.
- A study on demographic dividend in India by United Nations Population Fund (UNFPA) throws up two interesting facts.
 - The **window of demographic dividend opportunity** in India is available for five decades from 2005-06 to 2055-56, longer than any other country in the world.
 - This demographic dividend **window is available at different times in different states** because of differential behavior of the population parameters.
- With falling fertility (currently 2.0), rising median age (expected to be 36 years by 2036), a falling dependency ratio (expected to decrease from 65% to 54% in the coming decade taking 15-59 years as the working age population), India is in the middle of a demographic transition.

What are the advantages associated with Demographic Dividend?

- **Better economic growth** brought about by increased economic activities due to higher working age population and lower dependent population.
- **Productive Labour Force in future:** The smaller share of children in the population enables higher investment per child. Therefore, the future entrants in the labour force can have better productivity and thus boost income.
- **Increased fiscal space** created by the demographic dividend to divert resources from spending on children to investing in physical and human infrastructure.
- **Women Empowerment:** Smaller numbers of children per household generally lead to more freedom for women to enter the formal workforce, which again can be a new source of growth.
- **Increase in savings rate,** as the working age also happens to be the prime period for saving. This will enable the economy to channelize the savings towards investments for expansion of economic activities thus creating a virtuous cycle.
- **Rise of New Class:** If demographic potential is effectively reaped there will be massive shift towards a middle-class society, that is, the rise of aspirational class.
- **Rapid industrialization and urbanization** because of higher number of employment seeking population that would force higher economic activities.
- **Boost to Innovation & Entrepreneurial spirit:** A large youth population can also be a source of entrepreneurship and innovation, as the young are known to be less risk-averse and more likely to break new ground. Therefore, in the tech era, when start-up enterprises are a catalyst for economic growth and jobs, having so many youngsters is a huge advantage.
 - In India, we are already seeing the fruits of this through the upsurge in start-ups and the success of so many innovative ideas.

What are the challenges associated with Demographic Dividend?

- **Rising Unemployment:** The demographic dividend will be fully realized only if India is able to create gainful employment opportunities for this working-age population. However, due to external & internal factors, there is growth of joblessness that makes the potential of youth go waste.
- **Lack of skills:** Most of the new jobs that will be created in the future will be highly skilled and lack of skill in Indian workforce is a major challenge. India may not be able to take advantage of the opportunities, due to low human capital base and lack of skills.
- **Low human development parameters:** India ranks 130 out of 189 countries in UNDP's Human Development Index, which is alarming. Therefore, health and education parameters need to be improved substantially to make the Indian workforce efficient and skilled.
- **Informal nature of economy in India** is another hurdle in reaping the benefits of demographic transition in India.
- **Regionally imbalanced demographic transition:** The growth in the working-age ratio is likely to be concentrated in some of India's poorest states. All but five states have a below-replacement-level Total Fertility rate (2.1), the figures for Uttar Pradesh and Bihar are yet as high as 2.35 and 3, respectively. Already, the lack of livelihoods in most of the eastern states has led to large-scale labour migration — first to farms in Punjab, and now to urban job hubs (Delhi/NCR, Mumbai, Bengaluru, etc.)

What needs to be done to reap rich demographic dividends?

- **Job Creation:** The nation needs to create ten million jobs per year to absorb the addition of young people into the workforce. Promoting businesses' interests and entrepreneurship would help in job creation to provide employment to the large labour force.
- **Skill development** to increase employability of young population. India's labour force needs to be empowered with the right skills for the modern economy. Government has established the National Skill Development Corporation (NSDC) with the overall target of skilling/ up skilling 500 million people in India by 2022.
- **Updating National Transfer Accounts (NTA) assessment:** India's per capita consumption pattern is way lower than that of other Asian countries. A child in India consumes around 60% of the consumption by an adult aged between 20 and 64, while a child in China consumes about 85% of a prime-age adult's consumption. The NTA data for India needs to be updated to capture the progress made on investments in education & health since 2011-12. State-specific NTAs need to be calculated every year and States need to be ranked for investing in the youth.
- **Invest more in children and adolescents:** India ranks poorly in Asia in terms of private and public human capital spending. It needs to invest more in children and adolescents, particularly in nutrition and learning during early childhood. Given that India's workforce starts at a younger age, a greater focus needs to be on transitioning from secondary education to universal skilling and entrepreneurship, as done in South Korea.
- **Health Investments:** Health spending has not kept pace with India's economic growth. The public spending on health has remained flat at around 1% of GDP. Evidence suggests that better health facilitates improved economic production. Hence, it is important to draft policies to promote health during the demographic dividend.
- **Make reproductive healthcare services accessible on a rights-based approach:** The unmet need for family planning in India at 9.4% as per the latest National Family Health Survey-5 (2019-21) is high as compared to 3.3% in China and 6.6% in South Korea, which needs to be bridged.
- **Bridge Gender Inequality in Education:** Education is an enabler to bridge gender differentials. The gender inequality of education is a concern. In India, boys are more likely to be enrolled in secondary and tertiary school than girls. In the Philippines, China and Thailand, it is the reverse.
- **Increase female workforce participation:** As of 2019, 20.3% of women were working or looking for work, down from 34.1% in 2003-04. New skills and opportunities for women befitting their participation in a \$3 trillion economy is urgently needed. She will need safe transport to travel to work.
 - Finding work will likely delay her age of marriage and make her participate in the economy more productively, as also exercise her rights and choices.
 - South Korea's female workforce participation rate of 50% has been built on i) legally compulsory gender budgeting to analyze gender disaggregated data and its impact on policies, ii) increasing childcare benefits, and iii) boosting tax incentives for part-time work.
- **Address the diversity between States:** Southern States, which are advanced in demographic transition, already have a higher percentage of older people. However, eastern states are considered as reservoir of India's workforce. Politics over migration has to be managed so that States work together on demographic transition.

- **Urbanization:** The large young and working population in the years to come will migrate to urban areas within their own and other States, leading to rapid and large-scale increase in urban population. How these migrating people can have access to basic amenities, health and social services in urban areas need to be the focus of urban policy planning.
- **Federal Cooperation:** A new federal approach to governance reforms for demographic dividend will need to be put in place for policy coordination between States on various emerging population issues such as migration, ageing, skilling, female workforce participation and urbanization. Inter-ministerial coordination for strategic planning, investment, monitoring and course correction should be an important feature of this governance arrangement.

Abortion debate

Context: The U.S. Supreme Court, in a 6-3 majority, overturned the **1973 ruling in Roe vs. Wade**, and took away the **constitutional right to abortion**.

What is abortion debate?

- The abortion debate deals with the rights and wrongs of deliberately ending a pregnancy before normal childbirth, killing the foetus in the process.
- The moral debate about abortion deals with two separate questions:
 - **Is abortion morally wrong?**
 - **Should abortion be legal or illegal?**
- On one side are those who call themselves '**pro-life**'. They say that intentionally caused abortion is always wrong (although it may on very rare occasions be the best thing to do).
- On the other side are those who call themselves '**pro-choice**' or 'supporters of abortion rights', and who regard intentional abortion as acceptable in some circumstances.
- There is also the issue of **silent victim** that is foetus.

What is the case against abortion?

The most common form of the case for banning abortion goes like this:

- Deliberately killing innocent human beings is **wrong** and a foetus is an innocent human being.
- Abortion is the deliberate killing of a foetus. Therefore abortion is the deliberate killing of an innocent human being.
- Therefore, abortion is wrong.

What are the arguments in favor of abortion?

- Abortion is an important element of women's rights because **women are more affected by the abortion** debate than men, both individually (if they are considering an abortion) and as a gender.
- Pregnancy has an **enormous effect on the woman** involved. It disrupts her body. It disrupts her education. It disrupts her employment. And it often disrupts her entire family life.
- Therefore, **she should be allowed to make the choice** as to whether to continue or to terminate her pregnancy.
- Banning abortion forces '**the unwilling to bear the unwanted**'. It would also put women at risk by forcing them to use illegal abortionists.

- Many people regard the **right to control one's own body** as a key moral right. If women are not allowed to abort an unwanted foetus they are deprived of this right.
- This argument basically reminds us that we should regard the **woman as a person** and not just as a container for the foetus.

Roe Vs Wade Case, 1973 of USA

- In January 1973, the US Supreme Court ruled that a woman's right to terminate her pregnancy was a private matter and protected by the US constitution.

What has changed now in USA?

US Supreme court has overturned the earlier Roe Vs. Wade verdict in its recent Dobbs vs Jackson Women's Health Organization case, 2022, making abortion illegal and punishable.

What is the current status of abortions globally?

- According to the World Health Organization (WHO), every year, approximately 73 million abortions are performed globally. This equates to approximately 39 abortions per 1000 women worldwide.
- Between 1990–94 and 2015–19, the average abortion percentage in states where abortion is apparently legal (excluding China and India) fell by 43%. In comparison, in nations with strict abortion regulations, the average abortion percentage rose by around 12%.
- As countries have continued to expand the reasons on which individuals can access reproductive health care, the safety standards of abortion care, as well as maternal survival, have gotten better.
- However, the safety of abortion methods varies greatly between states where abortion is apparently lawful and nations where abortion is strictly prohibited.
- As per the WHO, complications from unsafe abortions account for nearly 5–13 % of maternal casualties globally, with the vast majority occurring in developing nations.

What is India's legal stance on abortion?

- Until the 1960s, abortion was illegal in India under **Section 312 of the Indian Penal Code, 1860**. "Causing miscarriage of a woman" was a punishable crime with imprisonment of up to three years and/or a fine.
- Based on report of the Shantilal Shah Committee, **Medical Termination of Pregnancy (MTP) Act, 1971** came into force in 1972 that applied to all of India except Jammu and Kashmir at that time.

Provisions of the MTP Act:

- The MTP Act allowed for the medical termination of pregnancies alone.
- In essence, attempts to regularize medical practices and institutions concerning abortion and, consequently, allows **medical liberalization to supersede medical criminalization**.
- It is quite evident from the preamble that abortion would be allowed in certain circumstances. According to the ACT, a pregnancy may be terminated by a registered medical practitioner in the following circumstances:

- Where the length of the pregnancy does not exceed 12 weeks.
- Where the length of the pregnancy exceeds 12 weeks but does not exceed 20 weeks, in this situation by the views of the two medical professionals in good conscience.
- Where the prolongation of the pregnancy can pose a significant risk to a woman's health if the doctor's opinion is formed in good faith.
- When there is an apprehension that an infant born out of this pregnancy would be vulnerable to adverse well-being and will be impaired, depending on the doctor's opinion.
- The Act allows for the termination of a pregnancy if "it is alleged by the pregnant woman to have been caused by rape" or "where any pregnancy occurs as a result of failure of any device or method used by any married woman or her husband for the purpose of limiting the number of children".

Aadhaar and its Security

Context: Since the inception of the UID project, institutions and organizations have focused more on linking their databases with Aadhaar numbers and this has raised questions on the safety of Aadhaar ecosystem.

Unique Identification Development Authority of India (UIDAI) has issued an advisory asking people to refrain from sharing photocopies of their Aadhaar Card because it could be misused.

What is Aadhaar?

- Aadhaar number is a 12-digit random number issued by the UIDAI ("Authority") to the residents of India after satisfying the verification process laid down by the Authority.
- Any individual, irrespective of age and gender, who is a **resident of India**, may voluntarily enroll to obtain Aadhaar number.
- Person willing to enroll has to provide minimal demographic and biometric information during the enrolment process which is totally free of cost.
 - **Demographic** information includes name, address, and date of birth, gender, mobile phone number, and email address.
 - **Biometric information** includes 10 fingerprints, two iris scans, and the resident's photograph.
- The Aadhaar number is a proof of identity, however, it does **not confer any right of citizenship** or domicile in respect of an Aadhaar number holder.
- Each Aadhaar number will be unique to an individual and will remain valid for life.



AADHAR CARD
THE COMPLETE INFORMATION ABOUT AADHAR

What are the benefits of Aadhaar?

- **Tool of governance delivery:** Aadhaar enables the Government of India to directly reach residents of the country in delivery of various subsidies, benefits and services through Aadhaar.
- **Financial Inclusion:** It facilitates financial inclusion of the underprivileged and weaker sections of the society and is therefore a tool of distributive justice and equality.
- **Promotes Transparency and reduced corruption:** It is unique and robust enough to eliminate duplicates and fake identities and may be used as primary identifier to roll out several Government welfare schemes and programs for effective service delivery.
- **Development planning:** Enables valuable anonymized demographic data to help development planning at State, District and local government levels
- **Pro-Poor Identification Platform:** People belonging to poor and marginalized sections of the society often do not have valid proof of identity. Aadhaar is valid for lifetime, fundamentally becoming a pro-poor identification infrastructure
- **Aids in cracking down Black Money:** Use of Aadhaar card in real estate transaction and bank transaction could provide trail of transactions and aid in crackdown of black money
- **Evidence based Policy making:** It can be used to monitor development related parameters in such critical sectors as healthcare, education, etc. It can also help to map skilled manpower, based on the vocational training acquired by the individual, to suitable job vacancies/ skill requirements of the State.

What are the structural Problems that UIDAI faces?

- **Exclusion Issues:** Laborers and poor people, the primary targets of the Aadhaar process, often do not have clearly defined fingerprints because of excessive manual labour. Even old people with “dry hands” have faced difficulties. Weak iris scans of people with cataract have also posed problems. In several cases, agencies have refused to register them, defeating the very aim of inclusion of poor and marginalized people.
- **Safety Concerns:** The Aadhaar Data Vault is where all numbers collected by authentication agencies are centrally stored. As such it becomes a target for cybercrimes.
- **Leakages:** Many private entities in the country insist on an Aadhaar card, and users often share the details. There’s no clarity on how these entities keep these data private and secure. In the past, there have been reports of Aadhaar databases being leaked and sold.
- **Ubiquitous Usage:** Every other entity has started asking for Aadhaar number for providing of services which is not mandated by law. More recently with Covid-19 testing, many would have noticed that most labs insist on Aadhaar card data, including a photocopy.
- **Procedural drawbacks:** There are many private players involved in the whole chain of registering for and generation of Aadhaar numbers before the database finally goes to the government-controlled Central Identities Data Repository (CIDR).
- **Duplication Issues:** The CAG’s report stated that there were issues of multiple Aadhaar to the same resident and also same biometric data being accorded to multiple residents. UIDAI relies on Automated Biometric Identification Systems for taking corrective actions.
- **Potential for Mass Surveillance:** Once the number is seeded in various data bases, it makes convergence of personal information remarkably simple.

So, how does one keep one's Aadhaar data safe?

While a regular user cannot control data breaches, there are some steps to ensure that one's Aadhaar card number is not used by anyone else. A look at the steps to keep in mind:

- **Two-factor authentication:** It is imperative that your Aadhaar is linked to one's primary mobile number and email ID. Aadhaar verification can only happen with this OTP.
- **Masked Aadhaar copy:** One can download a 'Masked Aadhaar' copy from the official UIDAI website. You can then share a photocopy or version of this, instead of your full Aadhaar id.
- **Locking biometrics:** One can lock it from the UIDAI website. Users can lock this data temporarily or permanently, and it can be unlocked in both cases.
- **Use VID:** The Virtual Identity, or VID, is a system of "Limited KYC" (Know Your Customer). This hides the Aadhaar number from the authenticating agency, while still confirming the identity of the user. This is a 16-digit number, but temporary in nature. So, unlike the permanent 12-digit Aadhaar number, the VID is valid only for some time.

Fragile State of Nuclear Disarmament

Context: Recently, Stockholm International Peace Research Institute (SIPRI) released its yearbook a few days back highlighting some worrying trends of the past year in international security.

- The expected rise of the global nuclear arsenal was the chief cause of concern among SIPRI experts.
- The comprehensive report claims that while absolute numbers of nuclear arsenal have reduced, they are expected to grow over the next decade.

What have been the trends in military spending?

- **Military spending Flattened:** During 2012-2021, military spending as a percentage of GDP has largely been stable. If anything, the average worldwide trend has been slightly downward.
- **USA and Russia continue to dominate:** Russia leads the charge in absolute numbers of nuclear inventory (5977 against the U.S.'s 5428). China has 350. France has 290. UK has 225. India has 160. Pakistan has 165. Israel is estimated to have 90 and North Korea has 20.
- **India Top arm Importer:** India is the top weapons importer during the 2017-2021 period. Other countries to feature in the top five arms importers list include Saudi Arabia, Egypt, China, and Australia. According to SIPRI, these five nation states account for 38% of total global arms import.

What are the various nuclear disarmament regimes?

The international nuclear non-proliferation and disarmament regime comprises principles, norms, rules and practices regulating nuclear weapons. Historically, the regime is built on the 1968 Treaty on the Non-Proliferation of Nuclear Weapons (NPT).

1. Non-Proliferation of Nuclear Weapons Treaty (NPT)

- The NPT entered into force in 1970 and was extended indefinitely in 1995.
- The following goals are often described as the NPT's 'three pillars'
 - To prevent the spread of nuclear weapons
 - To promote peaceful uses of nuclear energy
 - To move towards nuclear disarmament

- The non-proliferation commitments of non-nuclear weapon states are verified through **International Atomic Energy Agency (IAEA)** Safeguards.
- However, the recognized five nuclear-weapon states (NWS) — namely the US, Russia, the UK, France and China, can continue to possess nuclear weapons.
- It has near-universal status with just **four hold outs — India, Pakistan, Israel and North Korea**.

2. Comprehensive Nuclear-Test-Ban Treaty (CTBT)

- The Comprehensive Nuclear-Test-Ban Treaty bans all nuclear explosion tests on Earth.
- It was opened for signature in 1996 and since then 182 countries have signed the Treaty.
- The Treaty will enter into force after all 44 States listed in Annex 2 to the Treaty will ratify it. These States had nuclear facilities at the time the Treaty was negotiated and adopted.
 - 36 of these States have ratified the Treaty. Eight States still need to do so.
 - North Korea, India, and Pakistan have not even signed the treaty.
 - China, Egypt, Iran, Israel, and USA have signed but not ratified the CTBT.
 - The CTBT has therefore **not entered into force and lacks legal authority**.

3. Missile Technology Control Regime (MTCR)

- The MTCR is an informal, non-treaty association of governments sharing common interests in the nonproliferation of missiles, unmanned air vehicles, and related technologies.
- Formal discussions on controlling missile proliferation began in 1983 among France, Germany, Italy, UK and USA. They were later joined by Canada and Japan, and in 1985, an interim agreement to control the proliferation of nuclear-capable ballistic and cruise missiles, including dual-use missile items, was reached.
- The 7 states formally announced the Missile Technology and Control Regime (MTCR) on in **1987**.

4. Treaty on the Prohibition of Nuclear Weapons (TPNW)

- Treaty on the Prohibition of Nuclear Weapons (TPNW), also known as Nuclear Weapon Ban Treaty.
- It is the first legally binding international agreement to comprehensively prohibit nuclear weapons, with the goal of leading towards their total elimination.
- It was adopted by UN in 2017 and came into force in January 2021, with 54 countries ratifying it.
- For those nations that are party to it, the treaty prohibits the development, testing, production, stockpiling, stationing, transfer, use and threat of use of nuclear weapons, as well as assistance and encouragement to the prohibited activities.
- For nuclear armed states joining the treaty, it provides for a time-bound framework for negotiations leading to the verified and irreversible elimination of its nuclear weapons program.
- **India had rejected the treaty for failing to address its concerns.**

What is India's stand on Nuclear disarmament?

- India being a declared nuclear power remains committed to the policy of No First Use (NFU) against nuclear weapon states and non-use against non-nuclear-weapon states.

- India is a key partner in global efforts towards disarmament and strengthening the non-proliferation order.
- India believes that nuclear disarmament can be achieved through a step-by-step process underwritten by a universal commitment and an agreed multilateral framework after meaningful dialogues among all States possessing nuclear weapons, for building trust and confidence.





SCIENCE&TECHNOLOGY



5G Technology

Context: 5G technology is finally rolling out across different countries like China, US, Japan, and even South Korea. In India, Union Cabinet has given approval of the 5G spectrum auction, scheduled to begin on 26 July, 2022.

What is 5G?

- 5G is the fifth generation cellular technology that apart from increasing the downloading and uploading **speeds** (speed of 1 Gbps) over the mobile network, also reduces the **latency**.
- It also increases **energy efficiency** and offers more **stable** network connections.
- 5G will have a wider area in the **frequency spectrum** (range of frequencies) that will ensure no network congestion.
- 5G will help facilitate the ecosystem for the **Internet of Things (IoT)** and to incorporate **Artificial Intelligence (AI)** in our daily lives.

What are the pillar technologies of 5G?

It is said there are five technologies that make up the foundation of 5G technology:

- **Millimeter-wave:** Millimeter-wave 5G acquires huge chunks of data which allows it to data transfer speeds in excess of 1Gbps. This technology is currently being used in US by telecom operators like Verizon and AT&T.
- **Small cells:** Since mm Wave cannot travel through obstacles, mini cell towers are deployed in large numbers across an area to relay the signal from the main cell tower. These small cells have to be placed in close proximity compared to traditional towers to get uninterrupted 5G signals.
- **Massive MIMO (Multiple-inputs and multiple-output):** This technology is used on large cell towers to manage heavy traffic. MIMO can support 100 antennas at the same time which increases the overall capacity of the tower to handle more traffic.
- **Beam forming:** Technology that can regularly monitor multiple sources of frequencies and then switch to a stronger and faster tower if one signal is blocked. This ensures that specific data is sent only in a specific direction.
- **Full duplex:** Technology that allows a node to transmit and receive data simultaneously in the same frequency band. It's like a two-way street allowing equal traffic both ways.

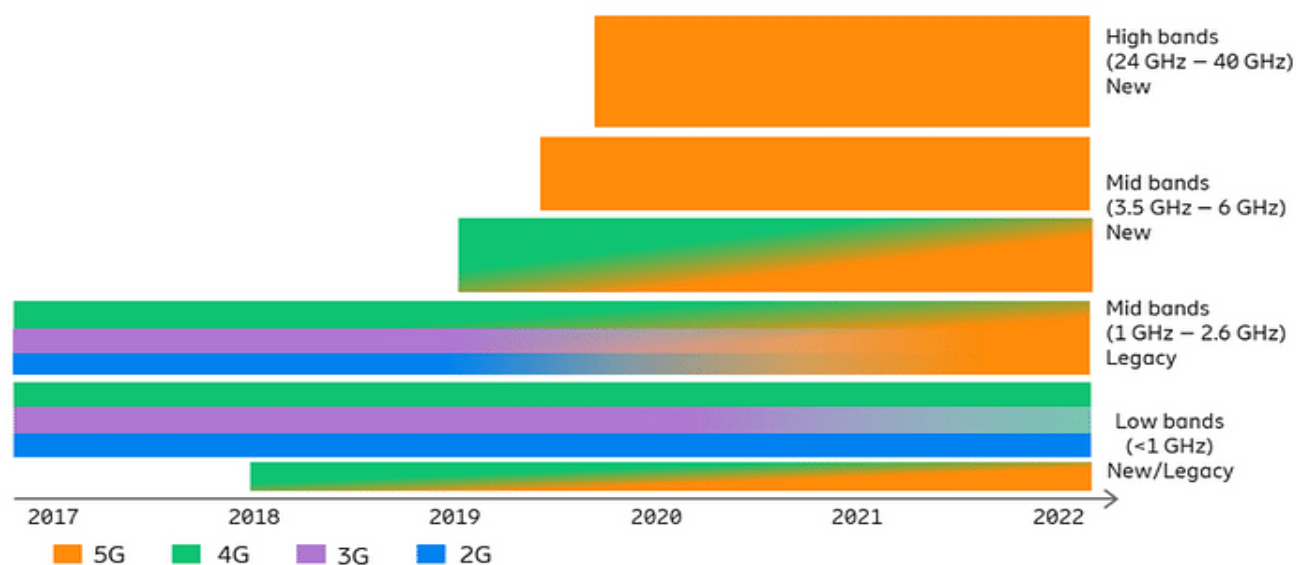
What are the advantages of 5G?

- **High Speeds:** 5G is capable of delivering speeds up to 20Gbps with a 100x increase in traffic capacity and network efficiency.
- **Reduced Latency:** Latency of just 1ms which helps with immediate connection.
- **Foundation for latest technologies:** It is believed that at its full potential 5G will be able to offer speeds that can render augmented reality in real-time. This will further lead to the development of more hardware that works on augmented reality. This tech is also going to be the foundation for virtual reality, autonomous driving and the internet of things.

- **Ripple Effect:** The advantages of 5g will also open up avenues for advancements in other fields like medical, infrastructure and even manufacturing.

What are the challenges of 5G?

- **Capital intensive:** 5G technologies are costly because it needs a frequency beyond 3.5 GHz which is a bigger bandwidth than what 3G or 4G use.
- **Limited Bandwidth:** Sub-6 GHz spectrum has limited bandwidth and therefore its speeds could potentially be slower than what mm Wave has to offer.
- **Need for Hardware deployment:** Also, mm Wave is only effective in shorter distances and cannot travel through obstacles. It also tends to get absorbed by trees and even rainfall which means you'll need a lot of hardware deployment in order to make 5G work effectively.
- **Unknown safety issues:** There could also be security and privacy issues with 5G technology which will only surface when the technology is more accessible.
- **Skepticism over growth:** 5G is growing but not at the rate people expected. Even at its present rate, 5G will not overtake 4G and 3G by 2025, as per several reports.
- **Domestic Industrial Stress:** India's Telecom sector is under stress in recent times due to intense competition unleashed by Jio's entry.



What are the findings of the parliamentary standing committee on IT regarding 5G?

A standing committee of Loka Sabha on Information Technology had submitted its report on 5G in Feb 2021 and said that India will miss the 5G bus. Key takeaways of the report were:

- **Little Progress on ground:** Despite the Department of Telecommunications (DoT) steps to make India 5G ready as early as August 2018, there was very little progress on the ground.
- **High Spectrum Prices:** the reserve price for auction of 5G was one of the highest in the world.
- **Inadequate and poor development of test cases:** Globally, as many as 118 telecom service providers across 59 countries have started deploying 5G networks. India is yet to give formal approvals for 5G testing.

- **Delayed rollout of 5G:** Sufficient preparatory work has not been undertaken for launching of 5G services in India, leading to delay in roll out.
- **Low reach of optical fiber** across India, and deficient back-haul capacity are other factors which is delaying the deployment of 5G in India.

What more needs to be done?

- **Identification of basic ingredients:** The immediate priority for India will be in identifying end users and population to be covered, identification of cities for the 5G roll out, working out an investment model for 5G deployment.
- **Creating a level-playing field** through market mechanism such as facilitating, simulating, auctioning, ensuring competition, functioning markets, etc.
- **Spectrum Roadmap:** TRAI should prepare a spectrum road map with a predictable renewal process which will compensate the huge investment required for deployment and ensure coverage.
- **Spectrum Sharing:** Global trial runs show that the key areas for 5G deployments are harmonization of 5G spectrum bands, pricing and sharing of the spectrum.
- **Government Financial Incentive:** As the deployment of 5G network is expensive, both the Central and State governments need to consider measures which stimulate fiber investment, attract investment through PPPs and facilitate investment funds on a nominal interest basis.
- **Allowing 100% foreign direct investment** in the telecom sector under the automatic route along with these policy reforms augurs well for the sector to attract investment.
- **Conscious of Digital Divide:** The negative implication of 5G is furthering the 'digital divide'. Therefore, Government policies should also focus on affordable coverage through synchronization of bandwidth.

Conclusion:

As India has already witnessed digital revolution even in its remotest areas due to cost-effective 4G technology, the use of 5G can play a vital role in enhancing this sector and also facilitating India's goal to emerge as a manufacturing and innovation hub. Economic benefits of 5G are what India need at this crucial juncture of growth and our push into developed economy.



ETHICS

**A new global standard for AI ethics**

Context: UNESCO's global agreement on the ethics of AI can guide governments and companies alike

- Artificial intelligence is the simulation of human intelligence processes by machines, especially computer systems. Specific applications of AI include expert systems, natural language processing, and speech recognition and machine vision. Artificial intelligence (AI) is more present in our lives than ever.

Issues in AI:

- The **data used to feed into AI often aren't representative of the diversity** of our societies, producing outcomes that can be said to be biased or discriminatory.
- For instance, while India and China together constitute approximately a third of the world's population, **Google Brain** estimated that they form just 3% of images used in **ImageNet**, a widely used dataset.
- There are problems emerging in **facial recognition technologies**, which are used to access our phones, bank accounts and apartments, and are increasingly employed by law-enforcement authorities, in identifying women and darker-skinned people.
- For three such programs released by major technology companies, **the error rate was 1% for light-skinned men, but 19% for dark-skinned men, and up to 35% for dark-skinned women.**
- These issues are of particular importance to India, which is one of the world's largest markets for AI-related technologies, valued at over \$7.8 billion in 2021.
- To ensure that the full potential of these technologies is reached, the **right incentives for ethical AI governance need to be established in national and sub-national policy.**

A common rulebook:

- Until recently, there was **no common global strategy to take forward this importance agenda.**
- This changed when **193 countries reached a ground breaking agreement at UNESCO** on how AI should be designed and used by governments and tech companies.
- It aims to **fundamentally shift the balance of power between people, and the businesses and governments developing AI.**
- Countries which are members of UNESCO have agreed to implement this recommendation by enacting actions to regulate the entire AI system life cycle, ranging from research, design and development to deployment and use

Recommendations:

- It underscores the importance of **the proper management of data, privacy and access to information.**
- It also **calls on member states to ensure that appropriate safeguards schemes are devised for the processing of sensitive data and effective accountability**, and redress mechanisms are provided in the event of harm.
- Recommendation taking a strong stance that:
 - **AI systems should not be used for social scoring or mass surveillance purposes;**

- that **particular attention must be paid to the psychological and cognitive impact** that these systems can have on children and young people;
- Member states **should invest in and promote not only digital, media and information literacy skills**, but also socio-emotional and AI ethics skills to strengthen critical thinking and competencies in the digital era.

Significance:

- The **new agreement is broad and ambitious.**
- It is a **recognition that AI-related technologies cannot continue to operate without a common rulebook.**
- Governments will themselves use the recommendation as a **framework to establish and update legislation, regulatory frameworks, and policy to embed humanistic principles in enforceable accountability mechanisms.**





PRATICE MCQ'S



Q.1) Which of the following countries borders Red Sea?

1. Egypt
2. Lebanon
3. UAE
4. Sudan

Choose the correct code:

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

Q.2) Abraham Accords recently in news is related to?

- a) Agreement between Armenia and Azerbaijan over Nagorno-Karabakh conflict
- b) USA sponsored deal to improve relations between Israel and the Gulf countries
- c) UN mediated negotiation agreement between Israel and Palestine
- d) Organization of the Islamic Cooperation initiative to fight radicalization

Q.3) Consider the following statements about Astra Mk-1 missile

1. It is a surface-to-air missile
2. The missile has been designed and developed by the Defense Research and Development Organization
3. Range of Astra Mk-1 is 200km

Choose the **incorrect** statements:

- a) 1, 2 and 3
- b) 1 and 3
- c) 3 only

d) None

Q.4) Consider the following statements

1. Valmiki Tiger Reserve forms the easternmost limit of India's Himalayan Terai forests.
2. River Gandak and River Masan flows through the Valmiki National Park

Choose the correct statements:

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

Q.5) Consider the following statements

1. Gun license applicants in India at least must be 18 years old
2. In India the number of firearms that an individual can procure is three
3. Once issued validity of a firearm license is for lifetime

Choose the **incorrect** statements:

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

Q.6) Consider the following statements

1. It is one of the largest freshwater lakes in Assam, and the State's only Ramsar site
2. It is declared as an Important Bird Area by Birdlife International
3. It has shrunk around 35 per cent in size since 1991

The above points refer to which of the following Ramsar site?

- Thol Lake Wildlife Sanctuary
- Kabal Taal
- Sarsai Nawar Jheel
- Deepor Beel

Q.7) With references to Genetic Engineering Appraisal Committee, consider the following statements

- It is a statutory organization established under Biodiversity Act, 2002
- It functions under Ministry of Agriculture and Farmers Welfare
- It is also responsible for appraisal of proposals relating to release of genetically engineered (GE) organisms and products into the environment

Choose the **incorrect** statements:

- 1, 2 and 3
- 2 only
- 1 only
- 1 and 2

Q.8) Eublepharis, hardwickii and Eublepharis pictus, recently in news is related to?

- Newly Pitcher Plant species discovered in Western Ghats
- Gecko species found in India
- Newly discovered snake species of Arunachal Pradesh
- Newly discovered spider species in Eastern Ghats

Q.9) With reference to Sea Grasses, consider the following statements

- These are flowering plants that grow submerged in shallow marine waters
- They can reproduce both sexually and asexually

- Sea grasses can capture carbon from the atmosphere faster than tropical rainforests

Choose the correct statements:

- 1 and 2
- 2 and 3
- 1 and 3
- 1, 2 and 3

Q.10) Consider the following statements

- The Radio-frequency identification (RFID) technology do not require line of sight in order to obtain the data from RFID tag
- Barcode readers use light to read the black-and-white pattern printed on the barcode tag
- One of the most well-known examples of a RFID is the QR code

Choose the correct statements:

- 1, 2 and 3
- 2 and 3
- 1 and 3
- 1 and 2

Q.11) With reference to Distillers' Dried Grains with Solubles (DDGS), consider the following statements

- DDGS is a byproduct of bioethanol fermentation of starch-rich grains such as corn and wheat
- Since DDGS is rich in crude protein, it is used as aquaculture, livestock, and poultry feeds

Choose the correct code:

- 1 only
- 2 only
- Both 1 and 2
- Neither 1 nor 2

Q.12) Agri Land Price Index (ALPI), recently in news was published by?

- NITI Aayog
- Ministry of Agriculture and Farmers Welfare
- Ministry of Rural Development
- Indian Institute of Management Ahmedabad

Q.13) Consider the following statements

- In India fishing cats are found only in the states of West Bengal and Odisha
- Fishing cats are nocturnal in nature
- It is a state animal of Odisha
- It is listed as Critically Endangered in IUCN Red list

Which of the above statements about the fishing cat is/are correct?

- 2 only
- 2 and 3
- 1, 3 and 4
- 1 and 4

Q.14) Consider the following statements

- Bone replacement by both the methods, i.e. using metal part and ceramic implants leads to regrowth of the original bone
- Calcium phosphate ceramics are substitutes for the bone mineral hydroxyapatite

Choose the correct statements:

- 1 only
- 2 only
- Both 1 and 2
- Neither 1 nor 2

Q.15) Consider the following statements about Drug Controller General of India (DCGI)

- DCGI is the head of department of the Central Drugs Standard Control Organization
- It works under the Ministry of Chemicals and Fertilizers
- DCGI sets standards for manufacturing, sales, import, and distribution of drugs in India

Choose the correct statements:

- 1 only
- 1, 2 and 3
- 1 and 3
- 3 only

Q.16) Consider the following statements about Surrogacy Regulation Act, 2021

- The act allows both commercial surrogacy and altruistic surrogacy
- Only a close relative of the intending couple can be a surrogate mother
- The act excludes unmarried females and single parents to have surrogate child

Choose the correct statements:

- 1 and 2
- 1 and 3
- 1, 2 and 3
- 2 and 3

Q.17) Which of the following countries borders Persian Gulf?

- Oman
- UAE
- Kuwait
- Saudi Arabia
- Iraq
- Yemen

Choose the correct code:

- 1, 2, 4 and 5
- 1, 2, 3, 4, 5 and 6

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

Q.18) Consider the following statements about Agni IV missile

1. It is an Intermediate-range ballistic missile (IRBM)
2. It is surface to surface missile
3. It is fuelled by two-stage solid propellant
4. It can deliver one-ton nuclear warheads about 3500km away

Choose the incorrect statements:

- a) 1 and 2
- b) 1, 2 and 3
- c) 4 only
- d) None

Q.19) Ream Naval Base, recently in news is located in?

- a) Sea of Azov
- b) Mediterranean Sea
- c) Horn of Africa
- d) Gulf of Thailand

Q.20) Consider the following statements

1. While Governor of the state is chancellor of State Universities, President of India is Chancellor of Central Universities
2. Vice Chancellor of both Central and State Universities are appointed by respective State Government

Choose the correct statements:

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

Q.21) Which one of the following best describes the term 'carbon bomb'?

- a) It is the amount of Carbon stored in methane hydrates of Arctic region
- b) It is the amount of carbon released into atmosphere during Industrial Revolution
- c) It is an oil or gas project that will result in at least a billion tons of CO₂ emissions over its lifetime
- d) It is a newly invented technology that captures and stores carbon di oxide from Coal power plants

Q.22) The Commission for Agricultural Costs & Prices (CACP) considers various factors while recommending the MSP for a commodity, which among the following factors are considered by CACP

1. Changes in input prices
2. Effect on cost of living
3. International price situation
4. Inter-crop price parity
5. Effect on issue prices and implications for subsidy

Choose the correct code:

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

Q.23) Consider the following statements about Corvette

1. It is the smallest class of naval ships
2. It falls below the warship class of a frigate
3. It is categorized as missile boats and anti-submarine ships
4. Presently there are no corvette ships with Indian Navy

Choose the correct code:

- a) 2 and 4
- b) 1, 2 and 3
- c) 1, 3 and 4

d) 1, 2, 3 and 4

Q.24) The term PD1 recently seen in news, is related to?

- a) A type of protein that regulates certain functions of the immune system
- b) Radio collar for wildlife tracking
- c) New Genetically modified variety of Wheat
- d) Pesticide to fight Bacterial blight of cotton

Q.25) Arrange the following water bodies from north to south

- 1. Black Sea
- 2. Sea of Marmara
- 3. Aegean Sea
- 4. Sea of Crete

Choose the correct code:

- a) 1-2-3-4
- b) 1-3-2-4
- c) 1-3-4-2
- d) 2-1-4-3

Q.26) Consider the following statements

- 1. Forest Conservation Act, 1980 deals only with reserved forests and protected forests only
- 2. Leasing forest to any private person under Forest Conservation Act requires Central Government permission
- 3. The Act mandates the land for compensatory afforestation has to be free of encroachments and legal tussles

Choose the correct statements:

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

Q.27) Vale do Javari, the region recently in news is located in which of the following country?

- a) Spain
- b) Ecuador
- c) Brazil
- d) Myanmar

Q.28) Consider the following statements about Ancovax vaccine

- 1. It is India's first Covid-19 vaccine for animals
- 2. It was developed by Indian Council of Medical Research in collaboration with NITI Aayog
- 3. It can protect animals against both the Delta and Omicron variants of SARS-CoV-2

Choose the correct statements:

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

Q.29) Consider the following statements about Saint Tukaram Bolhoba Ambile

- 1. Sant Tukaram is credited with starting the Wari pilgrimage
- 2. His master was Saint Chaitanya Mahaprabhu
- 3. He was contemporary to Sant Ramdas
- 4. He emphasized community-based worship through spiritual melodies known as Kirtans

Choose the correct statements:

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

Q.30) Consider the following statements about Eco-Sensitive Zones (ESZs)

1. ESZs are notified by respective State Government
2. It is notified under the Wildlife Protect Act, 1972
3. Establishment of hotels and resorts and commercial use of natural water fall under the Prohibited activities in ESZs

Choose the **incorrect** statements:

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

Q.31) State Food Safety Index (SFSI) 2021-22, is published by?

- a) Ministry of Health and Family Welfare
- b) NITI AAYOG
- c) The Ministry of Consumer Affairs, Food and Public Distribution
- d) Food Safety and Standards Authority of India (FSSAI)

Q.32) Consider the following statements

1. Ramsay Hunt syndrome is caused by varicella-zoster bacteria
2. Ramsay Hunt syndrome is very common in children
3. It can cause facial paralysis and hearing loss in the affected ear

Choose the **incorrect** statements:

- a) 1 and 2
- b) 2 and 3
- c) 1, 2 and 3
- d) None

Q.33) Consider the following statements

1. BrahMos is a three-stage missile
2. It does not require further guidance after launch

3. It is a multiplatform missile that can be launched from land, air, and sea

Choose the correct statements:

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

Q.34) Lake Sawa which recently dried up is located in which of the following country?

- a) Iran
- b) Iraq
- c) Uzbekistan
- d) Turkmenistan

Q.35) Consider the following statements

1. POSHAN Abhiyaan program covers pregnant women and children but excludes lactating mothers
2. The implementation of POSHAN Abhiyaan is carried by Technical Support Unit (TSU) established at NITI Aayog

Choose the **incorrect** statements:

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

Q.36) Consider the following statements

1. State Food Safety Index (SFSI) is published by NITI AAYOG in collaboration with Food and Agriculture Organization
2. Training and Capacity Building parameter has the lowest weightage among the five key parameters considered.
3. Tamil Nadu with an overall score of 82 topped the index

Choose the correct statements:

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

Q.37) Consider the following statements about Agnipath scheme

- 1. Under the new scheme, around 45,000 to 50,000 soldiers will be recruited annually
- 2. Only the aspirants between the ages of 17.5 years and 21 years will be eligible to apply
- 3. 30 per cent of the soldier salary will be set aside under a Seva Nidhi programme

Choose the correct statements:

- a) 1, 2 and 3
- b) 2 and 3
- c) 1 and 2
- d) 1 and 3

Q.38) Consider the following statements

- 1. Periodic Labour Force Survey (PLFS) is published by Ministry of Labour & Employment
- 2. PLFS has been published annually since 1991 reforms
- 3. The Labour Force Participation Rate includes person seeking or available for work

Choose the **incorrect** statements:

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

Q.39) Consider the following statements

- 1. Bharat Gaurav trains are operated by private players

- 2. Through Bharat Gaurav schemes Railways offers operators the Right of Use of its rakes and infrastructure
- 3. It aims to promote tourism business and run on theme-based circuits

Choose the correct statements:

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

Q.40) Section 295A of IPC recently in news is related to?

- a) Penalizes promoting enmity between different groups
- b) Punishes statements conducing to public mischief
- c) Punishment for rioting
- d) Prescribes a punishment for deliberate and malicious acts, intended to outrage religious feelings of any class

Q.41) According to recent Periodic Labour Force Survey for July 2020 to June 2021 was released by NSO consider the following statements

- 1. The unemployment rate in 2020-21 is the lowest since the first PLFS in 2017-18
- 2. The unemployment rate was higher for males in rural areas than females
- 3. The unemployment rate was higher for females in urban areas than males

Choose the correct statements:

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

Q.42) Consider the following statements

- 1. Prithvi II is a tactical surface-to-surface long-range ballistic missile

2. Prithvi II missile is a two-stage liquid-fueled missile
3. It uses advanced inertial guidance system with manoeuvring trajectory to hit its target

Choose the **incorrect** statements:

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

Q.43) Consider the following statements

1. ASEAN Plus Three - consultative group includes India
2. India has signed Free Trade Agreement with ASEAN
3. Delhi Declaration is a key area of cooperation in the Maritime Domain under the ASEAN-India strategic partnership

Choose the correct statements:

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

Q.44) Atapaka Bird Sanctuary recently in news is located in?

- a) Odisha
- b) Gujarat
- c) Andhra Pradesh
- d) Maharashtra

Q.45) Consider the following statements about Kalika Mata temple atop the Pavagadh hill, Gujarat

1. It is a 7th century temple built during the reign of Harshvardhana
2. The temple complex is part of the Champaner-Pavagadh Archaeological Park, a UNESCO World Heritage Site

3. The temple is the site of one of the Great holy Shakti Peethas

Choose the **incorrect** statements:

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

Q.46) Consider the following statements about Inter-State Council

1. It was set up as per the recommendations of the Sarkaria Commission
2. Union Home Minister acts as the chairman of the council
3. The recommendations of the council are binding on the Union and the State Governments

Choose the **incorrect** statements:

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

Q.47) Consider the following statements about Financial Action Task Force

1. It is an inter-governmental body established in 1989
2. The FATF Plenary is the decision making body of the FATF
3. Currently Pakistan, Iran and North Korea are under the blacklist of FATF

Choose the correct statements:

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

Q.48) Consider the following statements

1. National Chambal Sanctuary is lying in three states of Madhya Pradesh, Uttar Pradesh and Maharashtra
2. Gangetic Dolphins, the national Aquatic animal can be spotted in National Chambal Sanctuary
3. National Chambal Sanctuary is the main area for the species reintroduction program of Gharial

Choose the correct statements:

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

Q.49) Port of Odesa recently seen in news is located in?

- a) Ethiopia

- b) Romania
- c) Ukraine
- d) Israel

Q.50) The term Black Swan Event recently seen in news, means?

- a) It is used to describe a potentially very significant event whose possible occurrence may be predicted beforehand but whose probability is considered small
- b) A rare, unpredictable event that comes as a surprise and has a significant impact on society or the world
- c) It is a highly obvious yet ignored threat.
- d) A question, problem or controversial issue which is obvious to everyone who knows about the situation, but is deliberately ignored.

Key Answers

1	B	21	C	41	A
2	B	22	D	42	C
3	B	23	B	43	C
4	C	24	A	44	C
5	B	25	A	45	A
6	D	26	D	46	C
7	D	27	C	47	A
8	B	28	D	48	A
9	D	29	C	49	C
10	D	30	D	50	B
11	C	31	D		
12	D	32	A		
13	A	33	C		
14	B	34	B		
15	C	35	A		
16	D	36	D		
17	D	37	A		
18	D	38	C		
19	D	39	A		
20	D	40	D		

Baba's TLP+ FLM

(Full Length Mains Mocks)

for UPSC Mains 2022

FEATURES



15 FLM (GS 1, GS2, GS3, GS4, Essay) - **2 sets of FLM**



2 layers of Mentorship - by Subject Experts & **Mohan Sir** (Founder, IASbaba)



1:1 Mentorship & Expert Evaluation



1 set of FLM (Open Mocks)



Series of Full Length Mocks in July, August & September - Flexibility to Choose your own slot!



Test under UPSC Exam Conditions.

Price - 15 Tests

₹7,500/- (incl. Tax)

REGISTER NOW

 **Bengaluru**  **Delhi**  **Lucknow** &  **Online**



www.iasbaba.com



support@iasbaba.com



91691 91888