

# UPSC MONTHLY CURRENT AFFAIRS

**PROSTITUTION  
IS A LEGAL  
PROFESSION**

## Prostitution is a Profession: Supreme Court

Treat sex workers with dignity



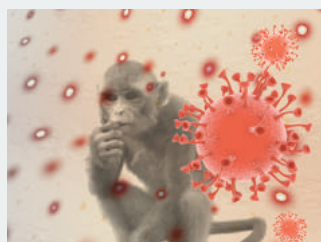
### Wholesale Price Inflation (WPI) hits record high

Understanding WPI & its  
Impact



### Indo-Pacific Economic Framework

Strengthening economic  
partnership among  
participating countries



### Monkeypox virus

Symptoms and causes of  
monkeypox infections



### 5G technology

Benefits of 5G Network  
Technology

# Outstanding performance by BYJU'S students in IAS 2020

Congratulations to our toppers

**02**

Ranks in  
Top 10

**18**

Ranks in  
Top 50

**36**

Ranks in  
Top 100



**RANK 02**

Jagrati Awasthi



**RANK 8**

Kartik Jivani



**RANK 13**

Gaurav Budania



**RANK 14**

Karishma Nair



**RANK 17**

Sarthak Agarwal



**RANK 25**

Vaibhav Rawat



**RANK 26**

Pulkit Singh



**RANK 28**

Divya Mishra



**RANK 30**

Divyanshu  
Choudhary



**RANK 31**

Megha Swaroop



**RANK 32**

Rallapalli Jagat Sai



**RANK 35**

Aparna Ramesh



**RANK 37**

Narwade Vinayak



**RANK 38**

Varuna Agarwal



**RANK 41**

Aswathy Jiji



**RANK 42**

Pooja Gupta



**RANK 46**

Jubin Mohapatra



**RANK 50**

Abhishek Shukla

# Incredible Results

## CSE 2019

4 Ranks  
in top 10

13 Ranks  
in top 50

22 Ranks  
in top 100



Rank 3  
Pratibha Verma



Rank 6  
Vishakha Yadav



Rank 8  
Abhishek Saraf



Rank 10  
Sanjita Mohapatra

## CSE 2018

11 Ranks  
in top 50

28 Ranks  
in top 100

183 Ranks  
in the final list



Rank 11  
Pujya Priyadarshni



Rank 16  
Dhodmise Trupti Ankush



Rank 21  
Rahul Jain



Rank 24  
Anuraj Jain



Rank 31  
Mainak Ghosh

## CSE 2017

5 Ranks  
in top 50

34 Ranks  
in top 100

236 Ranks  
in the final list



Rank 3  
Sachin Gupta



Rank 6  
Koya Sree Harsha



Rank 8  
Anubhav Singh



Rank 9  
Soumya Sharma



Rank 10  
Abhishek Surana

## CSE 2016

8 Ranks  
in top 50

18 Ranks  
in top 100

215 Ranks  
in the final list



Rank 2  
Anmol Sher Singh Bedi



Rank 5  
Abhilash Mishra



Rank 12  
Tejaswi Rana



Rank 30  
Prabhash Kumar



Rank 32  
Avdhesh Meena

## CSE 2015

5 Ranks  
in top 50

14 Ranks  
in top 100

162 Ranks  
in the final list



Rank 20  
Vipin Garg



Rank 24  
Khumanthem Diana Devi



Rank 25  
Chandra Mohan Garg



Rank 27  
Pulkit Garg



Rank 47  
Anshul Agarwal

## CSE 2014

6 Ranks  
in top 50

12 Ranks  
in top 100

83 Ranks  
overall selections



Rank 4  
Vandana Rao



Rank 5  
Suharsha Bhagat



Rank 16  
Ananya Das



Rank 23  
Anil Dhameliya



Rank 28  
Kushaal Yadav



Rank 39  
Vivekanand T.S



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MAY - 2022

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**Monday to Friday | 6:00 AM to 9:30 AM**

[illegible]

(Evening Batch)

**Monday to Friday | 5:00 PM to 8:30 PM**

[illegible]

# Learn From Home

## YEAR LONG TIMETABLE

(Weekend Batch)

Saturday - 12:00 PM to 8:00 PM

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Slots	Batch 1	Batch 2	Batch 3	Batch 4	Batch 5
February (05, 06, 12, 13, 19, 20, 26 & 27) + March (05, 06 & 12)	Polity				
March (13, 19, 20, 26 & 27) + April (02, 03, 09, 10, 16 & 17)	Economics	Economics			
April (23, 24 & 30) + May (01, 07, 08, 14, 15, 21, 22 & 28)	Modern History + Post Independent	Modern History + Post Independent	Modern History + Post Independent		
May (29) + June (04, 05, 11, 12, 18, 19, 25 & 26) + July (02 & 03)	Geography	Geography	Geography	Geography	
July (10, 16, 17, 23, 24, 30 & 31) + August (06, 07, 13 & 14)	Ancient India + Medieval India + Art & Culture	Polity	Polity	Polity	Polity
August (20, 21, 27 & 28) + September (03, 04, 10, 11, 17, 18 & 24)	International Relations + World History	International Relations + World History	Economics	Economics	Economics
September (25) + October (01, 02, 08, 09, 15, 16, 22, 23, 29 & 30)	Environment & Ecology + Science & Technology + Disaster Management	Environment & Ecology + Science & Technology + Disaster Management	Environment & Ecology + Science & Technology + Disaster Management	Modern History + Post Independent	Modern History + Post Independent
November (05, 06, 12, 13, 19, 20, 26, 27) + December (03, 04 & 10)	Social Issues & Social Justice + Essay + Compulsory Language Paper	Social Issues & Social Justice + Essay + Compulsory Language Paper	Social Issues & Social Justice + Essay + Compulsory Language Paper	Social Issues & Social Justice + Essay + Compulsory Language Paper	Geography
December (11, 17, 18, 24 & 31) + January '23 (07, 08, 14, 15, 21 & 22)	Ethics + Governance	Internal Security + CSAT	Internal Security + CSAT	Internal Security + CSAT	Internal Security + CSAT
January '23 (28 & 29) + February '23 (04, 05, 11, 12, 18, 19, 25 & 26) + March ' 23 (04)	Internal Security + CSAT	Ancient India + Medieval India + Art & Culture	Ancient India + Medieval India + Art & Culture	Ancient India + Medieval India + Art & Culture	Ancient India + Medieval India + Art & Culture
March '23 (05, 11, 12, 18, 19, 25 & 26) + April '23 (01, 02, 08 & 09)	Focus Prelims	Focus Prelims	International Relations + World History	International Relations + World History	International Relations + World History
April '23 (15,16,23,29 & 30) + May '23 (06,07,13,14,20 & 21)		Focus Prelims	Focus Prelims	Environment & Ecology + Science & Technology + Disaster Management	Environment & Ecology + Science & Technology + Disaster Management
May '23 (27 & 28) + June '23 (17, 18, 24 & 25) + July (01, 02, 08, 09 & 15)		Ethics + Governance	Ethics + Governance	Ethics + Governance	Ethics + Governance
31st May to 11th June, 2023	PRELIMS 2023	PRELIMS 2023	PRELIMS 2023	PRELIMS 2023	PRELIMS 2023
July '23 (16, 22, 23, 29 & 30) + Aug '23 (05, 06, 12, 13, 19 & 20)					Social Issues & Social Justice + Essay + Compulsory Language Paper
1st September to 30th September, 2023	MAIN 2023	MAIN 2023	MAIN 2023	MAIN 2023	MAIN 2023



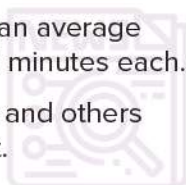


# YouTube Channel



## The Hindu News Analysis

- Analysis of “**The Hindu**” in a crisp and well-explained format.
- The videos are short, with an average length of not more than 25 minutes each.
- Ideal for working aspirants and others who have a time constraint.



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## Economy This Week

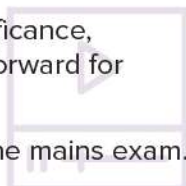
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# POLITY

*Government policies and interventions for development in various sectors and issues arising out of their design and implementation.*

## 1. Decriminalisation of Legal Metrology Act, 2009

- » Prelims: Legal Metrology Act, 2009
- » Mains: Decriminalisation of Legal Metrology Act, 2009-Benefits and issues

### Context:

- The Department of Consumer Affairs is organising a one-day 'National Workshop on Legal Metrology Act, 2009' with the purpose to take deliberations from all stakeholders on the issue of decriminalisation of the Legal Metrology Act, 2009.

### What is the Legal Metrology Act, 2009?

- Legal Metrology Act, 2009 establish and enforce standards of weights and measures, regulate trade and commerce in weights, measures and other goods.
- In its present form, the law prescribes imprisonment, in addition to fine, for second or subsequent offence.

### Challenges posed by the current Legislation

- The current version of the Act encompasses both criminal and civil measures for dealing with malpractices.
- Non-compounding of offences has the most serious criminal consequences.
- It raises the standard of proof for proving the crime, thus allowing wrongdoers to flee.
- The Act directly affects ease of doing business in India, which has been evidenced by the oscillations in its definition of the meaning of 'person(s) in charge of the business' which makes the board of directors or even nominated directors criminally liable for most of the offences under the Act.

### Decriminalisation of Legal Metrology Act, 2009

- The Decriminalisation of Legal Metrology Act, 2009 is being considered for ease of doing business by removing unnecessary interference.
- Additionally, the objective is to ensure that the consumer is not short shifted by way of use of non-standard weights & measures and incorrect disclosure without increasing the burden on businesses and hindering economic growth.

- The benefits of decriminalisation of the Act could be two-fold.
  - \* One, it could uplift the sentiments of the business community which generally believes that imprisonment is a grave punishment not commensurate with the level of the wrong-doing.
  - \* Secondly, it could majorly help in the de-clogging of courts.

### Key issues for consideration of decriminalisation of the Legal Metrology Act, 2009 are:

- Decrease the burden on businesses and inspire confidence amongst the investors;
- Focus on economic growth and protection of consumer interest;
- Mens rea (malafide/ criminal intent) plays an important role in the imposition of criminal liability
- Habitual offenders for repetition of non-compliance.

### *Issues and challenges pertaining to the federal structure, devolution of powers*

## 2. The Delhi dual governance conundrum

- » Prelims: Article 239AA, 69th Constitutional Amendment Act
- » Mains: Dual governance in Delhi and issues arising from it

### Context:

- Recently, the Supreme Court reserved its order on the Centre's plea that the matter related to its dispute over control of administrative services in the National Capital Territory should be referred to a five-judge Constitution bench as it involves interpretation of a substantial question of law.

### Dual governance in Delhi:

- The status of Delhi is a Union Territory under Schedule 1 of the Constitution.
- However, it is christened as the 'National Capital Territory' under Article 239 AA.
  - \* Article 239AA grants Delhi special character as a union territory with a legislative assembly that has a lieutenant governor (L-G) as its administrative head. This was also when Delhi was named the National Capital Region (NCT) of Delhi.

- This has put the dynamics of the relationship between the elected Council of Ministers in Delhi and the Central Government under severe strain.

### Dilemmas of dual governance

- The Administrator of Delhi, renamed the Lieutenant Governor (L-G) under the Government of NCT of Delhi (Amendment) Act, 2021, crossed swords with the elected government on multiple issues:
  - \* Including control over agencies, namely the Anti-Corruption Bureau, the Civil Services and the Electricity Board.
- The issues pertaining to the power to appoint the Public Prosecutor in Delhi and to appoint a Commission of Enquiry under the Commissions of Enquiry Act, etc. were vexed legal questions necessitating interpretation of the Constitution.

### Court observations so far:

- In the Government of NCT of Delhi v Union of India 2017, the Delhi High Court observed that
  - \* The Chief Minister and not the Lieutenant Governor (LG) is the executive head of the National Capital Territory (NCT) government.
  - \* The LG is bound by the aid and advice of the Council of Ministers on all matters where the Delhi Assembly has the power to make laws.
- In 2018, a five-judge Constitution Bench of the Supreme court opened a new jurisprudential chapter in the Administration of NCT:
  - \* Delhi is not a state, and that the status of NCT of Delhi is sui generis.
  - \* It invoked the rule of purposive construction to say that the objectives behind the Constitution (Sixty-ninth Amendment) Act shall guide the interpretation of Article 239AA.
  - \* The L-G ought to act on the "aid and advice" of the Council of Ministers, except when he refers a matter to the President for a final decision.
  - \* The proviso to Article 239AA(4) allows the L-G to reserve "any matter" for consideration of the President where the L-G has a difference of opinion with the council of ministers. The bench clarified that this power can only be exercised in exceptional circumstances.
  - \* At the same time, the Court ruled that the National Capital Territory of Delhi cannot be granted the status of a State under the constitutional scheme.

### Supreme Court directions on the authority of Centre and Government of NCT

What comes under the authority of the Centre?	What comes under the authority of the Government of NCT?
The Anti-corruption Bureau belongs to the province of the Centre.	The Electricity Board under the Government of NCT is the Appropriate Authority under the Electricity Act of 2003.
Only Central Government has the power to constitute an enquiry Commission under the 1952 Act	The power to appoint a Public Prosecutor is vested with the Government of NCT.

### Separation of Powers between various organs, Dispute Redressal Mechanisms and Institutions.

### **3. Bill assent, a delay and the Governor's options**

- » Prelims: Article 200 of the Indian Constitution
- » Mains: Constitutional position of the Governor; arguments against delay in providing assent to state bills by the Governors.

### Background:

- The Tamil Nadu State Assembly had passed the National Eligibility cum Entrance Test (NEET) Bill (linked to an all-India pre-medical entrance test) and sent it to the Governor for assent.
- The Governor returned the NEET Bill to the Assembly for reconsideration of the Bill. Subsequently, the state Assembly held a special session and passed the bill again and presented it to the Governor for his assent. The Governor has not assented to the Bill so far even though it has been more than two months.
- One of the arguments being made by Raj Bhavan is that the Indian Constitution has not fixed any timeline within which to act. This has resulted in a confrontation between the elected government and the State Governor.
- In this context, this article written by P.D.T. Achary, former Secretary-General, Lok Sabha argues against this approach of the Governor.

### Arguments against the Governor's stand:

### **Constitutional position of Governor:**

- In the constitutional set-up of India, the Governor is only a constitutional head, and the executive power of the State is to be exercised by the Council of Ministers. Hence, although Article 154(1) of the Constitution vests in the Governor the executive power of the State, the Governor can act only on the aid and advice of the Council of Ministers.
- This view has also been upheld by the judiciary in the Shamsher Singh vs State of Punjab (1974) case where the Supreme Court held that the President and Governor would exercise their formal constitutional powers only upon and in accordance with the advice of their Ministers save in a few well-known exceptional situations.



- The Sarkaria Commission report notes that as long as the council of ministers enjoys the confidence of the Assembly, its advice to the Governor, unless unconstitutional, must be deemed as binding on the governor. This view was upheld by a five-judge Constitution Bench of the Supreme Court (the Nabam Rebia case, 2006).

#### Constitutionally impermissible:

- Article 200 of the Indian Constitution provides for the following four options for a Governor when a Bill passed by the state legislature is presented for assent:
  - \* The Governor can give his assent.
  - \* The Governor may withhold assent.
  - \* The Governor may reserve the bill for the consideration of the President.
  - \* The Governor may return the Bill to the legislature with the request that it may reconsider the Bill or any particular provision of the Bill. The Governor can also suggest any new amendment to the Bill.

#### Mandatory assent to reconsidered bills:

- Article 200 of the Indian Constitution explicitly states that the House or Houses shall reconsider the returned bill from the Governor and if the Bill is passed again by the House or Houses with or without amendment and presented to the Governor for assent, the Governor shall not withhold assent. This means the Governor is constitutionally bound to give assent to the Bill. This has not been followed in the case of the NEET bill wherein the Tamil Nadu Assembly had held a special session and passed the bill again after the Governor had requested reconsideration, and presented it to the Governor for his assent. The Governor has not assented to the Bill so far.

#### No scope for the indefinite holding of assent:

- Though Article 200 does not lay down any time frame for the Governor to take action under this Article, it does not mean that the Governor can postpone a decision indefinitely. By clearly and unambiguously stating the options for the Governor to exercise, non-action is not an option contained in Article 200. Thus, if the Governor does not exercise any of those options he/she will not be acting in conformity with the Constitution.
- With its provision for definite choices through the words "... it shall be presented to the governor and the governor shall declare...", the article indicates that the Constitution requires the Governor to act without delay upon the presentation of the Bill.

#### An undemocratic option:

- Withholding of assent, though an option, is not normally exercised by Governors because the withholding of assent to a Bill by the Governor,

an appointee of the President, neutralises the actions of an elected legislature enjoying the support of the people. The Governor withholding assent to a bill passed by the state's legislature would amount to overlooking the will of the legislature as expressed through the Bill.

- Also, a constitutional authority like Governor cannot circumvent a provision of the Constitution by taking advantage of an omission.
- The article argues that such an option would be undemocratic and against federalism.
  - \* Notably in the United Kingdom, even though it is not a Republic, it is unconstitutional for the British monarch to refuse to assent to a Bill passed by Parliament. This signifies the value attached to the will of the people represented by the elected Parliament.
- In Australia, the refusal of assent to a Bill by the crown is considered repugnant to the federal system as it amounts to the overlooking of the will of the states by the Central government.
- A constitutional authority like the Governor circumventing a provision of the Constitution by taking advantage of an omission does not augur well for the prestige of the Office of Governor as well as the Constitutional order.

#### Nut Graf

*The delay in taking action on the NEET bill by the Governor of Tamil Nadu goes against the principles of democracy and federalism envisaged in the Indian Constitutional setup.*

### Constitution of India – features, significant provisions and basic structure.

#### 4. Reservation in public employment

- » Prelims: Articles related to reservations in the constitution
- » Mains: Evolution of the jurisprudence of reservations in public employment

#### Context:

- This article talks about the evolution of reservations in public employment in India.

#### Reservations in public employment:

- The extension of reservation in India is based on the mutual coexistence of Article 16(1) of the Constitution which guarantees "equality of opportunity in public employment" and provisions mentioned in various clauses of the same article namely Article 16(4) and Article 16(4 A).

- \* These articles provide a discretion to the government to consider extending reservations for the socially and educationally backward classes and to provide reservations in the promotion of SC and STs.
- It has been clarified by the Supreme Court that there is “no fundamental right to reservation or promotion” under the articles Article 16(4) and Article 16 (4 A).
- \* Articles 16(4) and 16 (4 A) just provided enabling options for extending reservations if needed.
- The Directive Principle of State Policy (DPSP) - Article 46 of the constitution, however, mandates the state to promote the educational and economic interests of the weaker sections of the people, particularly that of the SCs, STs and other weaker sections.

#### **Reservations in India were introduced:**

- To rectify the past and historical injustice against the backward classes in India
- To ensure that equal representation can be seen from people belonging to all castes in the services under the state and centre
- To provide an equal platform for everyone irrespective of their caste
- To promote and advance the backward classes

#### **Evolution of reservations in public employment in India**

##### **The Mandal committee report and Indra Sawhney judgement**

- As per the Mandal Committee recommendations (1980), the reservations were extended to Other Backward Classes (OBCs) which were erstwhile restricted to SCs and STs.
- The Mandal Committee recommended extending 27% reservation to OBCs in central services and PSUs over the existing 22.5% reservation for SCs and STs.
- In the historic Indra Sawhney Judgment (1992), the apex court upheld the 27% reservation to OBCs but introduced a ceiling of 50% for reservations unless in exceptional situations.
- The SC also reiterated that Article 16(1) is a fundamental right and Article 16(4) is an enabling provision and not an exception to Article 16(1)
- Further, the SC ordered for the exclusion of the creamy layer from reservation through horizontal division of OBCs into creamy layer and non-creamy layer.

#### **77th Constitution Amendment Act, 1995**

- This Act inserted Article 16(4-A) that extended reservations for promotion in employment for SCs and STs which are not adequately represented in the opinion of the State.
- Later, two more amendments were introduced that ensured consequential seniority [Article 16(4 A)] and another that provided to carry forward unfilled vacancies of a year [Article 16(4 B)]

#### **Judgement in M. Nagaraj case, 2006**

- A constitutional bench of SC consisting of five judges declared that the 1995 amendments did not violate the basic structure of the Constitution and provided conditions which included the collection of “quantifiable data showing backwardness of the class and inadequacy of representation of that class in public employment”.
- The bench also asked for the exclusion of the creamy layer of SCs and STs from the reservation.

#### **Jarnail Singh v/s Lachhmi Narain Gupta case, 2018**

- The SC in this judgement rejected the need to collect “quantifiable data” in relation to SCs and STs.
- The Court however upheld the application of the concept of creamy layer to SCs and STs.
- The Jarnail Singh judgment is said to be a crucial development in the jurisprudence of reservations in India.

#### **103rd Constitution Amendment Act, 2019**

- The act provided 10% reservation for Economically Weaker Sections (EWS), other SCs, STs and backward classes for public employment and educational purposes.

#### **Dr. Jaishri Laxmanrao Patil v/s Chief Minister case, 2021**

- Despite the Indra Sawhney judgement, many states in the past have attempted to extend the reservations over the 50% ceiling and the Maharashtra Socially and Educationally Backward Classes Act 2018 was challenged in the Supreme Court
- The Supreme Court upheld the Indra Sawhney ruling and struck down Sections in the Act that provided 12% reservation for Marathas in educational institutions and 13% reservation in public employment respectively, noting that reservations were not made out of any extraordinary situations to exceed the 50% limit.

Reservations in India	
Category	Reservation Percentage
Scheduled Caste	15%
Scheduled Tribe	7.5%
Other Backward Classes (OBC)	27%
Economically Weaker Sections (EWS)	10%
Persons with Benchmark Disabilities	4%

**Nut Graf:**

*As many state governments in recent years have breached the ceiling limit of 50% of reservation mandates through the Indra Sawhney for electoral gains, the Supreme Court's ruling in the Maratha reservation law is a welcome sign and is expected to extend to other states as well.*

### **Constitution of India — features, significant provisions and basic structure.**

#### **5. No one can be forced to get vaccinated: SC**

- » Mains: Vaccine mandate; its criticism and Supreme Court guidelines

**Context:**

- The Supreme Court held that while the central government's current COVID-19 vaccine policy is not unreasonable, no individual can be forced to get jabbed.

**Background:**

- A petition in the Supreme Court had argued that states mandating vaccination for accessing benefits or services is a violation of citizens' rights, and unconstitutional.
- The centre had argued in court that the petition was "against national interest" and would create vaccine hesitancy.
  - \* It also said that vaccination is voluntary but states had enforced mandates "based on potential hazards".
- Tamil Nadu, Maharashtra and Madhya Pradesh defended their vaccine mandates, calling them essential for the safety of every person, especially those using public spaces and transport.

**Supreme Court's observations:**

- **On Vaccination Policy:**

- \* The centre's COVID-19 vaccination policy is "voluntary", the Supreme Court said in a judgment.
- \* Voluntary Vaccination Policy: A voluntary vaccination policy should explain that the state has opted not to make vaccination a mandatory condition and it can be opted as per the choice of the individual.

- **On Right to Refuse Treatment:**

- \* A person has the right under Article 21 to refuse treatment.
- \* Personal autonomy of an individual involves the right "to determine how they should live their own life, which consequently encompasses the right to refuse to undergo any medical treatment in the sphere of individual health".

- **On Bodily Integrity and Personal Autonomy:**

- \* The Supreme Court observed that bodily integrity is protected under the Right to Life (Article 21) of the Constitution and no individual can be forced to be vaccinated.
- \* The personal autonomy of an individual encompasses the right to refuse to undergo any medical treatment in the sphere of individual health.

- **On the Issue of Vaccination for Children:**

- \* The bench said that the decision taken by the Union of India to vaccinate the paediatric population (that group of population between birth and 18 years of age) in India is in tune with global scientific consensus and expert bodies like the WHO and UNICEF.

- **On 'Reasonable limitations'**

- \* The Supreme Court also declared that when the individual's refusal may lead to public harm, the State has an obligation to impose "reasonable and proportionate" limitations on individual rights.

- **Test of proportionality**

- \* The Bench said the government's interventions into the personal autonomy of an individual and right to access means of livelihood should meet the "three-fold" requirements as expounded in K.S. Puttuswamy case.
- \* The three-fold requirements include:
  - » The limitations should be backed by a clear statutory law.
  - » The need for limitations should be



proportionate to a legitimate state aim.

- » There should be a rational nexus between the state's objectives for imposing the restrictions and the means adopted to achieve them.

#### **Arguments against the Court observation on vaccine mandate:**

- **Vaccine mandate in line with the proportionality test:**
  - \* States are empowered to act on issues concerning 'public health' as it is a subject under State List of Schedule VII of the Constitution.
  - \* Also, the Disaster Management Act of 2005 and the Epidemic Diseases Act of 1897 provide the required legislative backing for state action during medical emergencies.
  - \* The vaccine mandate has proven to be effective in preventing serious illnesses and reducing deaths in persons infected with COVID-19. Also, it will help prevent future mutations of the virus. Hence there exists a legitimate aim behind vaccine mandates.
- **Community interests over individual rights:**
  - \* The court's view that the States' vaccine mandates are disproportionate could undermine community interest.
  - \* In times of epidemics, a community has the right to protect itself from the disease which threatens the safety of its members. This right is more important than individual rights.
  - \* Even the Indian Supreme Court in the *Asha Ranjan v. State of Bihar* (2017) case had prioritised community interests over individual interests.
- **Could undermine the fight against the pandemic:**
  - \* The Court's observation holding the vaccine mandates to be disproportionate until the time infection rates remain low would adversely impact India's fight against the pandemic
  - \* Also, such an approach would be reactionary and not proactive as required in such scenarios.
- **Obligation on the state to protect the right to**

#### **health:**

- \* India is a signatory to the International Covenant on Economic, Social and Cultural Rights which mandates a country to take all possible measures to progressively realise the enjoyment of the "highest attainable standard of physical and mental health" of its citizens.
- \* The Right to Health is a part and parcel of the Right to Life and therefore right to health is a fundamental right guaranteed to every citizen of India under Article 21 of the Constitution

#### **Nut Graf:**

*The Supreme Court judgment is significant as it upholds the rights of an individual against forcible vaccination and also protects the State's obligation to impose "reasonable and proportionate" limitations on individual rights in the larger public interest. But critics believe that the Supreme Court's observations on the vaccine mandate threatens to derail India's fight against the COVID-19 pandemic and need a relook.*

#### **owers, functions and responsibilities of various constitutional offices**

#### **6. Supreme Court frees Perarivalan**

- » Prelims: Pardoning powers of the President and the Governors
- » Mains: Significance of Article 142 and the Supreme Court's judgement in Perarivalan's case

#### **Context:**

- The Supreme Court used its extraordinary powers under Article 142 of the Constitution and directed the release of A.G. Perarivalan in Rajiv Gandhi's assassination case.

Background**A long path** | A brief timeline of Perarivalan's over 30-year-long incarceration:

**June 11, 1991:** CBI arrests 19-year-old Perarivalan

**Jan. 28, 1998:** A TADA court sentences 26 accused to death, including Perarivalan, in the Rajiv Gandhi assassination case

**Aug. 26, 2011:** Execution of Santhan, Murugan and Perarivalan fixed for Sept. 9, 2011

**Feb. 18, 2014:** SC commutes the death sentence on grounds of delay in disposing of their mercy pleas

**Feb. 19, 2014:** Tamil Nadu Cabinet decides to immediately release Santhan, Murugan, Perarivalan, Nalini, Robert Payas, Jayakumar and Ravichandran

**Dec. 2, 2015:** SC says Centre will decide whether the convicts will be released

**Nov. 14, 2017:** A former CBI officer makes a sworn statement that the CBI omitted a part of Perarivalan's confession

**Jan. 23, 2018:** A three-judge Bench of the SC gives the Centre three months to decide on his release

**June 15, 2018:** The Centre rejects T.N. govt.'s request

**Sept. 9, 2018:** T.N. govt. decides to recommend to Governor the release of all convicts

**May 18, 2022:** Supreme Court invokes its extraordinary powers to release Perarivalan

Article 142 of the Constitution

- Article 142 was introduced to uphold the interests of justice.
- Article 142 provides an extraordinary authority to the Supreme Court, to do "complete justice" at times when the law or statute fails to provide a remedy.
- According to Article 142, "The Supreme Court in the exercise of its jurisdiction may pass such as is necessary for doing complete justice in any cause or matter pending before it, and any decree so passed or orders so made shall be enforceable throughout the territory of India in such manner as may be prescribed by or under any law made by Parliament and, until provision in that behalf is so made, in such manner as the President may by order prescribe."
- It also provides that "the Supreme Court shall have all and every power to make any order for the purpose of securing the attendance of any person, the discovery or production of any documents, or the investigation or punishment of any contempt of itself".

Supreme Court's observations

- The Supreme Court bench in its judgment acknowledged Perarivalan's long incarceration for over 30 years to order his release.

- Earlier, the court had commuted his death penalty to a life sentence for murder in 2014 and had observed that the apex constitutional authorities like the President and the Governor must exercise their clemency powers under Articles 72 and 161, respectively, within the "bounds of constitutional discipline" and in an "expeditious manner".
- The Court questioned the authority of the Governor to refer the mercy plea to the President as the Governor was bound by the aid and advice given by the Tamil Nadu Council of Ministers in September 2018 under Article 161 of the Constitution.
- Saying that the Governor's non-exercise of power under Article 161 of the Constitution was not immune from judicial review, the SC bench held that the Governor's delay in the Perarivalan's pardon decision has compelled the court to use its extraordinary constitutional powers under Article 142.
- The court also questioned the interests of the Centre to speak for the Governor.

**Article 161**

- Article 161 of the Constitution mentions the Pardoning Power of the Governor.
- According to the Article, the Governor of a State has the power to grant pardons, reprieves, respites or remissions of punishment, or to suspend, remit or commute the sentence, of any person convicted of any offence against any law relating to a matter with respect to which the Legislature of the State has power to make laws.

**Article 72**

- Article 72 of the Indian Constitution deals with the pardoning powers of the President of India
- Under Article – 72, the President can grant pardons, reprieves, respites or remissions of punishment or suspend, remit or commute the sentence of any person convicted of any offence in various cases.
- These cases involve:
  - \* Those cases where the punishment or sentence is by court-martial
  - \* Cases where the punishment or sentence is for offence under law relating to the Union government's executive power
  - \* All cases of death sentences

**What does CrPC say about remission?**

- The Code of Criminal Procedure (CrPC) provides for remission of prison sentences which depicts that the whole or a part of the sentence may be cancelled.
- Under section 432 the 'appropriate government' may suspend or remit a sentence, wholly or partly, with or without conditions.
- Under section 433, the appropriate government may commute any sentence without the consent of the person sentenced.

- The appropriate government, under section 433, may commute:
  - \* A sentence of death for any other punishment provided by the IPC
  - \* A sentence of life imprisonment for an imprisonment term not more than 14 years or for fine
  - \* A sentence of rigorous imprisonment for simple imprisonment for any term for which the person might be sentenced or for fine.
  - \* A sentence of simple imprisonment for fine
- Section 435 says that if the prisoner had been sentenced in a case by the CBI, or any agency that probed the offence under a central act, the state government can order such release only in consultation with the Central Government.

**Nut Graf:**

*By the use of extraordinary powers conferred to it under Article 142 of the Constitution, the Supreme Court has ordered the release of Perarivalan thus reiterating that delays in the decisions on pardon pleas by the Governor will not be entertained by the Courts. The decision has gained significance as it has upheld the values of state autonomy and federalism.*

**Government policies and interventions for development in various sectors and issues arising out of their design and implementation.**

**7. Turning down the volume on a call to prayer**

» Mains: Loudspeakers & Law in India

**Context:**

- Uttar Pradesh enforced a strict crackdown on the illegal use of loudspeakers in religious places.

**What Noise pollution Law says?**

- The use of a loudspeaker produces noise. Noise has been defined as "unwanted sound, a potential health and communication hazard dumped into the environment with regard to the adverse effect it may have on unwilling ears."
- Noise is defined as an 'air pollutant' in Section 2(a) of the Air (Prevention and Control of Pollution) Act of 1981.
  - \* According to Section 2(a), a "air pollutant" is any solid, liquid, or gaseous substance, including noise, present in the atmosphere in such concentrations as to be or tend to be harmful to humans, other living creatures, plants, property, or the environment

Rule 5 of the Noise Pollution (Regulation and Control) Rules, 2000 under the Environment (Protection) Act, 1986: Restrictions on the use of loudspeakers/public address system:

- A loudspeaker or a public address system shall not be used except after obtaining written permission from the authority.

The Schedule to the Noise Pollution Rules 2000 specifies the different limits for ambient noise in different areas:

- Industrial Areas – 75 dB(A) in the day, 70 dB(A) at 'night time'
- Commercial Areas – 65 dB(A) in the day, 55 dB(A) at 'night time'
- Residential Areas – 55 dB(A) in the day, 45 dB(A) at 'night time'
- Silence Zones – 50 dB(A) in the day, 40 dB(A) at 'night time'

Under Rule 5(3), state governments can specify up to 15 days in a year when loudspeakers can be used from 10 pm to 12 midnight, for cultural or religious festive occasions.

#### **Motilal Yadav vs The State of Uttar Pradesh**

- Quoting a judgment of the Allahabad High Court, in *Motilal Yadav vs The State of Uttar Pradesh*, the UP government, in an even-handed manner, removed around 10,900 loudspeakers from various places of worship

#### **Response**

- The government action was met with a considerably mature response.
- There were no threats to hit the roads or approach the Supreme Court.
- There were no calls for rallies or even whispers of discrimination or appeasement.

#### **Other Judgments**

##### **1. Bombay High Court**

- In 2016, the Bombay High Court ruled that the use of loudspeaker was not a fundamental right.
- The Bombay High Court observed that no religion or sect could claim that the right to use a loudspeaker or a public address system was a fundamental right conferred by Article 25 of the Constitution of India.

\* "We hold that all places of religion are bound by noise pollution rules. No religion or sect can claim fundamental right for using loudspeaker or public address system. We clarify that all places of religion shall scrupulously follow noise pollution rules and no place shall be allowed to use loudspeakers or PA systems without obtaining permission," said the court.

- It further ordered that if a place of religion fell in a Silence Zone, the rules of not allowing use of loudspeakers and other forms of sound producing systems in such a zone should be adhered to by such religious places.

##### **2. Uttarakhand High Court**

- In 2018, the Uttarakhand High Court directed the state government to ensure that no loudspeaker or public address system is used by any person or organisation, including religious bodies, without the written permission of the relevant authorities.

##### **3. Punjab and Haryana High Court**

- In 2019, the Punjab and Haryana High Court banned the use on loudspeakers at public places, including religious bodies. The court said that public address systems could only be used with prior permission, and the noise level should never exceed the permissible limit.



#### **SC 2000**

- During the case of *Church of God (Full Gospel) in India v. K.K.R. Majestic Colony Welfare Assn.*, The Supreme Court held that the Court may issue directions in respect of controlling noise pollution, even if such noise was a direct result of and was connected with religious activities.
- It said, "Undisputedly, no religion prescribes that prayers should be performed by disturbing the peace of others nor does it preach that they should be through voice amplifiers or beating of drums. In a civilized society in the name of religion, activities which disturb old or infirm persons, students or children having their sleep in the early hours or during daytime or other persons carrying on other activities cannot be permitted."

#### **SC's 2005 Order**

- The Supreme Court had banned the use of loudspeakers and music systems in public places between 10 p.m. and 6 a.m. (except in cases of public emergencies) in 2005, citing the serious effects of noise pollution on the health of those who live in such areas.

#### **SC's Order on Festivities**

- The Supreme Court ruled that loudspeakers could be used until midnight on festive occasions for 15 days a year.

#### **Right to sleep peacefully is a fundamental right**

- *Maidan Incident (In Re:)* the Apex Court dealt with the issue of privacy as a part of Article 21 of the Constitution of India and held that the right to sleep has always been treated to be a fundamental. The Apex Court held thus: "Sleep is essential for a human being to maintain the



delicate balance of health necessary for its very existence and survival. Sleep is, therefore, a fundamental requirement without which the existence of life would be in peril. To disturb sleep, therefore, would amount to torture, which is now accepted as a violation of human right."

#### **Nut Graf**

*Acknowledging the High Court's order and considering the health hazards due to increased noise pollution, the UP government has removed illegally set up loudspeakers across the state. The lack of opposition against this move by the religious heads has reflected a change in the conservative attitude of the people.*

### **Parliament and State legislatures—structure, functioning, conduct of business, powers & privileges and issues arising out of these.**

#### **8. Jammu and Kashmir Delimitation report**

- » Prelims: Delimitation Commission
- » Mains: Critical evaluation of the delimitation process in Jammu and Kashmir and the way forward

#### **Context:**

- Recently, the Jammu & Kashmir Delimitation Commission submitted its final report, two years after it was appointed to redraw the electoral boundaries in J&K.

#### **Background:**

- The redrawn map of Jammu and Kashmir for the assembly election was notified by the Delimitation Commission.
- As a consequence of the final report of the Commission, huge protests emerged among the political parties of Kashmir.
- It is alleged that there were significant concerns raised when the report was being drafted. However, the commission overlooked the recommendations and concerns of the political leaders.
- This has highlighted major shortfalls of the report, inviting enormous arguments.
- The commission agreed to invite sound recommendations of the legislative assembly and consider them once delimitation came into force and not before the elections.

#### **What is delimitation?**

- Delimitation is the process of redrawing boundaries of the Lok Sabha or Assembly constituencies, the Election Commission of India states.
- Delimitation is done by a Delimitation Commission or Boundary Commission.
- The orders of the independent body cannot be questioned before any court.
- Article 82 of the Indian Constitution has provisions for a periodic population-based marking out or re-arrangement of constituencies.
  - \* It provides for the readjustment of seats allocated to the House of the People to the States and the division of each State into territorial constituencies.
- A delimitation freeze was put in place through the 42nd Amendment of the Constitution in 1976. This was extended through the 84th Amendment. This extension is to end in 2026.

#### **J&K Delimitation Commission**

- The Centre set up a Delimitation Commission in 2020 after the State of Jammu and Kashmir was bifurcated and reorganised as the Union Territories of Jammu and Kashmir and Ladakh.
- The Commission was tasked with delimiting the Assembly and Lok Sabha constituencies in the UT of J&K based on the 2011 Census and in accordance with the provisions of the Jammu and Kashmir Reorganisation Act, 2019 and the Delimitation Act, 2002.
- The Delimitation Commission has been headed by a retired Judge of the Supreme Court, the Chief Election Commissioner and the State Election Commissioner of Jammu & Kashmir as ex-officio members of the Commission.

### **Significant Takeaways from J&K Delimitation Commission**

- Increase in the number of Assembly seats: Six additional Assembly seats are earmarked for Jammu (revised to 43) and one for Kashmir (revised to 47). The total number of Assembly seats in the UT will increase from 83 to 90.
- Reservation of seats for SCs and STs: The panel has proposed nine seats for the Scheduled Tribes (STs). Seven seats have been reserved for the Scheduled Castes (SCs) in the Jammu region.
- Nominations in Assembly:
  - \* The Commission has recommended that the Centre nominate at least two Kashmiri Pandits to the Legislative Assembly.
  - \* The Commission has also recommended that the government consider giving displaced persons from Pakistan-occupied Jammu and Kashmir representation in the Assembly through nomination.
- New constituency: The Commission has merged Rajouri and Poonch (from the Jammu division) with the Anantnag constituency in the Kashmir region. The new constituency has been renamed as Kishtwar-Rajouri.
- Renaming of constituencies: The Commission has said it renamed 13 constituencies considering public sentiment in the region.

### **The Discontent: Challenges Ahead**

- According to the Commission, the report has successfully addressed the issues raised by the members and reflected their support.
- Such a claim has resulted in the creation of a prominent gap between the commission's self-projection and the views of the Valley's political leaders.
- The government was firm with its decision to redraw the constituencies for Jammu and Kashmir for elections to be held under the Jammu and Kashmir Reorganisation Act 2019.
- With the decision to reorganize J&K, a large number of people including noted leaders of political parties were held captive under preventive detention along with the charges of sedition.
- After notifying the redrawn constituencies, the Election Commission realised the urgent need to conduct elections in Jammu and Kashmir with an objective to offer leadership to the region which has been, so far, under non-local administration.
- This move of the election commission also added to the discontent with an enhanced risk of violence.

- The major challenge will be witnessed if the election results determine a sharp divide between Jammu and the Valley, leading to political instability.
- There is a possibility that the delimitation exercise can be nullified provided the Supreme Court declares the challenges put forth against the reorganisation act valid after a thorough hearing.

### **Shortfalls in the report of the delimitation commission:**

- It does not summarise nor does it address the objections put forward by the people and representatives.
- There were arguments surrounding the reason for allocating six seats to Jammu and only one seat to Valley. The reasons behind the disproportionate allocation of seats have not been clarified precisely by the report.
- There is an inadequate explanation of the methodology that was applied in the allocation of seats.
- The reduction in the Muslim majority seats despite the fact that the Muslim community occupies the majority of the population of the region, has not been well defined with a rationale.

### **Way Forward:**

- It is suggested that there must be clean and fair elections to restore peace in the region of Jammu and Kashmir.
- It should be the responsibility of the administration, legal authorities and the government to ensure a speedy revival of statehood for Jammu and Kashmir.
- Attention should be paid to the freedom of the individuals and to protect them from arbitrary arrests that dilute the spirit of nationalism among the people of the region.
- The stakeholders of policymaking in Jammu and Kashmir, in the upcoming days, must uphold a credible and accountable leadership regulating the misuse of draconian legislations. This would nurture and boost the true confidence of the people and the representatives for elections.

**Nut Graf:**

*The report of the delimitation commission has led to the emergence of several arguments about the delimitation exercise in Jammu and Kashmir. For peace to prevail in the valley, all the stakeholders must come together and ensure individual freedoms of the people of the region within the boundaries of the Indian Constitution.*

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# ECONOMY

## Infrastructure: Ports

### **1. Incredible India International Cruise Conference 2022**

- » Prelims: Coastal destination circuits; Maritime Vision 2030
- » Mains: Potential of cruise tourism in India; Significance and government initiatives

#### Context:

- The first-ever Incredible India International Cruise Conference was inaugurated by the Union Minister for Ports, Shipping & Waterways in Mumbai.

#### Details:

- The Conference has been jointly organized by the Ministry of Ports, Shipping & Waterways, Government of India and FICCI.
- Strategies for developing India as a cruise hub, policy initiatives and port infrastructure and the potential of river cruise tourism are some of the key issues being taken up for discussion at the conference.

#### Potential of the Indian cruise market:

- Speaking at the conference, the Union Minister asserted that the Indian cruise market had the potential to grow 10 folds over the next decade, attributable mainly to rising disposable income and demand.
- Post pandemic, cruise tourism in India has registered a 35% year-on-year growth.
- The vast coastline and the extensive systems provide ample potential for cruise tourism in India.
- The economic potential of cruise tourism is expected to go up from USD 110 million to USD 5.5 billion in the years to come.

#### Government initiatives:

- To boost the cruise tourism industry in the country, Government of India has taken several initiatives including infrastructure up-gradation at seven major ports, rationalisation of port fees, removing ousting charges, granting priority berthing to cruise ships, providing e-visa facilities, etc.
- The government is working towards creating state-of-art infrastructure for both ocean and river cruises. The development of ports is an important step in this direction. A New International Cruise terminal is coming up in Mumbai.

- The Government had previously set up a Task Force for the development of cruise tourism. In a follow-up move, the Minister announced the setting up of a high-level Advisory Committee, comprising national and international experts, to guide the Task Force.
- Four theme-based coastal destination circuits – Gujarat Pilgrimage tours, West Coast – Cultural and scenic tours, South Coast – Ayurvedic wellness tours and East Coast – Heritage tourism have been developed. Lighthouse and Island development is also being undertaken.
- The Maritime Vision Document 2030 focuses on heritage tourism, Ayurveda tourism, coastal tourism, river cruise tourism, etc.

## Marketing of agricultural produce

### **2. Lavender Festival**

- » Prelims: About Lavender Festival and Aroma Mission
- » Mains: Significance and achievements of the Aroma Mission

#### Context:

- India's 'First Lavender Festival' was inaugurated in Bhaderwah.

#### Lavender Festival

- The country's first 'Lavender Festival' was inaugurated in Bhaderwah which is regarded as the birthplace of India's Purple Revolution.
- The Council of Scientific and Industrial Research (CSIR) which functions under the aegis of the Ministry of Science and Technology conducted the Lavender Festival 2022.
- The festival was conducted as a part of the Union Government's Aroma Mission which is in line with the "One Product one District" initiative.
- The aim of the festival is to increase the income of farmers associated with Aroma Mission by encouraging and motivating them to adopt the value addition of the aromatic plant they are growing in their fields.

#### Significance and achievements of the Aroma Mission

- The CSIR-AROMA Mission, under the Ministry of Science & Technology, aims to develop and spread awareness about aroma-related science and technology to the farmers, industry and society as a whole.
- Lavender cultivation has become an avenue of employment generation and research which has resulted in comprehensive development for the region.



- The start-ups under the purple revolution in J&K have become one of the remarkable examples of start-ups under 'Start-up India, Stand-up India'
- Lavender Cultivation has increased farmers' incomes by about four times.
- Lavender cultivation has employed around 5,000 farmers and young entrepreneurs in geographically remote areas of J&K.
- Aroma Mission is attracting Start-ups and agriculturists from across the country.
  - \* During the Phase-I of the mission, 6000 hectares of land were cultivated for lavender and over 44,000 individuals got training
  - \* In the second phase of the Mission, over 45,000 individuals would be skilled which would benefit over 75,000 farming families

### ***Infrastructure: Energy, Ports, Roads, Airports, Railways, etc.***

#### **3. National Open Access Registry (NOAR)**

- » Prelims: About NOAR

##### **Context:**

- National Open Access Registry (NOAR) has successfully gone live recently.

##### **Details**

- NOAR is a centralized online platform through which the short-term open access to the inter-state transmission system is being managed in India.
- It is an integrated platform accessible to all stakeholders in the power sector, including open access customers (both sellers and buyers), power traders, power exchanges, National/Regional/State LDCs and others.
- The platform provides automation in the workflow to achieve shorter turnaround time for the transactions.
- NOAR platform also has a payment gateway integrated for making payments related to interstate short-term open access transactions. NOAR platform provides transparency and seamless flow of information among stakeholders of open access

##### **Benefits**

- Better communication and updated information
- Bringing in transparency, efficiency and economy
- Standardization and mapping of the entities

### ***Economy, growth, development and employment***

#### **4. National Startup Advisory Council (NSAC)**

- » Prelims: NSAC, Startup India
- » Mains: Effective interventions by the government to boost the startup ecosystem in the country.

##### **Context:**

- The 4th meeting of the National Startup Advisory Council was held in New Delhi.

##### **Important Highlights:**

- The meeting of the NSAC commenced with the objective of extending support to the developing startup ecosystem in the country.
- The need to enhance capacity building for generating awareness among people about various programmes of the government to promote startups in the cities.
- The focus areas included:
  - \* Protecting ownership of startups with original promoters
  - \* Incorporation of the startups in India
  - \* Listing in India
  - \* Development of innovation hubs in India
- The NavIC grand challenge was launched to expand the usage of geo-positioning solution tools as key proponents for digital Atma Nirbharta (self-reliance).
- The NavIC challenge also aimed to promote the development of NavIC enabled drones that will enable handheld solutions.
- This acted as a progressive step to give effect to the objectives of Startup India.

##### **About NSAC:**

- NSAC was constituted by the Department of Promotion of Industry and Internal Trade (DPIIT) to advise the government on measures needed to build a strong ecosystem for encouraging innovation and entrepreneurship in the country.
- It aims to build a sustainable drive for economic growth and generate large scale employment opportunities.
- It is a kind of congregation wherein the policymaking process is driven as part of collaborations between all key stakeholders of the startup ecosystem.

### ***Infrastructure: Roads***

#### **5. Nechiphu Tunnel**

» Prelims: About Nechiphu Tunnel

##### **Context:**

- Border Road Organisation (BRO) conducted a final breakthrough blast which marks the successful completion of excavation work of the Nechiphu Tunnel.

##### **Nechiphu Tunnel**

- The Nechiphu Tunnel is being constructed on the Balipara-Chariduar-Tawang (BCT) Road in the West Kameng District of Arunachal Pradesh
- The Nechiphu Tunnel is a unique 500-metre-long D-shaped, single tube double lane tunnel built at an altitude of 5,700 feet.
- The tunnel has been equipped with modern lighting and safety facilities.
- The tunnel is constructed to detour extreme foggy conditions prevailing around Nechiphu Pass which have affected general traffic and military convoys.
- The tunnel boasts of having state-of-the-art electro-mechanical systems such as fire fighting devices, auto illumination systems and Supervisory Control and Data Acquisition (SCADA) controlled monitoring systems.
- It is also provided with raised footpaths for safer pedestrian movement.
- It is being constructed by the Border Roads Organisation (BRO).
- The BRO has successfully completed the construction of High Altitude and Mountainous tunnels in recent few years such as the Atal Tunnel in Rohtang in Himachal Pradesh and the Chamba Tunnel in Uttarakhand.

### ***Infrastructure: Energy, Ports, Roads, Airports, Railways etc.***

#### **6. Operation Satark**

» Prelims: About the Operation

##### **Context:**

- The Railway Protection Force has recently started "Operation Satark".

##### **Operation Satark**

- Operation Satark was launched by the Railway Protection Force (RPF) to prevent the transport of illegal items to different parts of the country.
  - \* The Railway Protection Force is an armed force of the Union entrusted with the security of railway property, passenger areas and passengers.

\* It is the lead security agency in the field of railway security having a pan India reach.

• Objective:

\* To take action against illicit liquor/ Fake Indian Currency Notes (FICN) /illegal tobacco products/unaccounted gold/cash/ precious items/ any other items being transported through the railway network for the purpose of tax evasion/smuggling/ commission of crime/acts of terror.

### ***Economic Development, Food Processing and related industries in India***

#### **7. PM Formalization of Micro Food Processing Scheme**

» Prelims: PM FME scheme

» Mains: Evaluation of the key government interventions to promote local indigenous products.

- The Ministry of Food Processing Industries (MoFPI) had launched the PM Formalization of Micro Food Processing Scheme
- The PM FME scheme intends to provide financial, technical and business support to upgrade existing micro food processing enterprises.
- It is a part of India's self-reliant scheme called Atmanirbhar Bharat Abhiyan; and 'Vocal for Local' Campaign.

##### **Overview of PM FME Scheme**

The idea behind PM FME scheme is to bring unorganized micro food enterprises into an organized framework given:

1. There are approximately 25 lakhs unorganized food processing units.
2. These units contribute to 74 percent of employment in the food processing sector.
3. 66 percent of such units are located in rural areas.

The government has earmarked Rs. 10000 crores to benefit two lakh micro food processing enterprises. The scheme aims to support:

1. Micro Food Entrepreneurs
2. FPOs
3. SHGs
4. Co-operatives

##### **Objectives of PM FME Scheme**

The PM Formalization of Micro Food Processing Enterprises Scheme has the following objectives:

- Capacity Building of Micro Food entrepreneurs
  - \* They will be provided with technical knowledge

- \* Skill training is another component
- \* Hand holding support services to be given
- Technology up-gradation of the existing Micro Food Processing Enterprises by increasing access to credit to the entrepreneurs.
- Enable microenterprises to avail common services through supporting Farmer Producer Organizations (FPOs), Self Help Groups (SHGs), Producers Cooperatives & Cooperative Societies along their entire value chain
- A regulatory framework to encompass existing unorganized micro food processing enterprises to bring them into a formally compliant framework.
- Branding and marketing to be strengthened in order to support the integration of existing enterprises with organized supply chains.

#### **Four Main Components of PM FME**

To address the need of the micro food processing sector, the following four components have been encompassed in the scheme:

1. Support to individual and groups of micro-enterprises
2. Branding and Marketing support
3. Support for strengthening of institutions
4. Setting up a robust project management framework

#### **Infrastructure: Energy, Ports, Roads, Airports, Railwaysetc.**

### **8. SECI signs MoU with MHA to set up Solar Energy panels**

- » Prelims: MoU between SECI and Ministry of Home Affairs.

#### **Context:**

- In a bid to promote renewable energy, the Ministry of Home Affairs and Solar Energy Corporation of India (SECI) signed an MoU to install solar energy panels on the campuses of the CAPFs and the National Security Guard (NSG).

#### **What is SECI?**

- Solar Energy Corporation of India (SECI) is a Public Sector Undertaking (PSU) under the Ministry of New and Renewable Energy (MNRE).
- Its major functions include:
  - \* Promotion and development of renewable energy.
  - \* Promotion and development of solar energy.
  - \* Trading of power.
  - \* Research and Development.

#### **What is the need for this MoU?**

- The MoU underlines the government's commitment to a sustainable future.
- The MoU will provide green power to the security forces of India.
- It will promote the use of solar energy and also help in the development of renewable energy resources

#### **Major crops, cropping patterns in various parts of the country and issues and related constraints.**

### **9. The recent woes of the jute industry in West Bengal**

- » Prelims: About Jute
- » Mains: Issues associated with the jute industry

#### **Context:**

- Recently, Barrackpore MP wrote to the West Bengal chief minister seeking her intervention in issues associated with the jute industry in West Bengal.

#### **Jute:**

- Jute is a soft and relatively long fibre that has the ability to be spun into strong, coarse threads.
- Jute is the second most abundant natural fibre in the world.
- Jute is known as Golden Fibre.

#### **Jute Industry in India:**

- India is the largest producer of Jute after Bangladesh and China.
- India is also the world's largest consumer of jute and jute products.
- Jute production in West Bengal accounts for nearly half of the country's total.
- Uttar Pradesh, Bihar, Assam, Meghalaya, and Orissa are also major jute-producing states in India.
- West Bengal, Bihar, and Assam produce nearly 99% of India's total production.

#### **Jute Prices:**

- The government has a fixed Minimum Support Price (MSP) for raw jute procurement from farmers, which is ₹4,750 per quintal for the 2022-23 season.
- A notification in 2021 mandated that no entity would be allowed to purchase or sell raw jute at a price exceeding ₹6,500 per quintal.

**Problems associated with the jute industry:**

- Issues with intermediaries: Jute mills do not acquire their raw material directly from the farmers, but instead through intermediaries. Mills are procuring raw jute at prices higher than what they are selling after processing.
- Supply chain disruptions due to cyclones: Recent occurrence of Cyclone Amphan made the situation worrisome for jute producers.
  - \* It led to lower acreage, which in turn led to lower yield compared to previous years.
  - \* Lower quality jute fibre was produced due to water-logging in large fields.
- Lack of systematic regulation for hoarding: Acreage issues were accompanied by hoarding at all levels – right from the farmers to the traders as the mechanism lacks certain “systematic regulation”.
- Lack of product diversification: Only a section of the jute industry has diversified into non-packaging segments. This adds to the problems of the jute producers.
- Lack of infrastructure: India lags behind in producing superior quality jute fibre due to infrastructural constraints related to retting, farm mechanization, and lack of availability of certified seeds and varieties suitable for the country's agro-climate.
- Export competitiveness: Bangladesh provides cash subsidies for varied semi-finished and finished jute products. Hence, competitiveness emerges as a challenge for India to explore export options.

**Government initiatives for the jute industry**

- Golden Fibre Revolution and Jute Technology Mission
  - \* The Government of India, in 2006, launched a Jute Technology Mission which included four mini targets that included jute research, development of raw jute agriculture and its extension; processing and marketing of raw jute.
- "Jute Packaging Mandatory Act, 1987"
  - \* Under the Jute Packaging Materials (Compulsory Use in Packing Commodities) Act, 1987, the government prescribes mandatory jute packaging for various commodities.
  - \* A decision was taken to ensure a minimum of 100% of food grains and a minimum of 20% of sugar are to be compulsorily packed in jute sacking.

- Jute-ICARE
  - \* Improved Cultivation and Advanced Retting Exercise for Jute (Jute – ICARE) was launched in 2015 to introduce better agronomic practices among farmers in West Bengal and Assam.
  - \* The improved agronomic practices include — line sowing of jute using seed drills, weed management by wheel hoeing instead of hand weeding and distribution of quality certified seeds at a 50% subsidy.
- Jute Integrated Development Scheme (JIDS)
  - \* JIDS was launched by the Government of India in 2015-16 with an aim to set up local units and agencies at far off locations around the country through collaboration with various bodies such as SHGs, cooperative societies, and NGOs.
  - \* The National Jute Board (NJB) is the implementing agency for JIDS.
- Jute SMART
  - \* Jute SMART is an e-govt initiative launched in December 2016 with an aim to promote transparency in the jute sector,
  - \* The initiative provides an integrated platform for procurement of B-Twill Jute sacking commonly known as jute sacking bags by the Government.
- Jute Seeds Distribution Program
  - \* The Union Textile Ministry launched the commercial jute seed distribution scheme in 2021.
  - \* The initiative was undertaken keeping in view the growing demand for Jute in the country and to improve the quality of Jute.

**Nut Graf**

*As the jute sector provides direct employment to significant workers in the country, the closure of the jute mills is a direct blow to workers and indirectly, to the farmers whose production is used in the mills. With infrastructural development and adequate supply chain availability, the jute industry will surely contribute to ensuring a doubling of farmers' income by 2022.*



## Infrastructure: Airports

### 10. The SpiceJet 'accident'

- » Prelims: Turbulences and Aircraft Accident Investigation Bureau (AAIB)
- » Mains: Management of accidents in the Indian aviation sector and key recommendations to improve safety.

#### Context:

- A Boeing aircraft belonging to SpiceJet which was operating from Mumbai to Andal (West Bengal) experienced severe turbulence.

#### Details

- The aircraft had over a hundred passengers on board and the turbulence caused head, shoulder, spinal, forehead and facial injuries to many passengers on board.
- The cabin of the aircraft was also damaged in the process.
- The flight crew took manual control of the aircraft (from autopilot mode) and the aircraft made a safe landing.
- The Directorate General of Civil Aviation (DGCA) has categorised the incident as an "accident".

#### Why has it been called an 'accident'?

The occurrence would fall under one of the conditions that defines an "accident" in aviation, i.e., "an occurrence associated with the operation of aircraft which ... i) in the case of a manned aircraft, takes place between the time any person boards the aircraft until such time as all such persons have disembarked.... a) a person is fatally injured or seriously injured as a result of: i) being in the aircraft ii) direct contact with any part of the aircraft including parts of which have become detached from the aircraft...."

#### Investigation

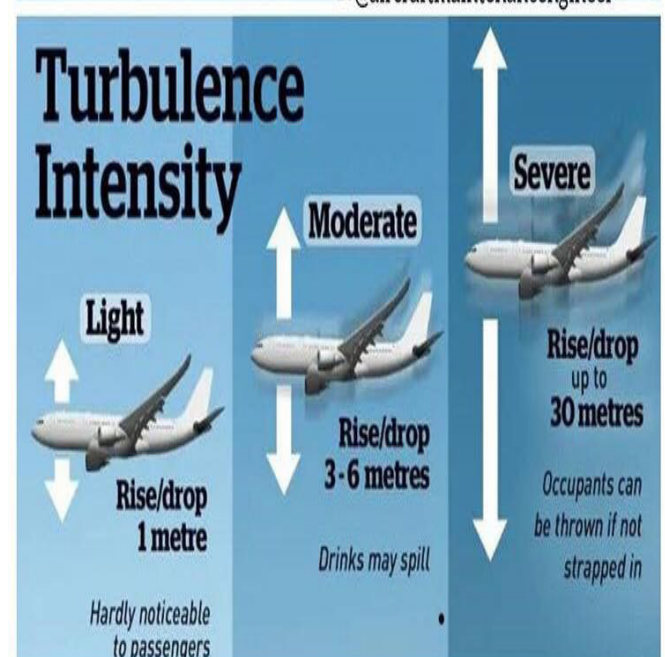
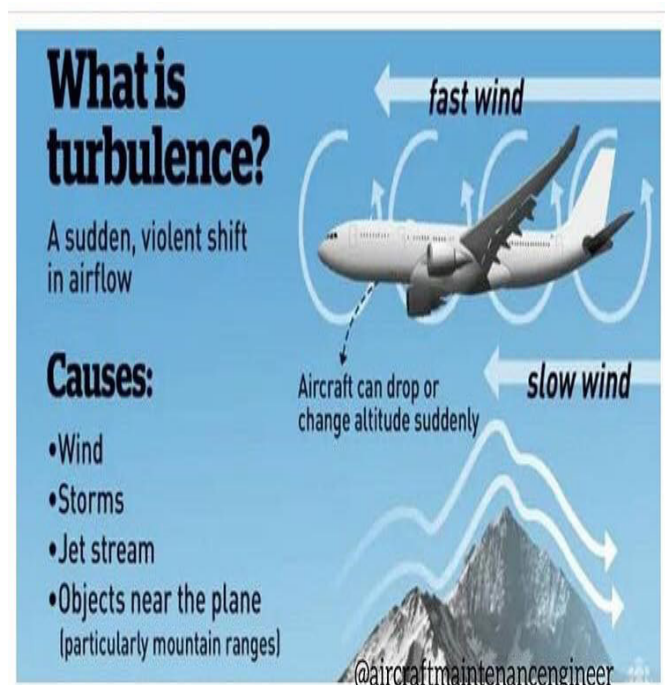
- India's Aircraft Accident Investigation Bureau (AAIB), has taken over investigation into the occurrence.
  - \* The AAIB is responsible for "classification of safety occurrences" that involve aircraft operating in Indian airspace falling under the categories 'accidents', 'serious incidents' and 'incidents'.
- The probe will look to answer crucial questions in an effort to prevent such future incidents, including why the aircraft flew into such weather, why people got injured so badly, and whether the crew contributed to the event in any manner.

#### What is Turbulence?

- A sudden change in pressure and velocity of the airflow that can push/pull an aircraft is known as Turbulence. It is one of the most unpredictable of all the weather phenomena.


#### Types of Turbulences

- \* Convective turbulence – caused due to cloud convection
- \* Mechanical turbulence – also called low-level turbulence, caused due to the friction between the air and the ground, particularly in irregular terrain and man-made obstacles
- \* Orographic turbulence – caused due to elevated terrain such as mountains
- \* Clear air turbulence – caused due to erratic air currents that occur in cloudless air between altitudes of 20,000 and 49,000 feet
- \* Turbulence due to low-level jet streams
- \* Turbulence due to the wake turbulence of other aircraft



***Impact***

Intensity	Aircraft reaction	Inside aircraft
Light	Momentarily causes slight. Erractic changes in altitude and/or attitude.	Unsecured objects may be displaced slightly. Food service easily conducted. No difficulty in walking.
Moderate	Changes in altitude and/or attitude. Aircraft remains in positive control. Variations in indicated airspeed.	Unsecured objects dislodged. Food service and walking difficult.
Severe	Large abrupt changes in altitude and/or attitude. Large variations in indicated airspeed. Aircraft may be momentarily out of control.	Food service and walking impossible.
Extreme	Aircraft violently tossed about and is practically impossible to control. May cause structural damage.	Strong desire to land.


***Are Turbulence Incidents Dangerous?***

- Usually, pilots are trained to deal with turbulences, which depends on their nature and intensity.
- Turbulences can be dangerous if they are associated with thunderstorms as they have the potential to cause overstressing of the aircraft or loss of control.
- Several other factors like no proper training, and poor dissemination of weather- or wind-related information can also play big role in turbulence incidents.

**What to do in turbulence**

➤ Stay calm and listen to the cabin crew instructions

➤ Fasten and tighten seat belt to avoid getting thrown around

➤ Stow away loose items, like bags, under the seat

➤ In case luggage falls off

the overhead rack, brace for impact by putting arm over head and face

➤ Bracing for impact can also help avoid facial injuries if thrown against the food tray in front

➤ Take deep breath to avoid nausea

**What will the investigation focus on?**

- As a standard practice, it will focus on a number of factors to ascertain why the incident caused severe injuries to passengers.
- These include the weather conditions when the plane encountered turbulence, whether or not the pilots were caught unprepared, and whether they asked the cabin to prepare for the incoming disturbance.

**How can airlines avoid turbulence?**

- The FAA recommends that carriers should improve dispatch procedures by keeping communication channels open full-time; include turbulence in weather briefings; promote real-time information-sharing between pilot and dispatcher; reinforce the carrier's turbulence avoidance policy through dispatcher training; consider re-routing using automation, atmospheric modelling, and data displays; and use all applicable weather data as well as reporting and forecasting graphics.

**Nut Graf**

*The events of aircraft turbulence which not just cause severe physical injuries but also affect the mental well-being of passengers can be avoided through proper planning, good meteorological knowledge and advancements in the aircraft's radar systems.*

**Indian Economy and issues relating to planning, mobilization, of resources, growth, development and employment.**

**11. The government in business**

- » Mains: Details about the investment strategies of other countries and how can it help India address some key problems

**Context:**

- The article discusses the success story of the Chinese and Singapore governments' investment actions and what can India learn from it.

**Background:**

- Singapore's Government Investment Corporation (GIC) has invested internationally in equities.
  - \* GIC investments account for about ₹55 lakh crores worldwide.
  - \* GIC has shares worth nearly ₹1.09 lakh crores at the end of March 2022 in India alone.
  - \* GIC is the eighth largest wealth management fund in the world.
- The money invested has doubled in the last 20 years and the government uses the amount to fund its public welfare measures.

- The Indian government's budget expenditure for 2022-23 is ₹39.45 lakh crore whereas the Singapore government's investments are many times more than that.
- The government in China is also undertaking similar investments.
  - \* The Municipal Government of Hefei had invested \$787 million to gain a 17% stake in Nio's core business and after exiting, it made a profit of over 5 times its investment.
  - \* By 2017, Chinese state-owned firms had invested over ₹67 lakh crores in foreign companies which is about 27% of India's GDP.

**Trends in India**

- The trend in India indicates that the government is mainly focused on disinvesting.
- The overall market value of Indian government holdings is a meagre ₹13 lakh crores which is very less compared to China and Singapore.
- The foreign investments and holdings through the state-owned companies are negligible in India and the Navratna PSUs which are performing well are also being sold.
  - \* Whereas in China, the China National Petroleum Corporation which has assets worth \$600 billion is being used by the government to fuel its global interest.
  - \* While China is increasing its influence internationally, India is losing out on such opportunities to create greater economic influence by not investing overseas.

**Problems with disinvestments**

- The government is justifying disinvestment by saying that "the government has no business to be in business" but it is said that the rising government deficit is actually influencing India's disinvestment plans.
- The corporate investors get full authority over India's natural resources through these disinvestments and they can be exploited.
- India is aligned with the western ideology of government-owned companies, but it should realise that the list of the world's top asset-holding PSUs includes the ones from the U.S., Israel and the European countries and there are none from India.
- India's PSUs are governed by age-old rules and norms and also face problems due to political interventions.

**Lessons from Singapore**

- Lessons of National and public interest
  - \* The source of wealth has changed from land to natural resources, to the industrial sector and currently to the knowledge economy.



- \* Nowadays, assets are mainly in the financial markets today as there is more wealth to be made there and hence many international investors and few governments are doing so.
- \* The Indian government can emulate Singapore's moves which help raise more funds than disinvestments do and even as the ownership remains with the state.
- Lessons of investment
  - \* Singapore invests in long-term assets and does not take risky decisions.
- Lessons of managing finances
  - \* Another lesson that can be learned from Singapore is managing government finances.
  - \* Taxation is India's major source of revenue and hence the government is raising taxes on diesel/petrol and others which mainly affect the poor in the country.
  - \* However, if markets, wealth management and dividends are explored, the government can create wealth that could be used to ensure public welfare.

### Way forward

- The dividend amount amassed by the Indian government through PSUs is ₹50,000 crore and India can earn more from government investments.
- The Indian government can look at disinvesting the smaller and loss-making PSUs but the profitable ones have to be preserved and reformed.
- Salaries for the personnel must be on the same scale as that of some of the international companies along with real accountability.
- There is a remarkable talent in the PSUs which can collaborate with the talents from the private sector.
  - \* The success of various startups and unicorns indicates the amount of managerial talent that can be utilized in the national interest.

### Conclusion

- The examples of the achievement of the telecom industry in the 1980s, the creation of the Aadhaar ecosystem and the creation of the ONDC platform have shown how the private sector talents can be utilised for the public good. India must look to harness these talents for achieving greater public prosperity.

## Infrastructure: Energy

### **12. Understanding India's ethanol blending policy**

- » Prelims: About National Policy on Biofuels, 2018 and Ethanol Blending Programme of India
- » Mains: Details about the ethanol blending policy of India and its impact.

#### Context:

- The Union Cabinet approved amendments to the National Policy on Biofuels, 2018, which requires the fuel companies to increase the percentage of ethanol in petrol to 20% (E20) by 2025 (which was 2030 earlier).

#### Ethanol-blending

- Ethanol is an agro-based product, mainly produced from a by-product of the sugar industry, namely molasses.
- An ethanol blend is defined as a blended motor fuel containing ethyl alcohol that is at least 99% pure, derived from agricultural products, and blended exclusively with petrol.
- The Ethanol Blending seeks to blend Ethanol with motor fuel which helps in reducing pollution, conserving foreign exchange and increasing value addition in the sugar industry which ultimately helps farmers.
- As ethanol burns more completely than petrol, it prevents the emissions of carbon monoxide. However, studies have shown that there is no reduction in the emissions of nitrous oxides which is one of the key environmental pollutants.

#### History of ethanol-blending in India

- For the last 20 years, India is looking to develop an ecosystem to have more ethanol blended into petrol for the use of vehicles.
  - \* According to Government reports, about 75% of India's 22 crore vehicles are two-wheelers and 12% are four-wheelers.
- India has been examining the viability of using ethanol-blended petrol since 2001, wherein 5% ethanol blended petrol (95% petrol – 5% ethanol) was supplied.
- In 2002, the government announced the Ethanol Blended Petrol (EBP) Programme and started selling 5% ethanol blended petrol in a few States and Union Territories.
- However, until 2013-14, the percentage of blending did not cross 1.5%. Hence, in 2015, the Ministry of Road Transport and Highways issued that E5 (blending of 5% ethanol) petrol and the rubber and plastic components used in gasoline vehicles produced since 2008 should be compatible with the E10 fuel (blending of 10% ethanol). In 2019, the Ministry notified the E10 fuel.



- The government has extended financial incentives for distilleries and other policy support which has resulted in average blending reaching 5%.
- The government has already laid Standards for E20, E85 and even E100 fuel.
- India intends to achieve 10% blending by the end of 2022 and 20% blending by 2030. The government has plans to achieve a 5% blending of biodiesel with diesel by 2030.

### Switching to E20 blending

- India's net import of petroleum was estimated to be 185 million tons which cost around \$55 billion in 2020-21.
- Most of India's petroleum imports are used by automobiles and hence successful implementation of the E20 programme could help save about ₹30,000 crores per year.
- A report by NITI Aayog has provided a comprehensive framework of ethanol blending which includes challenges and a roadmap.
  - \* To achieve E20 blending, the committee foresees ethanol demand of 1,016 crore litres and considering the increase in the number of electric vehicles there would be a demand of 722-921 crore litres of ethanol in 2025.
- However, India's current ethanol production is about 426 crore litres from molasses-based distilleries and 258 crore litres from grain-based distilleries.
  - \* This is expected to rise to 760 crore litres and 740 crore litres respectively out of which 1016 crore litres of ethanol would be required for blending purposes and 334 crore litres for other uses.
  - \* This would require about 6 million tonnes of sugar and 16.5 million tonnes of grains per annum in 2025.

### Impact of E20 blending on vehicles

- With E20 blending it is expected that there would be a loss of 6-7% fuel efficiency in four-wheelers and about 3-4% for two wheelers developed for E0 and scaled for E10.
- However, vehicle manufacturers believe that modifications in engines can offset the loss in efficiency.
- And also the government should look at ways to compensate the consumers for a drop in efficiency and extend tax incentives on E10 and E20 fuel.

### Experience of ethanol blending in other countries

- Flex Fuel Engine technology (FFE) which consists of vehicles that operate completely on ethanol has been implemented successfully in Brazil and

accounted for about 80% of the total number of new vehicles in 2019.

- Based on the experience, it is estimated that the cost of flex fuel vehicles (four-wheelers) could be about ₹17,000 to ₹25,000 more than the current generation of vehicles.
  - \* The two-wheeled flex fuel vehicles would be costlier by ₹5,000 to ₹12,000 compared to regular petrol vehicles.
- The global production of fuel ethanol has reached 110 billion litres in 2019.
- The U.S. and Brazil produce about 84% of the global share which is followed by the European Union (EU), China, India, Canada and Thailand.
- The prices of ethanol produced in India are costlier compared to the U.S. and Brazil which is due to minimum support prices provided by the government.

### Path ahead for India

- An Institute for Energy Economics and Financial Analysis (IEEFA) report suggests that for India to meet its target of E20 blending by 2025, it must include an additional 30,000 sq kms of land under maize cultivation.
  - \* Half that land is enough to produce more efficient power from solar energy.
- In India, sugarcane is the cheapest source of ethanol and on average, a ton of sugarcane could produce 100 kg of sugar and 70 litres of ethanol.
  - \* This means that nearly 2,000 litres of water are required to produce 1 kg of sugar, and one litre of ethanol from sugar requires about 2,860 litres of water.

### Nut Graf

*At a time when the fuel prices are skyrocketing, the advancement of the target of achieving 20% ethanol blending by five years is aimed at reducing the net imports of crude oil and inculcating environmental-friendly behaviour among the citizens.*

### Indian Economy and issues relating to planning, mobilization of resources, growth, development and employment.

#### **13. FDI inflow 'highest ever' at \$83.57 bn**

- » Prelims: Foreign Direct Investment (FDI)
- » Mains: Trends in the FDI inflows, government initiatives and the significance of increase in FDI inflows.

**Context:**

- The inflow of foreign direct investment (FDI) for the financial year 2021-22 has reached \$83.57 billion which is the highest ever.

**Foreign Direct Investment (FDI)**

- Foreign direct investment (FDI) is an investment made by a firm or an individual of a country into business interests located in another country.
- FDI is a key driver of economic growth.
- FDI goes beyond capital investment, it includes the provision of management, technology, and equipment.

**Trends in FDI in recent years**

Financial Years	Amount of FDI inflows (in USD billion)
2018-19	62.00
2019-20	74.39
2020-21	81.97
2021-22	83.57

- India is emerging as a country preferred for foreign investments in the manufacturing sector.
  - \* FDI inflows in Manufacturing Sectors have raised by 76% in FY 2021-22 (USD 21.34 billion) compared to FY 2020-21 (USD 12.09 billion)
- FDI inflows have increased by 23% after the COVID pandemic compared to FDI inflow reported pre-COVID.

**Trends in FDI in FY 2021-22**

- Top FDI inflow contributors: Singapore is the biggest source of FDI accounting for 27%, followed by the U.S.A (18%) and Mauritius (16%).
- Top FDI inflow recipient States: Karnataka is the top recipient state accounting for 38% of the total FDI inflow, followed by Maharashtra (26%) and Delhi (14%).
  - \* The majority inflow of FDI to Karnataka is seen in sectors such as Computer Software & Hardware, Automobile Industry and Education.
- Top FDI inflow recipient sectors: Computer Software & Hardware is the top recipient sector with around 25% share followed by Services Sector (12%) and Automobile Industry (12%).
  - \* Under the Computer Software & Hardware sector, the major recipient states are Karnataka (53%), Delhi (17%) and Maharashtra (17%).

**Government's initiatives to boost FDI**

- The government has formulated a liberal and transparent policy for FDI, which has resulted in most of the sectors being open to FDI under the automatic route.
- The government has undertaken various reforms in sectors like coal mining, contract manufacturing, digital media, single-brand retail trading, civil aviation, defence, insurance and telecom which has further simplified and liberalised FDI inflows policies.

**Nut Graf**

*Measures undertaken by the Government in recent years have resulted in an increase in the FDI inflow into the country. The Government must further review FDI policies and introduce significant reforms to extend the ease of doing business and attract more investments.*

**Inclusive Growth and issues arising from it****14. World may have lost 11.2 crore jobs: ILO**

- » Prelims: International Labour Organisation (ILO) Monitor
- » Mains: Linkage between decent employment and economic and social development

**Context:**

- The ninth edition of the International Labour Organisation (ILO) Monitor on the "world of work" was released recently.

**Details:**

- The report notes multiple challenges or points of concern with respect to work or job opportunities.
  - \* There has been a drop in the number of hours worked globally in the first quarter of 2022. In fact, it has dropped to levels noted before the pandemic. This could be considered indicative of job losses. According to the report, about 11.2 crore jobs might have been lost during this period.
  - \* The growing divergence between richer and poorer economies in the post-pandemic economic recovery remains a point of concern given that the lack of decent job opportunities in low- and middle-income countries will only adversely impact the socio-economic development in these countries.
  - \* The gender gap in the employment scenario continues to remain a major point of concern in lower-middle-income countries including India. The number of women who have lost their jobs due to the pandemic is larger as compared to the number of men. Hence,

the pandemic seems to have exacerbated the already substantial gender imbalances in employment.

- \* The fresh lockdowns in China and the conflict between Ukraine and Russia which would lead to global supply chain disruption and the global rise in the prices of food and fuel which would add to financial turbulence and potential debt distress could add more pressure to the current situation.

#### Recommendations:

- Given the direct link between work and standard of living, countries must adopt a humane approach to address the dire situation.
- The focus should be on the creation of decent jobs and ensuring decent wages. Implementing minimum wage and living wage will be critical. The focus should be on improving the purchasing capacity of the workers.
- Ensuring social security for all workers should also be pursued.

#### **Nut Graf**

*Ensuring enough job opportunities with decent living wages is a sine qua non for socio-economic development of India.*

## **15. Green hydrogen: Fuel of the future?**

- » Prelims: About Green Hydrogen
- » Mains: Advantages of Green hydrogen and the current status of India's green hydrogen capabilities.

#### Context:

- The Indian Minister of Petroleum and Natural Gas said that India will emerge as the leader in green hydrogen.

#### Details

- The Minister at the World Economic Forum in Davos, Switzerland said that India can take advantage of the current energy crisis in the world.
- Recently, Oil India Limited (OIL) started India's first 99.99% pure green hydrogen plant in Jorhat, Assam.

#### Green hydrogen

- Hydrogen is the lightest, simplest and most abundant chemical element in the universe.
- Also, hydrogen is colourless, odourless, tasteless, non-toxic and highly combustible.
- Hydrogen produced through the electricity generated without emitting greenhouse gas is called "Green hydrogen".

- Green hydrogen is produced through electrolysis using renewable sources of energy like solar, wind or hydel energy.

- \* Grey hydrogen is generated through fossil fuels such as coal and gas and currently accounts for 95% of the total production in South Asia.

- \* Blue hydrogen is produced using electricity generated by burning fossil fuels but with technologies that prevent the carbon released in the process from entering the atmosphere.

#### Reasons for developing green hydrogen capabilities for India

- India is committed to reducing its greenhouse gas emissions by 33-35% from the 2005 levels under the Paris Agreement of 2015.
- India also committed to shifting from a fossil and import-dependent economy to a net-zero economy by 2070 at the 2021 Conference of Parties in Glasgow.
- India imports energy worth more than \$100 billion annually which dents its purse significantly.
- India has become a high carbon dioxide (CO<sub>2</sub>) emitter constituting about 7% of the global CO<sub>2</sub> burden due to increased consumption of fossil fuel.
- The Indian government is undertaking various initiatives to use green hydrogen as an alternative fuel and make India the global hub of green hydrogen.
  - \* In this regard, the National Hydrogen Mission was launched in 2021.

#### Status of green hydrogen production in India

- India has started to produce green hydrogen with an aim to increase the non-fossil energy capacity to 500 gigawatts by 2030.
- In April 2022 the public sector OIL headquartered in eastern Assam's Duliajan established India's first 99.99% pure green hydrogen pilot plant with a view of making the country ready for the pilot-scale production of hydrogen and its use in various applications.
- R & D efforts are continuously undertaken to decrease the cost of production, storage and the transportation of hydrogen.
- The plant at Jorhat in Assam is powered by a 500 KW solar plant and has the capacity to generate 10 kg of hydrogen/day which can be increased to 30 kg/day.
  - \* A specialised blender is also set up for blending green hydrogen produced from the unit with the natural gas supplied by the Assam Gas Corporation Limited and supplying the blended gas to the Jorhat area for domestic and industrial use.

- OIL takes the help of researchers from IIT-Guwahati to monitor the impact of the blended gas on the existing facility.

### **Advantages of Green Hydrogen**

- Green hydrogen can be stored for longer periods of time.
- The stored hydrogen can be utilized to generate electricity using fuel cells.
  - \* A fuel cell is a device that converts chemical energy into electricity.
  - \* In a fuel cell, hydrogen reacts with oxygen to generate electricity and water vapour.
- The discontinuous characteristic of renewable energy, particularly wind energy leads to grid instability and hydrogen acts as an energy storage device and increases grid stability.
- Researchers believe that the oxygen, produced as a by-product in the fuel cell (8 kg of oxygen is produced for 1 kg of hydrogen) can also be utilised in industrial and medical applications and also for enriching the environment.

### **Nut Graf**

*Green hydrogen is regarded as the "fuel of the future" and various initiatives undertaken by India to increase its capabilities in green hydrogen production are laudable because it helps unlock new opportunities as green hydrogen is considered an emerging market by renewable energy developers.*

## **16. U.S. becomes India's biggest trading partner at \$119 billion**

- The U.S. surpassed China to become India's biggest trading partner in 2021-22, which shows strengthening economic relations between the two countries.
- Bilateral trade between the U.S. and India reached \$119.42 billion mark in 2021-22 as compared to \$80.51 billion in 2020-21.
  - \* Exports to the U.S. have raised to \$76.11 billion in 2021-22 from \$51.62 billion in 2020-21
  - \* The imports to India have also increased to \$43.31 billion from about \$29 billion.
- Bilateral trade between China and India stood at \$115.42 in 2021-22 billion as against \$86.4 billion in 2020-21.
  - \* Exports to China saw a slight increase and stood at \$21.25 billion compared to \$21.18 billion in 2020-21.

- \* The imports from China increased to \$94.16 billion from \$65.21 billion in 2020-21.
- \* The trade gap between India and China widened to \$72.91 billion in 2021-22 in favour of China as compared to \$44 billion in 2020-21.
- Experts believe that India is emerging as a trusted trading partner as companies look to reduce their dependence on China for their supplies.
- Further, India has joined the U.S.-led Indo-Pacific Economic Framework (IPEF) which is expected to boost economic ties.

## **Infrastructure - Energy**

### **17. India's changing goal posts over coal**

- » Mains: Challenges to India's plan for a transition away from coal-based power

### **Background:**

- The carbon-intensive nature of coal and India's excessive reliance on coal power have raised concerns about the Indian power sector's contribution to global warming and climate change which have been described as reasons for the increasing frequency and intensity of natural calamities.
  - \* The power sector in India accounts for 49% of total carbon dioxide emissions, compared with the global average of 41%.

Type of power	Installed capacity (as % of total capacity)
Coal-based	51.5%
Natural gas-based	6.3%
Renewal energy	27%

- India's transition away from coal as a fuel has been gaining traction over the last few years with natural gas and renewable energy being held as alternatives for coal power.
  - \* Coal emits nearly twice as much carbon dioxide as natural gas on a kilogram-to-kilogram comparison. Also, unlike coal, natural gas does not leave behind any solid residue upon combustion.

### **Challenges to transition away from coal:**

- Despite plans to phase out coal-based power plants, India continues to remain dependent on coal-based power. According to the IEA's Coal Report 2021, India's coal consumption will increase at an average annual rate of 3.9% to 1.18 billion tonnes in 2024.

### **Increasing cost of natural gas:**

- Natural gas has been dubbed as the transition fuel in India's plans to move away from coal.



- The Russia-Ukraine war has resulted in an increase in the cost of natural gas. This has made it a financially unviable fuel to replace coal. Of the 25,000 MW of gas-based power plants, about 14,000 MW remains stranded, or idle, because they are financially unviable.
- Coal is still inexpensive compared with other sources of energy.

Challenges associated with renewable energy:

- The intermittent nature of renewable energy sources such as wind energy and solar energy is a major challenge associated with it.
- Storage technologies are still not mature enough to help renewable energy sources become reliable generators of power.
- Coal unlike renewable energy sources can give power on demand.

#### Coal availability crisis:

- The increased demand for power and the inability of domestic suppliers to meet the increased demand for coal has given rise to a coal availability crisis in India. This raises concerns about the power outage crisis in India.
  - \* The domestic supply of coal is expected to be 154.7 MT, compared with the projected requirement of 197.3 MT.
- The Power Ministry has urged States to step up coal imports. The Union government is also trying to establish government-to-government channels for coal procurement.

#### Nut Graf

*The transition away from carbon-intensive coal remains an urgent need for India. While constraints in this transition need to be addressed, in the immediate context India should focus on inculcating clean coal technology.*

### Infrastructure: Railways

#### **18. The devastation in Dima Hasao and its after effects**

- » Prelims: About Dima Hasao
- » Mains: Details about the disaster in Dima Hasao and its Impact

#### Context

Dima Hasao which is a hill district in central Assam experienced incessant heavy rainfall.

#### Details

- The pre-monsoon showers have been severe in 2022 in Assam, particularly severe in Dima Hasao which is one of three hill districts in the State.

- The heavy rains in Dima Hasao and the consequent landslides have severely affected an important railway line passing through this district.

#### Dima Hasao

- Dima Hasao which was called North Cachar Hills earlier, straddles the Barail mountain range between the Brahmaputra and Barak River basins.
- It is the second largest district of Assam after Karbi Anglong.
- Dima Hasao is located on the Dauki fault straddling Bangladesh and parts of the northeast.



Image Source: MapsofIndia.com

### After effects of the disaster in Dima Hasao

- The railway line which connects the Lumding in the Brahmaputra Valley's Hojai district and Badarpur in the Barak Valley's Karimganj district was severely affected.
  - \* This railway link is of vital importance for both trade and travel.
- The railway track is crucial for India's Look East policy that aims to facilitate trade between Bangladesh's Chittagong port via Tripura's border points at Akhaura and Sabroom which is the last railway station near Feni River and serves as the India-Bangladesh border.
- The railway line also links the ambitious Jiribam-Imphal railway project in Manipur being built on similar, landslide-prone terrain.
  - \* Plans are in place to extend the Jiribam-Imphal line, which will have India's tallest railway bridge and the longest railway tunnel, to Myanmar and beyond.
  - \* However, the disaster in Dima Hasao has forced Tripura and Mizoram to revisit their plans as they believe that they cannot rely on rail connectivity through Dima Hasao.
  - \* The two States have approached the Ministry of External Affairs for getting fuels and other essential items through Bangladesh.
- Dima Hasao also provides a crucial geographical link to southern Assam's Barak Valley and parts of Meghalaya, Manipur, Mizoram and Tripura.

#### Nut Graf:

*The environmental disaster coupled with faulty experiments and the greed of few individuals have resulted not just in huge economic losses but also ecological damages that are irreversible.*

### Indian Economy and issues relating to planning, mobilization of resources, growth and development

#### **19. Centre slashes fuel taxes, sets 200 subsidy on LPG cylinders**

- » Mains: Impact of the reduction in excise duties on petroleum products and various government measures to check the rising inflation.

#### Context

- The Union government announced a reduction in its excise duty on petrol and diesel.

#### Details

- The Finance Minister announced a number of measures to counter the increase in inflation which includes

- \* Duty cuts on petroleum products
- \* ₹200 subsidy on LPG cylinders for the poor
- \* Few reforms on import duties on plastic and steel products.

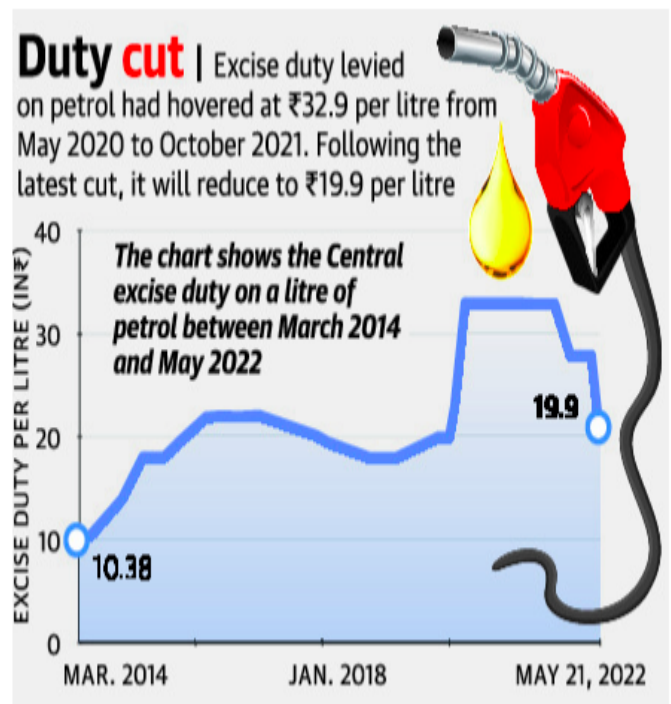


Image Source: The Hindu

#### Other Government initiatives to counter rising inflation

- Subsidy of ₹200 per gas cylinder for up to 12 cylinders per year is announced which will benefit about nine crore beneficiaries of the PM Ujjwala Yojana.
  - \* This is expected to have a revenue implication of about ₹6,100 crores per year.
- The government also announced the reduction in customs duties on raw materials and intermediaries for plastic products where import dependence is high which would result in the reduction of final product prices that significantly helps the MSMEs.
- The government cut the import duty on raw materials and also levied an export duty on a few steel goods which help address the rising steel prices.
- Measures were also announced to improve cement supplies and boost the logistic facilities that help restrict the increasing cement prices.

#### The Government's stand on rising inflation

- The Finance Minister said that the world is facing a tricky situation, as the war in Ukraine has caused

supply chain disruptions and acute shortages of various goods.

- The government believes that the war is the cause of rising inflation & economic distress and even a few developed economies are facing troubles due to shortages and disruptions
- Despite the current challenges, the government has ensured that there are adequate stocks of essential goods and is looking for ways to ensure that prices are kept under control.
- The Finance Minister believes that the fiscal cost incurred due to various tax cuts announced can be compensated by higher than budgeted revenues collected through other taxes.
  - \* She further said that the tax revenues of the central government are expected to cross the budget estimates by a minimum of ₹1.3 lakh crores despite the tax cuts.

#### **Impact of the reduction in the fuel prices**

- Experts believe that the excise duty cut will help cool the inflation trajectory
- A reduction of ₹8 on petrol and ₹6 on diesel (per litre) in central excise duty will result in the reduction of retail prices by ₹9.5 and ₹7 per litre respectively.
- The drop in the prices of petrol and diesel is expected to positively impact various sectors, provide relief to citizens and further Ease of Living.
- The slash in the fuel taxes will result in reduction of cost of many essential final products as it cuts transport and logistics costs.
- Previously tax cuts of ₹5 and ₹10 per litre for petrol and diesel, respectively were announced in November 2021 which was estimated to cost the government about ₹1 lakh crore a year in the form of foregone revenue.
- Also, the reduction in excise duty by the centre will reduce the funds transferred to the states.

#### **Nut Graf:**

*The announcement of a reduction in excise duty and other measures are a welcome sign and are expected to flatten the inflation trajectory, the States must also join the Centre in this fight against rising inflation and extend safety nets to middle- and lower-income groups.*

#### **Infrastructure: Energy**

### **20. Powering up after the power crisis shock**

- » Mains: Power crisis in India – Reasons and recommendations.

#### **Context:**

- Power crisis in India characterized by large demand – supply mismatch in power.

#### **Reasons for the power crisis:**

- **Failure to consider upcoming electricity demand growth:**
  - \* The power supply position was comfortable in the last few years and in fact India had surplus capacity. This had given rise to complacency in planning for future electricity demand growth.
- **Sharp spike in electricity demand:**
  - \* While the electricity demand growth had been lower than expected in the previous years due to slower and less energy-intensive economic growth, the robust economic recovery after the pandemic and the ongoing heat wave conditions have led to an increase in the demand for power.
- **Changes in the lifestyle of the population:**
  - \* With the increase in income levels and the consequent increase in the use of air-conditioners and other electrical appliances, there have been rising daily and seasonal peaks.
- **Challenges in the generation and distribution segments:**
  - \* Many coal and gas-based power plants have become non-performing assets while many Discoms have been suffering from financial burdens.
- **Disruption in supply chain:**
  - \* The disruption in supply chain of coal due to both domestic as well as global reasons has impacted the thermal power production in India, which accounts for the major share of power supply.

#### **Recommendations:**

##### **Short term:**

- To meet the short-term spikes in power the existing gas-based power plants which can run on imported liquefied natural gas needs to be operationalized.
- To meet the coal shortage, coal could be imported from other countries.

##### **Long term:**

- **Continuous updating of demand growth projections:**
  - \* The Discoms should constantly update their demand growth projections both in quantitative and qualitative terms.
  - \* The State Regulatory Commissions should hold the Discoms accountable for these functions.
  - \* Demand growth projections and supply



arrangements need to become central to the regulatory process.

- **Ensuring sufficient buffer for supply side:**

- \* Ensuring reliable supply to meet unanticipated peaks, maintaining reserve margins and also arranging for peaking power arrangements even though they add to the price of electricity.

- **Closing demand-supply mismatch:**

- \* India needs to transition towards a demand-based time of day rates of electricity for both generators as well as consumers. This would incentivise power generation during peaks while disincentivizing power demand during the peak, thus moderating the mismatch in supply-demand.
- \* This would need a strong price signal, a large differential in peak and off-peak rates to influence consumer behaviour.
- \* Other options like levying of a peak demand surcharge should also be investigated.

- **Appropriate pricing policy:**

- \* There is a need to revisit the policies of free supply of electricity to farmers and households.
- \* The subsidies being provided should not be based on political compulsions but on the economic utility of such subsidies.
- \* There is the need to move towards cost-reflective power tariffs.

- **Strengthening contractual terms:**

- \* Given the examples of generators having defaulted contractually in supplying power to Discoms, and in some occasions Coal India or the Indian Railways having defaulted on coal deliveries, there is a need to tighten the contractual terms with enforceable financial penalties.

- **Increasing storage capacity:**

- \* Discoms should work towards options for storage of electricity. Electricity storage may even turn out to be the cheaper option in the short run to meet peaking power needs.
- \* Also, large-scale grid storage is essential to accommodate the envisioned goal of creating 500 GW of renewable energy capacity in the coming years.

### **Nut Graf:**

*Under the Electricity Act, provision of reliable quality and round-the-clock electricity to all consumers to meet full demand is a major aspect. The frequent power outages stand contrary to this provision.*

## **Indian Economy and issues relating to Planning, Mobilization of Resources, Growth, Development and Employment**

### **21. Wholesale Price Inflation (WPI) hits record high**

» Mains: Mains: Understanding WPI and its impact

#### **Context:**

- India's Wholesale Price Index (WPI)-based inflation rate rose to the highest level in the current 2011-12 series at 15.08 per cent in April on the back of hardening commodity and vegetable prices.
- With this, the WPI-based inflation has been in double-digits for 13 consecutive months.

#### **Wholesale Price Index (WPI)**

- The Wholesale Price Index represents the price of a basket of wholesale goods. WPI focuses on the price of goods that are traded between corporations. It does not concentrate on goods purchased by the consumers.
- The main objective of WPI is monitoring price drifts that reflect demand and supply in manufacturing, construction and industry.
- WPI helps in assessing the macroeconomic as well as microeconomic conditions of an economy.

#### **What caused the spike?**

- The heatwave led to a spike in prices of perishables such as fruits, vegetables and milk, which, along with a spike in tea prices, pushed up primary food inflation.
- The core-WPI inflation rose to a four-month high of 11.1% in April, with producers forced to pass on the input price pressures.
- Fuel inflation rose to 38.66 per cent, while inflation for manufactured products rose to 10.85 per cent.
- Much of the inflation spike is being seen as a result of the Russia-Ukraine conflict

#### **Impact of high inflation:**

##### **Impact on the poor:**

- Sustained high inflation has pronounced adverse effects on the poorer segments by eroding their purchasing power.

##### **Impact of growth prospects:**

- The sustained high domestic inflation does not augur well for the medium-term growth



prospects of the economy.

- High inflation erodes consumers' purchasing power and reduces demand in the economy. It also hurts savings and investment in the economy which in turn affects competitiveness and output growth in the economy. Thus, high inflation could undermine economic recovery in the post-pandemic phase and push India into stagflation.

#### **Impact on financial stability:**

- Letting inflation remain elevated at current levels for too long risked 'de-anchoring inflation expectations' and consequently financial instability.

#### **Factors contributing to high inflation:**

##### **Geopolitical tensions:**

- The ongoing conflict in Ukraine, sanctions on Russia and retaliatory actions have resulted in shortages, volatility in commodity and financial markets and supply chain disruptions. This has worsened the outlook for prices on a range of commodities, including wheat, edible oil, crude oil and coal.
- With no end in sight for the ongoing conflict, the downside risks from the geopolitical tensions have only risen.

##### **Effect of policy normalization:**

- The central banks in advanced economies led by the U.S. Federal Reserve have been pursuing a path of policy normalisation. This would lead to high levels of volatility in capital flows and have a downward pressure on the Indian exchange rate.
- The decreased rupee value would give rise to the risk of imported inflation.

##### **Threat of second-round effects:**

- Second-round effects emanate from the ability of price-setting firms and wage-setting labour to increase prices (whether through mark-ups or higher marginal costs) and wages, and therefore general prices of goods and services, in response to relative price shocks.

##### **Uncertainty associated with the pandemic:**

- The threat from the pandemic is not over yet and the fresh wave of infections, as seen in China, adds considerably to the uncertainty around inflation expectations.

##### **Oil prices:**

- Crude oil prices have reached record levels.
- Also, the high taxes imposed on petroleum products in India has resulted in high domestic pump prices of petroleum products which have had a substantial impact on inflation in India.

#### **Recommendations:**

- While the move to increase the benchmark

interest rates will help tame inflation to some extent, the RBI and fiscal authorities should also consider taking other possible measures including cutting fuel taxes to keep inflation levels low.

- \* Also, to tame the adverse short-term impacts of the rate increase, the RBI should ensure the availability of adequate liquidity to meet the productive requirements of the economy. This will help keep inflation within the target range while supporting growth.
- Given that inflation in India is driven by agricultural goods prices, the focus should be on increasing the supply of agricultural goods and ensuring their availability at affordable prices. Access to cheap food will ensure the availability of a substantial share of a household's budget for spending on non-agricultural goods.
- \* Lasting inflation control would require placing agricultural production on a steady footing. Also, necessary measures need to be taken towards continuously raising agricultural productivity.

#### **Nut Graf**

*India needs to adopt a model for controlling inflation based on more relevant parameters keeping in mind the fact that inflation in India is more dependent on the prices of agricultural goods and imported oil.*

### **Marketing of agricultural produce**

#### **22. Wheat production and exports**

- » Mains: Reasons for the drop in the procurement of wheat by the government and its wide-ranging implications.

##### **Context:**

- The Union government reduced its wheat production estimates and extended a ban on the export of wheat.

##### **Details**

- India is the second-largest producer of wheat with China being the largest producer in the world.
- The government has revised its wheat production projections from 111.32 to 105 million tonnes (MT).
- The gap in the wheat production estimates is mainly caused due to the low yield of wheat in the current season due to prevailing extreme weather conditions.
- There is a severe disruption in the global wheat supply chains post Russia's invasion of Ukraine as Russia and Ukraine are the third and eighth largest producers of wheat in the world respectively.

**Reasons for the ban on wheat exports:**

- **Increase in domestic price:**
  - \* The domestic price of wheat and wheat flour has been on the rise with both wholesale and retail inflation reaching record highs. Given that wheat remains one of the important food grains, this price rise was adding to the burden of Indian households.
- **Food security concerns:**
  - \* India's pitch to boost wheat exports has been opposed by food security campaigners who have instead insisted on a more cautious approach. They emphasize that ensuring sufficient availability of wheat grains for internal consumption and ensuring the stability of prices domestically should be more important priorities rather than increasing exports.
  - \* They have argued that the increase in exports should not be done at the cost of domestic consumption.
- **Decrease in production and procurement:**
  - \* Wheat procurement in the current rabi marketing season (2022) has witnessed a drop as the Centre is expected to procure only 19.5 MT of wheat at the end of the season whereas in the last marketing year (2021) the government had procured 43.3 MT.
  - \* The reasons for the dip in the procurement by the government include
    - » Lower production of wheat in the current season
    - » Private traders have offered higher market prices to farmers compared to the Minimum Support Price (MSP) as there is an increase in the prices of wheat at the international level due to the conflict in Ukraine.
    - » Farmers and traders have also reportedly held the stocks of wheat as they anticipate a further increase in the prices on account of lower production.

**Reasons for the low production of wheat in India in the current season**

- The drop in the production of wheat is said to be due to the persistence of warm weather conditions in major wheat producing States like Punjab, Haryana, Madhya Pradesh and Uttar Pradesh.
- The anomalous heatwaves in the northern, western and central parts of India which peaked in March and April have caused significant loss to the yield.
- Food security experts also attribute the lower yield of wheat to early summer in States, like Punjab, Haryana and Uttar Pradesh.

**Impact of the ban on export of wheat**

- Experts suggest that the export ban is not going to help ease the inflation as the procurement season for the wheat crop is more or less over.
- The export ban is expected to have a significant impact on farmers' incomes.
- It also impacts the long-term credibility of the export policy as India was seen negotiating trade deals recently with several countries and suddenly announced a ban on wheat exports.
- India was expected to increase its exports to cash in on the situation.
  - \* India was aiming to boost exports by shipping a record 10 million tonnes of wheat, compared with just two million the previous year (2021).
- The move has unsettled global markets and has fueled the wheat prices globally.

**Nut Graf:**

*While India's decision to ban wheat exports would be bad news for the global food security scenario, which has been badly affected by the Russia-Ukraine conflict, the decision makes sense given the domestic compulsions of ensuring sufficient domestic availability of wheat and at affordable prices.*

**Indian Economy and issues relating to planning, mobilization, of resources, growth, and development****23. Issues associated with GST structure and pending GST compensation to states**

- » Mains: The status of GST compensation dues to States and the need for timely release of funds to the States.

**Context**

- The article puts forth a profound analysis of the need to revise the Goods and Services Tax rates and the impact of price rise on the tax inflows.

**An Overview:**

- The Goods and Services Tax was introduced as an indirect tax levied on the supply of goods and services with the motto of one nation, one tax.
- Gradually, there were questions raised on the stability and structure of the GST that invited intervention by the Supreme Court.
- Moreover, there is inadequate clarity on the actual jurisdiction of the GST Council.
- The court ruled that the decisions taken by the GST Council are recommendations with persuasive values and are not binding.

**Concerns about the existing GST structure:**

- The existing GST structure entails five broad tax rates of zero, 5%, 12%, 18% and 28% with a cess levied over and above the 28% on some 'sin' goods.
  - \* Sin goods are those which cause harm to society and deteriorate the health of their consumers.
  - \* Goods like alcohol, tobacco, candies, drugs, soft drinks, coffee, sugar, fast foods, and so on are categorised under sin goods.
  - \* Some sin goods like cigarettes, pan masala, and aerated drinks, have a tendency to attract cess.
- The multiple tax rates increase the complexity of the tax regime and are compounded by aberrations in the duty structure through their supply chains with some inputs taxed more than the final product.
- There were reports that observed an increase in the GST revenues which were termed as a sign of recovery by the government due to measures taken to tighten the regulations imposed on tax evaders. However, there is another factor for the record-breaking collection of GST revenues which is the uncontrolled price rise.
- The wholesale price inflation, which captures producers' costs, has been over 10% for a year and peaked at 15.1%.
- The rise in inflation faced by consumers has been at an eight-year high of 7.8%.
- The government had put forth that the new indirect tax system was based on a revenue-neutral tax rate of 15.5% but the actual revenues were nosedived and took the effective tax rate to 11.6%.
- Irregular rate cuts approved by the council impacted the collection of revenues.

**Recommendations**

- The government must calibrate its policies to bring effective tax reforms in the country that will contribute to economic growth.
- It is expected that the government will provide top priority to collect more revenues apart from just simplifying the tax structure in the hope of boosting compliance.
- The actual fiscal space of the states will be determined once the period for assured compensation to the states expires. There will be two sets of Group of Ministers (GoMs):
  - \* To examine more schemes and technologies available to improve tax compliance.
  - \* To rationalise tax rates to correct the anomalies and consider the merger of different tax slabs.

- Experts emphasised that higher GST revenues shall not be confused with a rise in consumption which is reported to be 2% above the pre-pandemic levels.
- It has been further illustrated that the rise in prices of commodities served as the single most important factor for higher tax inflows along with higher imports, compliance tweaks and a boon in the consumption of goods and services.
- The process of rationalisation of the GST regime will have to consider several factors like the maintenance of high GST rates is imperative for high revenue collections.
- Any merger of GST rates might impose high taxes on some products resulting in the ripple effects on prices.
- The issue of inflation is a substantial hurdle that the Council needs to address and tackle.

**GST compensation to the States**

- The GST regime was implemented in 2016 which replaced the multiple State and Central levies and created a simplified tax system.
- This resulted in States losing several taxation powers and hence they were assured that revenue losses will be compensated for a period of five years.
- The compensation was to be calculated by assuming a 14% year-on-year growth over revenues from the State taxes subsumed in GST.
- The compensation cess fund has been accumulated by cess levies on sin and luxury goods like pan masala, tobacco, coal and cars.

**Status of the outstanding GST compensation due to the States**

- The Finance Ministry said that outstanding GST compensation dues to States for 2021-22 stood at ₹78,704 crores, equivalent to four months of such accruals.
  - \* This suggests that the dues have been remitted to States for the eight-month period between April and November 2021.
- Other than the ₹78,704 crores pending to States for the period of December 2021 to March 2022, compensation for the April to June period also needs to be processed.
  - \* Experts suggest that the total dues that remain to be paid to States are close to ₹1.4 lakh crores.
- The ministry last released GST compensation of ₹18,252 crores to the States in March 2022 and reiterated its inability to pay the dues immediately due to an 'inadequate balance' in the compensation cess collections fund.

**Way forward**

- Experts feel that the record GST collections in the recent months might help the States to get a larger share of the GST collections.
- However, GST compensation cess collections are very less compared to the total GST collections.
- The Centre is expected to give States clarity on when the outstanding dues will be released as it helps States to plan better.
- The expected cessation of GST compensation inflows from July 2023 along with the timing of the release of the pending funds would impact the State borrowing plans.

**Supreme Court ruling on the levy of Integrated Goods and Services Tax (IGST)**

- A new road has been carved out for India's fiscal federalism based on the ruling.
- The apex court, in the case of Union of India vs Mohit Minerals, questioned the validity of a levy of IGST on ocean freight paid by foreign sellers to foreign shipping lines.

- According to the Supreme Court, the tax levied on importers constituted double taxation.
- The court pointed out that the provisions in the Constitution are not clear about treating the recommendations of the GST Council as a binding decision and transforming them into legislation.
- The court defined Indian federalism as a dialogue between cooperative and uncooperative federalism where the federal units have the liberty to employ different means of persuasion ranging from collaboration to contestation

**Recommendations**

*Considering the significance of the prices of goods and services in ensuring higher tax inflows, the GST Council must take steps towards simplifying and rationalising the GST regime along with ensuring timely release of GST compensation to the states from the Centre.*



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# INTERNATIONAL RELATIONS

## *International Relations: Bilateral, regional and global groupings and agreements involving India*

### 1. Association of Asian Election Authorities (AAEA)

- » Prelims: About Association of Asian Election Authorities (AAEA)

#### Context

- India was elected as Chair of the Association of Asian Election Authorities (AAEA) for 2022-24.

#### Details

- India was unanimously elected as the new Chair of the AAEA for 2022-2024 at the meeting of the Executive Board and General Assembly held in Manila, Philippines.
- The new members of the Executive Board include Russia, Uzbekistan, Sri Lanka, Maldives, Taiwan and the Philippines.

#### Association of Asian Election Authorities (AAEA)

- The Association of Asian Election Authorities (AAEA) was established in 1998.
- The AAEA held its first meeting of the executive board in March 1999 in Kathmandu, Nepal.
- Mission: To provide a non-partisan forum in the Asian region for sharing experiences and best practices among election authorities to discuss and act upon ways to promote open and transparent elections with the objective of supporting good governance and democracy.
- Objectives of AAEA:
  - \* To promote and institutionalize open and transparent elections with independent and impartial election authorities.
  - \* Professionalization of Asian election authorities, citizen participation in the electoral and civic process.
  - \* Information sharing and the development of resources for election-related information and research.
- Members – Currently there are 20 Asian Election Management Bodies as members which include India, Pakistan, Afghanistan, Bangladesh, Bhutan, Sri Lanka, Maldives, Nepal, Uzbekistan, Kazakhstan, Tajikistan, Taiwan, Indonesia, Philippines, etc.
- AAEA is also an Associate Member of the 118 member Association of World Election Bodies (A-WEB).

## *Effect of Policies and Politics of Developed and Developing Countries on India's interests, Indian Diaspora.*

### 2. The importance of emigrants

- » Prelims: Government initiatives aimed at the migrant worker population
- » Mains: Significance of the large Indian diaspora for the country; Challenges faced by the migrant workers and recommendations.

#### Indian Diaspora:

- According to the Ministry of External Affairs, there are over 4 million Non-Resident Indians worldwide.
- Among this population, the largest share of around 64% live in the Gulf Cooperation Council (GCC) countries, with UAE accounting for the largest proportion. Other important destination countries for Indians are the U.S., the U.K., Australia, and Canada.
- Notably, every year, about 2.5 million workers from India move to different parts of the world on employment visas.

#### Significance for India:

##### Remittances:

- As per a World Bank Group report (2021), annual remittances transferred to India are estimated to be \$87 billion, which is the highest in the world. These remittances contributed to about 3% of Indian GDP, as per a World Bank report. This contribution to GDP notably is much lesser compared to other countries like Nepal, Sri Lanka and Pakistan.
- These remittances are a major contributor to India's socioeconomic development.
- Notably, remittances in India have been substantially higher than even Foreign Direct Investment (FDI) and the flow of remittances is much less fluctuating than that of FDI.

##### Soft power:

- The important role being played by the Indian diaspora in the socio-economic development of the destination country augurs well for India's soft power in global affairs.

#### Challenges:

- As per International Labour Organization estimates, almost 90% of the Indian migrants who live in GCC countries are low- and semi-skilled workers. These workers are vulnerable to exploitation in the form of unsafe environment of work, low salaries, etc.

**Recommendations:****Promoting labour mobility:**

- India should work towards increasing incoming remittances. To realize this, appropriate measures such as reducing the cost of recruitment and the cost of sending remittances back to India should be taken. India should try and replicate the Philippines' model of promoting labour mobility.

**Ensuring safety and wellbeing of migrant population:**

- The safety and well-being of migrant labour should remain a top priority for the government. The emphasis should be on reducing informal/undocumented migration.

**Empowering the migrant labour force:**

- Initiatives directed at skilling of the migrant labour force like skill up-gradation, foreign language training and pre-departure orientation can be of great help for such workers.

**Government initiatives:**

- Setting up of the grievance redressal portal 'Madad' to offer better protection support and safeguard in case of vulnerabilities.
- Proposal for Emigration Bill, 2021 which aims to integrate emigration management and streamline the welfare of emigrant workers.

**Nut Graf**

*The large Indian diaspora is significant for India and all measures should be taken to protect and promote the safety and wellbeing of the migrant worker population.*

**Effect of policies and politics of developed and developing countries on India's interests****3. Moderating the publisher-platform relationship**

- » Mains: Regulating digital news intermediaries

**Context**

- The Canadian government introduced a Bill (Online News Act) that seeks to make Internet platforms such as Google and Facebook pay news publishers for use of their content.

**Digital news intermediaries**

- They are platforms on which readers can access content provided by news media websites.

**Need for the law**

- It stems from the fact that while tech giants such as Google and Facebook earn revenue from news content published by media houses, they fail to share the revenue fairly.

- For new publishers, there has been growing concern that digital news intermediaries do not share revenue fairly and have opaque revenue models that are heavily biased towards themselves.

**Media outlets**

- They spend huge amounts of money to publish news. This includes payment for studios, offices, equipment, journalists and other staffers, and other expenses.
  - \* However, their primary source of earnings is advertising, with just about one-third of the revenue coming in from subscriptions.
  - \* This leaves them at the mercy of digital news intermediaries who are capable of driving a majority of their traffic to or away from them.
- Traffic to news websites is also hit when a search result on Google is curated in a way that the user gets all information right on the first search page and doesn't need to 'click' on a link for details. This phenomenon is known as zero-click search.

**Stats**

- Public broadcaster CBC in an article, said, "According to government figures, more than 450 news outlets in Canada have closed since 2008 and at least one third of Canadian journalism jobs have disappeared over that same time period."
- The dominance over advertising once enjoyed by legacy media is over. Google and Facebook have a combined 80% share of all online ad revenue in Canada and rake in an eye-popping \$9.7 billion a year, according to government data."

**Key Provisions**

- The Bill seeks to regulate digital news intermediaries, its summary says, "to enhance fairness in the Canadian digital news marketplace and contribute to its sustainability."
- The government website lists four expected outcomes of the legislation. They include a framework that supports "fair business relationships between digital platforms and news outlets," sustainability in the news ecosystem, maintenance of press independence, and diversity within the news landscape.

**The features of the Online News Act are as follows:**

- Ensure fair revenue sharing between digital platforms and news providers
- Provides for collective bargaining by news outlets
- Promote voluntary commercial agreements between digital platforms and news outlets, with minimal government intervention
- Establish a mandatory arbitration framework where digital platforms and news outlets cannot reach commercial agreements

**Australia**

- The Canadian Bill is an acknowledgement of the lop-sidedness of the news media industry.
- This is similar to what prompted Australia to pass a law to make platforms pay publishers.
  - \* The genesis of this was a 2019 report by the Australian Competition and Consumer Commission, the country's regulator, which saw platforms such as Google and Facebook as having "substantial bargaining power in relation to many news media businesses."
- The legacy media, which has seen enormous business challenges over the last two decades, was seen as no match for the mammoth platforms with billion-plus users that have grown and prospered in the digital era.

**How does the Canadian Bill propose to correct this imbalance?**

- It aims to correct the imbalance much in the same way the Australian law hoped to do — by ensuring platforms negotiate commercial deals with news publishers.
- If they can't agree on a deal and mediation fails, "a mandatory arbitration framework" will kick in as a last resort.

**India**

- The Indian government in 2021 said that it had no plans to make tech giants, such as Facebook and Google, pay local publishers for news content.
- But In India, the Competition Commission of India ordered investigations into Google, the basis being the bargaining power imbalance and denial of a fair share in the advertising revenue.
  - \* The development may come as a boost to Indian newspapers and their digital news editions, who have been fighting against Google's abuse of its monopoly and position.

**Other countries****AUSTRALIA**

- Australia was the first country to pass a law to make Google and Facebook pay for news content on their platforms. The Australian government said this would lead to a fairer negotiation process between the tech giants and news publishers as it would give media organisations more leverage.

**FRANCE**

- France is another country which has forced internet platforms to enter into agreements with publishers.
- The enabling legislation is based on EU copyright rules, which allow publishers to demand a fee from online platforms showing extracts of their news

- \* Several French publishers signed copyright agreements with Google.

**UK**

- The United Kingdom has laid out the powers of the Digital Markets Unit, to take on the dominance of Google and Facebook.

**UNITED STATES**

- The United States, home to Facebook, Google and Apple, is also negotiating legislation to enforce a fair revenue-sharing model between the tech giants and news publishers

**Conclusion**

- It is now clear that there is a growing debate across the world on the need to regulate internet platforms especially when it comes to news.

**Effect of politics and geopolitics of developed and developing countries****4. Understanding the nature of U.S.-Taiwan relations**

- » Mains: The issue in Taiwan and its significance in the global geopolitical

**Context:**

- The President of the United States affirmed that the U.S. will help Taiwan militarily in case of invasion by China.

**The Issue in Taiwan**

Image Source: Voanews

- Taiwan is an island situated off the coast of the Chinese mainland across the Taiwan Strait.

- Post the defeat of the Kuomintang (Nationalist) government of China to their communist counterparts in the Chinese civil war (1945-1949), the Kuomintang fled to Taiwan.
- The Kuomintang shifted their Republic of China (ROC) government to Taiwan, as the Communist Party of China (CPC) formed the People's Republic of China (PRC) on the Chinese mainland.
- The PRC in China considers Taiwan a "renegade province" and is looking for ways to reunite the region with China. However, the ROC in Taiwan has preserved its membership in the United Nations and its permanent seat in the UN Security Council (UNSC).
- The relations across the Taiwan Strait got damaged due to the Cold War, as the PRC of China allied with the Soviet Union (USSR) and the ROC of Taiwan sided with the U.S, this caused the two Taiwan Strait crises of the 1950s.
- The changing geopolitics of the Cold War during the 1970s made the PRC and the U.S. come together to counter the increasing influence of the USSR, during which the PRC displaced the ROC as the official representative of the Chinese nation at the UN.
- The PRC pursued diplomatic relations with only those countries which accepted its "One China Principle" and recognised the PRC and not the ROC as China.
- Meanwhile, Taiwan became a multi-party democracy from a single-party state and China revamped its economic system, and towards the end of the Cold War, the two countries became economically entangled. However, they continue to compete for international recognition and prepare themselves for the worst.

#### China- Taiwan Tussle

- As the democracy in Taiwan developed, public opinion shifted towards a new Taiwanese identity and a pro-independence stance on sovereignty.
- In recent years there has been a tense situation prevailing across the Taiwan Strait, as the powerful Democratic People's Party (DPP) government of Taiwan seeks to diversify economic relations away from China.
- This has provoked China as it has always seen Taiwan as a territory with high geopolitical significance because of its location as the First Island Chain between Japan and especially the South China Sea.
- There is a strong U.S. military presence in the region, and the present Chinese government has looked at aggressive means for reunifying Taiwan.
- China continues to undertake military drills and patrols across the Strait and the recent years have also witnessed record-breaking aerial transgressions of Taiwan's Air Defence Identification Zone (ADIZ) by China.

#### US's stance on Taiwan

- Shanghai Communique (1972) – the U.S. accepted the "One China principle", and the US acknowledged that Taiwan is a part of China.
- Normalisation Communique (1979) – According to this document, while the U.S. recognises PRC it only "acknowledges the Chinese position that there is one China and Taiwan is part of China".
  - \* The US also started its unofficial relations with Taiwan through this document.
- 1982 Communique – This document relieved China which had concerns regarding the continuous arms supply to Taiwan by the U.S. provisioned in the Taiwan Relations Act (TRA) of 1979 which enabled the US to supply "defensive" arms.

#### US's position in recent years

- The US' position towards Taiwan in the wake of the cross-Strait crisis has been regarded as "strategic ambiguity", which is visible in the Taiwan Relations Act (TRA) of 1979.
- The TRA resulted in the termination of the U.S.-Taiwan mutual defence treaty signed in 1954.
  - \* According to TRA, the U.S. held that the establishment of bilateral relations with the PRC depends upon "the expectation that the future of Taiwan will be determined by peaceful means".
  - \* It also says that the policy of the U.S. is "to maintain the capacity of the United States to resist any resort to force or other forms of coercion that would jeopardise the security, or the social or economic system, of the people in Taiwan".
- There is no clarity whether the U.S. will be militarily involved in a situation where China attempts to invade Taiwan and the U.S. has used this strategic ambiguity with its own interpretation of the "one China principle" to maintain its strategic interests.
- The reasons which made the US President state that the U.S. will come to the rescue of Taiwan are also not clear.
- However, the US has shown its assertiveness recently and this suggests that,
  - \* The US had reassured its allies in the Indo-Pacific of a bolder stance by the US.
  - \* The US has given a strong message to China in the wake of the Russia-Ukraine conflict that such actions will be dealt with stronger reactions.



**Nut Graf**

*The U.S. has historically developed ways that balance its relations with the PRC of China and its relations with Taiwan. However, this fragile balance has been tested in the recent past due to the growing Chinese power and the consequent geopolitical developments in the region.*

**India and its neighbourhood - relations.****5. Prime minister's visit to Lumbini and the importance of Lumbini**

- » Prelims: Lumbini and other Important Buddhist sites
- » Mains: India - Nepal Relations, significance of Lumbini to India and the measures that improve India's strategic presence in the region.

**Context:**

- Prime Minister Narendra Modi's visit to Lumbini in Nepal on the occasion of Buddha Jayanti.

**About the visit**

- The visit by the Prime Minister of India is said to be an attempt to establish a symbolic way to expand the India-Nepal relationship through religious diplomacy.
- The Prime Ministers of both countries laid the foundation stone for the India International Centre for Buddhist Culture and Heritage in the Lumbini Monastic Zone.
  - \* The centre has been jointly established with a shared vision to promote and propagate the values and principles of the Buddha's teachings.
  - \* The objective is to find shared solutions to global problems.
- The assertion by the Indian Prime Minister in the recognition of Lumbini as the birthplace of Gautama Buddha was welcomed and resolved the issues related to the actual birthplace of the Buddha to a certain extent.
- A Memorandum of Understanding was signed for the development and implementation of the Arun-4 hydropower project.
- The visit showcased signs of refurbishing India-Nepal relationship after a period of hostility due to the Kalapani dispute.

**Significance of Lumbini to India**

- Important centre of Buddhism: Lumbini in Nepal is said to be the place of birth of Buddha and is one of the holiest places of the religion.
  - \* Lumbini is recognised as the holiest and most important place in Nepal and it is listed as a World Heritage Site by UNESCO.

- \* Buddhism has been an integral part of India's cultural heritage and a prominent thread of its diplomatic relationship with Nepal. Lumbini acts as the testimony to such a cultural bond.

- China factor: There has been an increase in the Chinese presence and influence in Lumbini.

- \* The largest monastery has been built by the Chinese who also support and promote international conferences on Buddhism in Nepal.

- \* The Chinese are trying to extend their soft power of Buddhism in Nepal.

**Absence of India's strategic presence in the region**

- Despite being home to many sacred centres of Buddhism, India remains absent in Lumbini.
- Lumbini has monasteries from various countries but India does not have a monastery in Lumbini.
- India has helped to construct only a small museum building in the late 1990s so far.

**Important Buddhist sites in India**

- Bodh Gaya – the place of Lord Buddha's enlightenment
- Sarnath – the place of Buddha's first sermon
- Kushinagar – the place of Buddha's Mahaparinirvana
- Shravasti and Rajgir – places where Buddha preached for many years
- Nalanda – Buddhist monastic university



Image source: Wikimedia Commons

**Opportunities for India to increase its strategic presence and better its relations with Nepal**

- India should look to increase its presence in the region and this can be done by first establishing an Indian monastery.

- Nepal is facing difficulties in implementing the plan of developing Lumbini which was formulated five decades ago by a United Nations Secretary-General appointed international committee.
  - \* India must look to extend its support in this regard.
- India must look to develop new avenues of collaboration that involve developmental, economic and geopolitical subjects to offer dynamism to the relationship.
- The revival of the India-Nepal friendship must be taken forward with a focus on infrastructure development in Nepal which includes hydropower projects, transportation and connectivity that would benefit the citizens.
- Developing a Buddhist circuit
  - \* India and Nepal must collaborate together to develop the connectivity infrastructure between the major pilgrimage sites in Nepal and India as the existing network like Sunauli-Bhairahawa India-Nepal check post along the Uttar Pradesh-Nepal border are difficult to cross.
  - \* India must look to host an international conference on the development of the Buddhist circuit which will attract envoys from Buddhist countries thus increasing India's soft power influence.

#### **Nut Graf:**

The Indian Prime Minister's visit to Lumbini has gained significance as the visit opens up opportunities for India to collaborate better with Nepal, improve its strategic presence in the region and also help showcase to the world that India follows the principles of peace, compassion and non-violence preached by the Buddha.

### **Bilateral, Regional and Global Groupings and Agreements involving India and/or affecting India's interests.**

#### **6. Indo-Pacific Economic Framework (IPEF)**

- » Mains: Importance of the Indo-Pacific Economic Framework to strengthen the trade relations in the Indo-Pacific.

#### **Context:**

- Launch of the Indo-Pacific Economic Framework for Prosperity (IPEF) in Tokyo.

#### **Details:**

- The Indo-Pacific Economic Framework is a unique type of trade pact that the United States is pushing among the region's governments.
- India and 12 nations led by the United States inaugurated the Indo-Pacific Economic

Framework (IPEF) to provide an economic alternate solution to China's Geostrategic footprint in the Indo-Pacific area.

- The IPEF seeks to strengthen economic relationships between all of the participating nations to enhance resilience, sustainable development, inclusiveness, economic expansion, fair treatment, and competitive spirit in the Indo-Pacific region.
- Biden initiated the IPEF with twelve initial partners who collectively account for 40% of global GDP.

#### **Four Pillars of IPEF**

- Connected economy: higher standards and rules for digital trade, such as cross-border data flows.
- Resilient economy: resilient supply chains that will withstand unexpected disruptions like the pandemic.
- Clean economy: targeting green energy commitments and projects.
- Fair economy: implementing fair trade, including rules targeting corruption and effective taxation.

#### **America's interests:**

- The IPEF is an excerpt from the decade-old Pivot to Asia programme of the US.
- This is a step to re-imagine the Indo-Pacific as a geographical construct that includes America.
- It has been perceived as the stepping stone of America's entry into the trade administration of the Indo-Pacific.
- The IPEF will comprise India and the seven countries of the ASEAN along with the major countries of the large trade bloc of Asia, the RCEP (Regional Comprehensive Economic Partnership). This exemplifies the growing prominence of the US in the Asian sphere of trade.
- The IPEF is a testimony to the Asian vision of the US and its agenda to tackle an aggressive China.

#### **Significance of the new framework:**

- The new framework with its focus on trade could help strengthen economic ties between the member countries.
- The measures focussing on supply chain resiliency would help build a more inclusive and flexible economic framework in the region. More resilient supply chains would also help counter inflation pressures.
- The focus on clean energy and decarbonisation would contribute to the global climate action efforts.

#### **India's take:**

- India has signalled its readiness to be part of the new economic initiative and would be actively

taking part in the proposed negotiations.

- There have been repeated clarifications from the U.S. officials stressing that the IPEF won't be a free trade deal nor are countries expected to discuss reducing tariffs or increasing market access. This gains significance in the backdrop of India's decision to walk out of the 15-nation RCEP (Regional Comprehensive Economic Partnership).
- One of the focus areas of IPEF would be to set and follow standards for the digital economy and cross-border data flows and data localisation. Notably, India has had strong differences with the U.S. and its partners on this issue.

#### How has China responded to the IPEF?

- China has been deeply critical of all U.S. initiatives in the region, as a part of a strategy to "contain China".
- The Chinese government has accused the U.S. of building an "Asian NATO" in the Quad, of nuclearising the region through the Australia-U.K.-U.S. security pact AUKUS, and has also trained its guns on the IPEF, dismissing its utility

#### What about other criticisms of the arrangement?

- The biggest criticism of IPEF is that it is still too vague and lacks enough substance.
- With market access to U.S. and tariff reductions off the table, there are questions about how much "skin in the game" Washington will bring.
- Finally, in selling the IPEF back home in Washington, the U.S. appears to be making the deal more about benefits to the U.S. economy than to the Indo-Pacific region as a whole.

#### **Nut Graf:**

The Indo-Pacific Economic Framework for Prosperity offers huge potential for strengthening cooperation between the member countries in diverse areas. This is seen as an attempt to counter the increasing influence as well as assertiveness of the Chinese in the Indo-Pacific region with its focus on ensuring resilient supply chains.

### **Regional groupings or agreements involving India and/or affecting India's interest**

#### **7. Modi holds bilateral talks with Nordic leaders**

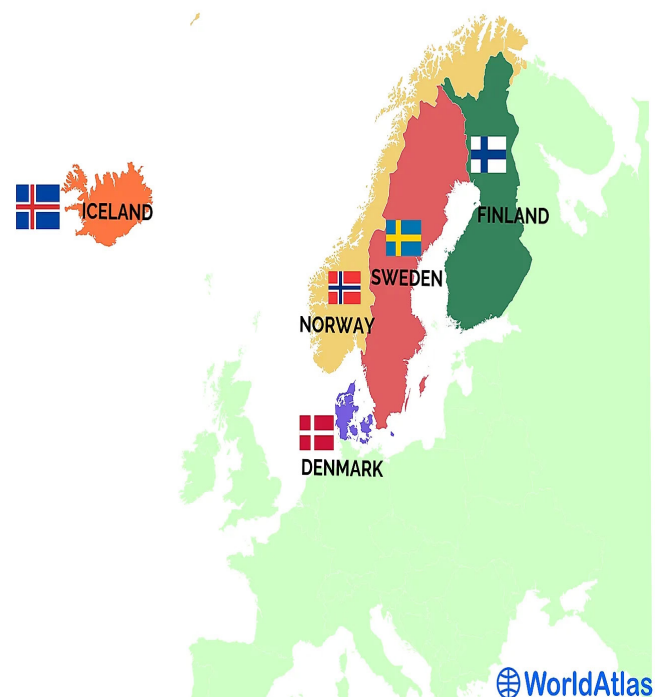
- » Prelims: Nordic countries and India-Nordic Summit
- » Mains: Significance of strengthening bilateral ties with the Nordic countries for India.

#### **Context:**

- The Prime Minister of India attended a series of bilateral talks with his counterparts from various Nordic countries.

#### **The Nordic Region:**

- This region comprises Denmark, Norway, Sweden, Finland and Iceland as well as the Faroe Islands, Greenland and Aaland.
- Denmark is a Nordic country that is situated in the extreme south and is a small and densely populated country in the Nordic region.
- These countries share a commonality in terms of their way of life, history and social framework.
- These countries have reflected considerable progress and remarkable results in several parameters of national performance, education, inclusion, economic competitiveness, civil liberties, quality of life and human development.
- Some of their well-known policies include a mixed market economy, strong labour unions, an approach of universal welfare and enhanced social mobility.



#### **The 2nd India-Nordic Summit: Important Elements**

- The summit commenced with the objective of boosting India's multifaceted cooperation with the Nordic region in the areas of clean technology, emerging technology, investments, Arctic research and so on.
- This Summit also assessed the progress of the India-Nordic relationship since the 1st India-Nordic Summit which was held in Stockholm.

- The Indian Prime Minister offered a warm welcome to the Nordic countries to invite sovereign wealth funds and investments in key sectors in India.
- Areas of discussion included:
  - \* Blue Economy
  - \* Sagarmala Project
  - \* India's Arctic Policy
  - \* Climate Change
  - \* Sustainable development
  - \* Digitization
  - \* Green and Clean growth

### **Significance of the meeting**

- Stronger India-Nordic ties have a huge potential to achieve and contribute to global prosperity and sustainable development.
- Norway plays an important role in India's recently announced Arctic Policy.
- Sweden offers India a great opportunity to collaborate in key sectors such as security, IT, research and innovation which benefits both the countries.
- The Prime Minister of India also discussed with his Finnish counterpart about further strengthening bilateral ties in trade, investment, technology, culture and other key sectors.
- During the visit of the Indian Prime Minister to Denmark, both the countries agreed to further strengthen the Green Strategic Partnership.
  - \* India-Denmark Green Strategic Partnership has a focus on green hydrogen, renewable energy and wastewater management.
  - \* A number of agreements covering sectors such as green shipping, animal husbandry and dairying, water management, energy, and cultural exchange were inked after the bilateral talks.
- The meeting of the Indian Prime Minister with European leaders also gains prominence in the background of the Russian Invasion of Ukraine as India's neutral stance on the war has been subjected to criticism from the West.

### **Nut Graf:**

*Post the Cold War, India has managed to build stronger ties with both the West and Russia, but that era of multi-directional partnerships is facing its strongest test with the invasion of Ukraine by Russia and the major challenge before India is to build a stronger strategic future with the West without disrupting its crucial traditional strategic partnership with Russia.*

## **Regional groupings or agreements involving India and/or affecting India's interest**

### **8. Modi's visit to Europe**

- » Mains: Significance of strengthening India-Europe bilateral ties

#### **Context:**

- The Prime Minister of India attended a series of bilateral talks with his counterparts from various European countries.

#### **Background:**

- India's neutral stance on the Russia-Ukraine conflict has impacted the way the European Union countries view India's role in global affairs and there have been considerable discussions on future engagement with India.
- India's role as a major power and the largest democracy are being projected by the Western countries to pressurize India to make a shift from its position on Russia and join hands with the European countries and the U.S. in the ongoing conflict.

#### **Significance of Europe-India cooperation:**

- **Ukraine war**
  - \* The meeting between the leaders has gained significance in the backdrop of the conflict in Ukraine where India has a different stand as compared to Europeans.
  - \* Despite the differences, the leaders discussed ways to mitigate the adverse effects of the war.
- **Food security**
  - \* France urged India to cooperate with the Food and Agriculture Resilience Mission (FARM) initiative for food security in the most vulnerable countries, especially in terms of wheat exports.
  - \* However, a severe heatwave has impacted India's crops and the Government is looking for ways to supply wheat to the rest of the world at a time when the world is facing shortages and soaring prices.
- **Climate change**
  - \* France and India have collaborated on the success of the Paris climate accord and co-founded the International Solar Alliance (ISA) in 2015.
  - \* The two countries now plan to extend the projects under ISA by signing industrial partnerships to build integrated supply chains in solar energy production for markets in Europe and Asia.



- **Trade and Investment**
  - \* Germany has announced an investment of €10 billion for bilateral cooperation.
  - \* Germany also said that India is its main partner in Asia.
- **Space**
  - \* India and France also had a bilateral strategic dialogue on space issues, which will further strengthen their 60 years long partnership in the field of space.
- **Nuclear energy and technology**
  - \* In 1998, France was the only western country that did not impose sanctions on India for its nuclear tests.
  - \* Also in 2008, France became the first country to sign a civil nuclear deal with India after the NSG passed a waiver allowing India to access nuclear fuel and technology.
  - \* France also plans to bid for six nuclear power plants in Maharashtra's Jaitapur.
- **China factor:**
  - \* Given increasing Chinese assertiveness along the Indian border as well as the larger region, India would be best advised to manage a delicate balance between its ties with Russia and the European Union countries as there is greater alignment of policy when it comes to China among India and European Union countries rather than Russia.
- **Indo-Pacific policy:**
  - \* European countries like Germany have been reaching out to other Asian countries like Japan. This is indicative of European countries reaching out to Asian powers as part of their Indo-Pacific policy.
  - \* Given that India's very own Indo-Pacific policy also seeks to maintain its traditional influence in the region, cooperation and collaboration between India and European Union countries would result in mutual benefits for both sides.

### Way forward

- **Identifying convergence of views:**
  - \* Given the divergence in views and policies towards the ongoing Russia-Ukraine crisis between India and European Union countries, there is a need to find other areas for convergence of views.
  - \* The geopolitical convergence of countering the rise of China particularly in the Indo-Pacific could act as the gel for India-Europe relations.

- **Continued engagement with Europe:**

- \* Despite some divergence of views on important geopolitical issues, India should continue its bilateral engagement with countries such as Germany, France and Denmark. This could involve diplomatic engagement as well as robust economic relations in the form of trade relations.
- \* When it comes to the bilateral relations with Germany, India should try and find convergence in issues of economics, technology and climate change, to strengthen the 'Strategic Partnership' between the two countries.

### **Nut Graf:**

*In the context of the latest developments in geopolitics, close bilateral ties between India and Europe countries are crucial and beneficial for both and give a much-needed fillip to seal an India-EU Free Trade Agreement as it helps realise the full potential of India-Europe relations*

## **India and its neighbourhood**

### **9. Protests in Sri Lanka**

- » Mains: Details about the 'Gota go gama' protests in Sri Lanka

### **Context:**

- 'Gota go gama' protests in Sri Lanka.

### **Background**

- Sri Lanka is experiencing a historic economic crisis with massive public unrest and suffering that are in demand of effective measures.
- It is considered that Sri Lanka's massive economic crunch possesses a prominent political flavour behind it.
- This is perhaps the root cause of people's agony against the government led by Gotabaya Rajapaksa whose leadership has been questioned on the grounds of accountability and credibility.
- To tackle the public outrage, the President of Sri Lanka issued a 36-hour curfew which many protestors refused to agree with.
- A National Emergency was imposed by the President and that ignited further protests and was criticised by the opposition leaders. Consequently, the emergency was revoked.

### **Reasons for the Crisis**

- According to experts, economic mismanagement and lack of credible financial policies are the fundamental causes of the ongoing economic crisis.

- The country's foreign exchange reserves have fallen by 70% and were reduced to \$2.31 billion leaving Sri Lanka battling to import essentials including food and fuel.
- The pandemic also contributed to the downgrading of Sri Lanka's lucrative tourism industry and foreign workers' remittances.
- Also, the government's decision to ban all chemical fertilisers affected the farm sector and triggered a drop in the production of critical rice crops.

### 'Gota go gama' protests

- The protests in Sri Lanka started in March 2022 with candlelight vigils at traffic junctions in Sri Lanka's capital Colombo.
- The demonstrators were protesting against power cuts imposed by the government as it did not have sufficient dollars to buy the diesel needed to run the power plants.
- These protests were democratic, non-violent, inclusive and creative.
- The protests got the support of people from every community irrespective of class, religion, gender or ethnicity.
- The protests were inspired by the Occupy Wall Street movement, Black Lives Matter, the Arab Spring, and the Indian farmers' movement.
- The young activists were supported by student and academic unions along with trade unions, the environmental movement, professional associations, and civil society groups which joined the movement much later.
- Young lawyers also stood by the demonstrators thus creating a safety net for the movement. Lawyers also mingled with the protesters and intervened if there was any tension or difficulty.

### Participation of Tamils

- The Tamil dominated regions in the north and the eastern part of the country have not participated completely in these protests.
- The Tamil nationalists argue by saying that Tamil issues are not being addressed for them to support the protest.
- Despite not being fully involved in the protests, the Tamils have taken part in the local level protests in the country.
- Many from the Jaffna University Students Union and women from the north and the east have participated actively in the 'Gota go Gama' movement.

### Path ahead

- Protesters demand that President Gotabaya Rajapaksa like his brother Mahinda Rajapaksa (former Prime Minister) must step down from office.
- It is important for new Prime Minister Ranil Wickremesinghe to gain the confidence of Parliament and protesters to instill stability in the country.
- The several demands of the opposition in the parliament include,
  - \* Reinstating the 19th Amendment, particularly the provisions related to the independent judiciary and independent commissions
  - \* Abolishing the executive presidency through a 21st Amendment
  - \* Establishing the economic framework for International Monetary Fund (IMF) negotiations
- If the crisis further aggravates, Sri Lanka may face the Myanmar option which has been currently ruled out by the commander of the army as many of the security forces seem to have been supporting the current movement.
- Currently, the IMF is looking to further its negotiations with Sri Lanka as there is an all-party consensus about the same.

### Nut Graf:

*Despite Sri Lanka facing one of its most severe crises ever in its history, the non-violent and democratic participation of the individuals along with various organisations to ensure accountability and good governance has provided the much-needed hope for the country to revive itself.*

### Effect of policies and politics of developed and developing countries

#### **10. Finland's bid to join NATO**

- » Mains: Geopolitical implications of Finland and Sweden joining NATO

### Context:

- Sweden and Finland submit NATO applications

### Background

Finno-Soviet Treaty of 1948

- The Agreement of Friendship, Cooperation, and Mutual Assistance of 1948 is also known as the YYA Treaty
  - \* It was the basis for Finno-Soviet relations from 1948 to 1992

- Under the treaty, which was signed in 1948, the Soviets sought to deter Western or Allied Powers from attacking the Soviet Union through Finnish territory
- The Finns sought to increase Finland's political independence from the Soviet Union.
  - \* It thus ensured Finland's survival as a liberal democracy in close proximity to strategic Soviet regions
  - \* It allowed the country to pursue the path of democracy and capitalism while staying out of the conflict between the great powers.
- Finland also stayed out of the Marshall Plan, the US aid programme for Europe's post-World-War-II recovery.
- After the end of the Cold War and the disintegration of the Soviet Union, Finnish neutrality was manifest in its decision to stay out of NATO, even as it entered the European Union in 1995.
- In recent years, the Finland model, or "Finlandisation", was advocated by some including former US Secretary of State Henry Kissinger as the way forward for Ukraine's relations with Russia.

#### Sweden

- Swedish neutrality traces back to the early 19th century, and largely held through WWII

#### Joining NATO

- Although the debate over joining NATO was ongoing in both countries for nearly three decades, Russia's annexation of Crimea pushed both towards NATO's "open door" policy.
- Still, there was little political consensus in either country, especially in Sweden where the Social Democrats have long been against the idea.

#### Context

- Sweden and Finland have abandoned their long history of neutrality and intend to join the North Atlantic Treaty Organization (NATO).

#### Stats

- According to a public poll conducted by Finnish broadcaster YLE, 76 per cent of Finns favour joining the alliance. This number used to be around 25 per cent for years before the invasion

#### Why are they entering NATO?

- The smaller countries on Moscow's western periphery are afraid of Russian military power.
- For them, membership of NATO is about protection from the Russian threat. NATO membership is a defensive measure for these countries and not aimed as a challenge to Russia.

- \* Russia, with its massive army and thousands of nuclear weapons, is well positioned to deter and defend against attack on its territory. Its neighbours don't have that luxury.

- NATO membership would strengthen the country's security and defence system
- Being a member of NATO will give the nations a security guarantee under the alliance's "Article 5" on collective defence. The article essentially guarantees a military response and protection by NATO countries if any member of the organisation comes under attack.

#### Assurance

- Sweden had already said it would not allow NATO bases or nuclear weapons on its territory.
- Finland's Prime Minister said that her country is opposed to NATO deploying nuclear weapons or setting up military bases on its territory if admitted to the alliance.

#### Advantage NATO

- Sweden's island of Gotland in the middle of the Baltic Sea would give NATO a strategic advantage.
- Furthermore, when Sweden and Finland join NATO, the Baltic Sea — Russia's gateway to the North Sea and the Atlantic Ocean — would be ringed entirely by members of the western security alliance – Finland, Estonia, Latvia, Lithuania, Poland, Germany, Denmark and Sweden

#### Issues for Russia

- President Vladimir Putin's invasion of Ukraine is not only turning out to be a military blunder, but also a political disaster for Russia. It is producing strategic outcomes that Putin's war apparently aimed to prevent — the further expansion of Western military alliance, the North Atlantic Treaty Organisation (NATO).

- \* More sovereign powers siding with the west and increasing its strength is a direct blow to Russia.

- If Sweden and Finland do join NATO, especially under these circumstances, it would show Putin that the war is counterproductive and it only strengthens Western unity, resolve and military preparedness.
- Finland and Sweden joining the NATO will mark an overhaul and redrawing of Europe's security map in the East.

### Concerns

- The full-blown Russian invasion of Ukraine, has only resulted in isolating Russia from most countries in the world.
- They are losing a significant number of troops and scores of military equipment as the war continues.
- The war is also taking an economic toll on Moscow as it is further impacted by the economic sanctions against them by the West.
- As multiple corporations leave the Russian space and countries continue to decrease their energy dependency on Russia, the road ahead for Moscow is most certainly a dark and long-winding one.

### How have Russia and other countries reacted?

- Official voices from within Russia give a sense of how they perceive the U.S's role as an agent provocateur trying to lure other countries towards NATO.
- Russia's foreign ministry has said that they will be forced to take military steps if the membership materialises and said that Finland should "be aware of its responsibility and the consequences of such a move".

### Membership

- Usually, becoming an official NATO member can take up to a year as it requires the approval of all existing member states.
- However, NATO Secretary General has ensured that the countries could join quickly and that the organisation would make full security arrangements during the interim period.

### Turkey's Reaction

- Turkey's approval is crucial because the military alliance makes its decisions by consensus. Any of its 30 member countries can veto a new member.
- Turkey has already expressed its opposition to taking the Nordic countries in.
  - \* Turkish President Erdogan has declared he cannot allow Sweden and Finland to join NATO due to their alleged support of Kurdish militants and other groups that Ankara says threaten its national security.
    - » Many Kurdish and other exiles have found refuge in Sweden over the past decades
  - \* Erdogan's government is expected to use the two countries' membership bids as leverage for concessions and guarantees from its allies.

### What could Turkey gain?

- Turkey is expected to seek to negotiate a compromise deal under which the two countries will crack down on the PKK and other groups in return for Turkish support of their joining NATO.

### How does this affect Turkey's image in the West?

- Turkey's threat of a veto is likely to undermine its own status in Washington and across NATO, reinforcing an image of a country that is blocking the alliance's expansion for its own profit.

### Russia could go nuclear

- In the history of the world, the 1962 Cuban Missile Crisis was the closest mankind where there was an almost a nuclear war.
- They de-escalated the crisis in 13 days with both sides showing restraint.
- In return, the US promised not to invade the island nation and quietly withdrew the nuclear-armed missiles that it had installed in Turkey.
- Today Putin's warning that if any nation tries to "hinder" Russia or threaten it, Moscow's "response will be immediate", leading to consequences "never faced" by the intervener, has been largely ignored.
- Moscow had dropped its no-first-use policy in 1993 to counter groupings deploying large conventional forces against it. Moscow could be pushed to use the same logic that the US did in dropping nuclear bombs on Hiroshima and Nagasaki and that it seriously contemplated using at least on two occasions when it was staring at defeat — during the Korean War and in Vietnam.

### What lies ahead?

- Finland and Sweden are sovereign countries and free to take decisions on joining any alliance.
  - \* It is up to NATO to decide whether they should be taken in or not.
  - \* But a bigger question these countries as well as Europe as a whole face is whether another round of expansion of NATO would help bring in peace and stability in Europe, particularly at a time when the continent is facing a pre-First World War-type security competition.
- It would escalate the current crisis between nuclear-armed Russia and NATO to dangerous levels. Already the several rounds of NATO expansion and Russia's territorial aggression have brought the world to its most dangerous moment since the 1962 Cuban missile crisis.
- Russia should immediately halt the war and all the stakeholders should focus on finding a long-term solution to the crisis.



**Nut Graf**

*Russia's aggression on Ukraine has recoiled and now haunts its own security as many countries that once followed a neutral stance are pushed towards NATO. This expansion of NATO will further irritate the already anxious Russia and hence there is a need for constant diplomatic exchange between both sides to maintain a geopolitical order.*

## Optional Subject Coaching

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# ART AND CULTURE

## *Salient aspects of literature*

### 1. Bodo Sahitya Sabha

- » Prelims: Features of Bodo literature and culture
- » Mains: Necessity to conserve and protect literature and culture of different parts of the country.

#### Context:

- The 61st annual conference of Bodo Sahitya Sabha has been graced by the President of India to strengthen and promote the Bodo language, literature and culture.

#### Details:

- The conference highlighted the contribution of Bodofa Upendra Nath Brahma towards the Bodo community that spread the message of "live and let live" along with the message of maintaining harmony with other communities.
- The role played by the Bodo Sahitya Sabha in using the Bodo language as the medium of communication in school and in higher education has been appreciated.
- The writers have been conferred with Sahitya Akademi Award for their works to enrich the Bodo language.

#### The Bodo Language:

- This language is predominantly spoken in the northeast region of India.
- It draws its origin from the Sino-Tibetan language family under the Tibeto-Burman group.
- The language draws close proximity to the Dimasa, Garo and Kokborok languages of Assam, Meghalaya and Tripura respectively.
- There is no substantial computational work on the Bodo language for which researchers worked tirelessly to develop and enrich the Bodo language in the field of National Language Processing.
- It has been found and reported that the Bodo language has been written in the Devanagari script since 1963.
- It is one of the 22 languages listed in the 8th Schedule of the Indian Constitution.

## *Art Forms*

### 2. Dance Forms in Odisha

Dance Forms/Traditions	Description
Dhap dance	<ul style="list-style-type: none"> <li>• The dhap dance is a traditional adivasi dance performed by Orissa's tribes. It is performed during the Oriyas' main festival, 'Nuakhai.'</li> <li>• Dhap dance is performed by the Kondh tribe.</li> </ul>
Dandari dance	<ul style="list-style-type: none"> <li>• Dandahulia is a very famous and a popular dance of Borigumma, Jeypore regions.</li> <li>• It is a popular region based dance being danced by both the tribal and the non-tribal people.</li> <li>• In Nawarangpur district and in some of its nearby areas, it is known as Dhandari</li> </ul>
Samuduni Dekha	<ul style="list-style-type: none"> <li>• In the Juanga community in Keonjhar, there is a social tradition called Samuduni Dekha, in which the mother goes to stay with her married daughter and the community comes out in celebration to welcome her, often with song and dance.</li> </ul>

## *Indian Heritage and Culture*

### 3. International Museum Day

- » Prelims: International Museum Day

#### Context:

- International Museum Day has been celebrated as an iconic opportunity to understand the history and culture of India through museums.

#### Details:

- Every 18th of May is commemorated as International Museum Day.
- The Government of India has been actively involved in reviving the museums in the country, thereby conserving the rich heritage of our past.
- There are efforts to develop tribal museums as a tribute to the freedom fighters of the tribal communities and at the same time, make the country and the world aware of the scheduled tribes of India.

- The inauguration of the Bhagwan Birsa Munda Freedom Fighters' Museum in Ranchi was a historic testimony to acknowledge the contribution of tribal communities to the freedom struggle.

#### Background

- Each year on 18th May, International Museum Day is commemorated to improve public awareness of museums. Museums have a vital role in cultural interchange, as well as the development of shared understanding, cooperation, and peace.
- Every year, to promote the importance of museums, all museums around the world are invited to take part in International Museum Day. On a global scale, International Museum Day is important for raising awareness about the significance of museums in the advancement of society.

#### **4. PM offers prayers at Mahaparinirvana Stupa at Kushinagar**

» Prelims: Mahaparinirvana Stupa.

#### Context:

- PM Modi visited Kushinagar and offers his prayers at Mahaparinirvana Stupa at Kushinagar.

#### Mahaparinirvana Stupa:

- Excavated in 1867, Mahaparinirvana Stupa is a huge stupa made of brick. The stupa has a

Brahmi inscription on its walls and a reclining Nirvana statue of Buddha inside it.

- The statue is placed on a brick pedestal and the face of Buddha is towards the west.
- As per the Brahmi inscription, the cremated remains of Buddha are buried here, making it an important religious destination for people following Buddhism.

#### PM's Visit:

- Prime Minister Modi offered his prayers on the occasion of Buddha Jayanti at Kushinagar.
- PM Modi offered prayers at Mahaparinirvana Stupa in UP's Kushinagar on Buddha Purnima. He said that we should recall the principles of Lord Buddha and reiterate our commitment to fulfilling them.

#### Buddha Jayanti:

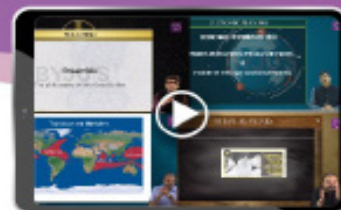
- Buddha Jayanti or Buddha Purnima is celebrated to mark the birth anniversary of Gautam Buddha.
- Buddha Jayanti is celebrated each year on the day of Vaishakh Purnima.
- Gautam Buddha was born in Lumbini, Nepal, and died in Kushinagar, Uttar Pradesh.
- Vaishakh Purnima is a very auspicious day for Buddhists. The birth, the realization, and the Mahaparinirvana, all happened on the same day.

#### Development at Kushinagar:

- The Government is making numerous efforts to boost infrastructure in Kushinagar so that more tourists and pilgrims can come here.

## IAS टेबलेट कार्यक्रम

सर्वोत्तम व्याख्यान की  
कहीं भी और कभी भी उपलब्धता



500 से अधिक घंटों का प्रारंभिक और मुख्य परीक्षा के पाठ्यक्रम को आवृत्त करता हुआ व्याख्यान



हमारे मार्गदर्शकों द्वारा प्रत्येक छाल हेतु मार्गदर्शन और व्यक्तिगत प्रतिपुष्टि



मानक पुस्तकों सहित समग्र और अद्यतन अध्ययन सामग्री



पुनरीक्षण नोट्स के साथ चर्चित मुद्दों पर सप्ताह में दो बार लाइव वेबिनार व्याख्यान



साप्ताहिक वेबिनार, चर्चित मुद्दे, समसामयिकी पत्र /पत्रिका और प्रैक्टिस सेट का छाल पोर्टल उपलब्ध

# SCIENCE AND TECHNOLOGY

## *Indigenization of technology and developing new technology*

### 1. BioRRAP Portal

- » Prelims: About the Portal

#### Context

- The Union Minister launched BioRRAP Portal.

#### BioRRAP Portal

- BioRRAP Portal is a single national portal for Biotech researchers and Start-Ups.
- The Portal "BioRRAP" will facilitate the regulatory approval for biological research & development activity in the country and thereby extend "Ease of Science" as well as "Ease of Doing Business".
- To provide more credibility and recognition to biological research, the government has developed a web system under which each research, requiring regulatory oversight, will be identified by a unique ID called "BioRRAP ID".
- The portal will act as a gateway and will help researchers to see the stage of approval of their applications for regulatory clearances.
- The portal is designed to cater to the needs of the Biotechnology sector in India with about 2,700 start-ups and over 2,500 companies working in the country.

## *Awareness in the fields of Space*

### 2. Gaganyaan

- » Prelims: About Gaganyaan , HS200 boosters and GSLV Mk-III rocket

#### Context:

- The Indian Space Research Organisation (ISRO) successfully tested the HS200 solid rocket booster for the Gaganyaan mission.

#### Gaganyaan mission

- Gaganyaan is the first human space flight programme of India's space agency ISRO.
- The mission aims to send a three-member crew to space by 2023.
- Before the manned mission, ISRO plans to send two unmanned missions to space as part of the mission.
  - \* These uncrewed missions are aimed at technology demonstration, safety and reliability verification and will be heavily instrumented to study the performance of systems before the crewed flight.

- The objective of the Gaganyaan mission is to demonstrate the indigenous capability to undertake human space flight missions to Low Earth Orbit (LEO).
- The total cost of the mission is said to be close to ₹ 10,000 crores.
- The launch vehicle used for this mission will be the Geosynchronous Satellite Launch Vehicle GSLV Mk III

#### HS200 boosters

- The HS200 booster is the 'human-rated' version of the S200 rocket boosters used on the GSLV Mk-III.
- The HS200 booster has been designed and developed at the Vikram Sarabhai Space Centre in Thiruvananthapuram.
- The HS200 is the world's second-largest operational booster using solid propellants.
- The GSLV Mk-III launch vehicle will have two HS200 boosters that provide the thrust for the lift-off.
- The control system employed in the HS200 booster is one of the most powerful electro-mechanical actuators equipped with several redundancy and safety features.
- The successful testing of the booster is a significant milestone in the process of the Gaganyaan mission.

## *Indigenisation of technology and developing new technology*

### 3. Magnetron Technology for cancer radiation therapy

- » Prelims: About magnetron technology

#### Context:

- The Union government has extended its support to the indigenous development of high-powered magnetron technology which is mainly used for treating cancer.

#### Overview:

- A Memorandum of Understanding was signed between the Technology Development Board of the Department of Science and Technology and Panacea Medical Technologies Pvt. Ltd. to offer financial support for the development and commercialisation of S-Band Tunable Magnetron for particle accelerators.



- The high-powered magnetron technology has been developed by the Central Electronics Engineering Research Institute of CSIR.
- This signifies an exemplary association between industry and academia working towards a shared vision.
- This is a welcoming step for India to become a global hub for the manufacturing of medical devices.

#### **About Magnetron Technology:**

- A Magnetron is a type of vacuum tube device which is a compact and low-cost source of microwave power.
- It works on the principle of a crossed-field device which uses the motion of electrons in perpendicular electromagnetic fields to generate microwave radiation.
- These radiations are used for generating RF power sources in Linear Accelerator for medical purposes along with other applications.
- This technology has been developed by CSIR-CEERI and has been transferred to Panacea for mass production and usage in radiation therapies for cancer.
- This is a landmark initiative to facilitate the oncologists to treat 2 mm diameter brain tumours with precision radiation and with very few side effects.
- It enables a cost-effective treatment of micro and major tumours.
- The government will put efforts into further reducing the cost of the particle accelerator Siddharth II to make cancer treatment affordable to the common people.

### **Achievements of Indians in science & technology; indigenization of technology and developing new technology.**

#### **4. National AI Portal**

- » Prelims: National AI Portal
- » Mains: Significance of AI for the country.

#### **Context:**

- The National AI Portal celebrated its second anniversary on 30th May 2022.

#### **What is National AI Portal?**

- The National AI Portal is a joint initiative by the Ministry of Electronics and IT (MeitY), National e-Governance Division (NeGD) and NASSCOM.
- The portal aims to create and promote a unified AI ecosystem in the country to drive excellence and leadership in knowledge creation to develop an AI-ready robust workforce for the future.

#### **Achievements of AI portal:**

- In the year 2021-22, INDIAai provided recent and relevant analysis in AI through stories, Interviews analyses and webinars. Over 685 news stories, 1073 articles, 275 startups, 33 colleges, 588 people, 202 videos, 64 courses, 128 government initiatives, 125 academic initiatives, 47 corporate initiatives and many more were listed and published in the portal last year.
- In 2021, INDIAai and NASSCOM launched the first edition of the Lab2Market initiative. It was launched to boost industry-academia collaboration.
- In 2021, MeitY launched INDIAai's 75@75 compendium on the first day of Azadi Ka Digital Mahotsav.
- The portal also introduced new sections that published article series on AI concepts for Beginners, covering subjects such as Turing tests, soft computing, development frameworks, symbolic and neuro-symbolic AI, etc.
- The portal is the home of multiple research reports that provide an understanding of the latest happenings in AI.

#### **Upcoming targets:**

- One of the major focuses of the IndiaAi will be in the area of AI Literacy in the country.
- AI literacy will enable young learners to achieve their aspirations without any digital divide.
- Inclusion and security as design principles for taking the benefits of AI to the bottom of the pyramid. AI can help professionals in a great way to save time from repetitive work to focus more on human-centric work.

### **Awareness in the field of Computers**

#### **5. PARAM ANANTA Supercomputer**

- » Prelims: PARAM Ananta

#### **Context:**

- PARAM ANANTA Supercomputer commissioned under Phase-2 National Supercomputing Mission (NSM) at IIT Gandhinagar.

#### **Background:**

- The government has deployed an indigenously developed Param Ananta supercomputer under National Supercomputing Mission (NSM) with 838 teraflops computing power capacity at IIT Gandhinagar.
- IIT Gandhinagar and the Centre for Development in Advanced Computing (C-DAC) signed a memorandum of understanding (MoU) on 12th October 2020.

- Under this MoU, it was agreed to establish 838 TeraFlops Supercomputing Facility under NSM.

#### **What is PARAM Ananta?**

- PARAM Ananta is a state of the art Supercomputer at IIT Gandhinagar dedicated to the nation under the National Supercomputing Mission (NSM) – a joint initiative of the Ministry of Electronics and Information Technology (MeitY) and the Department of Science and Technology (DST).
- The high power supercomputer can process 838 lakh crore calculations per second.

#### **Benefits of PARAM Ananta:**

- It is based on Direct Contact Liquid Cooling technology to obtain a high power usage effectiveness and thereby reduce the operational cost.
- Different scientific applications such as Weather and Climate, Bioinformatics, Computational Chemistry, Molecular Dynamics, Material Sciences, Computational Fluid Dynamics etc. have been installed in PARAM Ananta. This is going to benefit researchers a lot.
- The Param Ananta Supercomputing Facility will be able to support IIT Gandhinagar in pursuing research and development activities in multidisciplinary domains of science and technology at the Institute, including, but not limited to, artificial intelligence (AI), machine learning (ML), and data science, computational fluid dynamics (CFD), bioengineering for genome sequencing and DNA studies, computational biology and bioinformatics used in prediction and detection of gene networks etc.
- It can help atomic and molecular sciences to comprehend the binding of drugs to a particular protein.

### **Awareness in the field of Computers**

#### **6. PARAM PORUL**

- » Prelims: Supercomputers, PARAM PORUL

#### **Context:**

- A supercomputer named PARAM PORUL was inaugurated at NIT (National Institute of Technology) Tiruchirappalli under the National Supercomputing Mission.

#### **Delving deeper:**

- PARAM PORUL is a state-of-the-art supercomputer developed under Phase II of the National Supercomputing Mission.
- The National Supercomputing Mission is a joint initiative of the Ministry of Electronics and Information Technology and the Department of Science and Technology.

- The components of the system have been manufactured and assembled within the country along with an indigenous software stack developed by C-DAC (Centre for Development of Advanced Computing).
- This is in line with the vision of Make in India.
- PARAM PORUL system is based on Direct Contact Liquid Cooling technology to obtain high power usage effectiveness and thereby reduce the operational cost.
- It has a wide range of applications such as:
  - \* Weather and Climate assessment
  - \* Bioinformatics
  - \* Computational Chemistry
  - \* Molecular dynamics
  - \* Material sciences
  - \* Computational fluid dynamics
  - \* Healthcare sector
  - \* Agriculture
  - \* Financial services

### **Science and Technology; Awareness in the fields of Space**

#### **7. Event Horizon reveals true colours of SgrA\***

- » Prelims: About Event Horizon Telescope and Sagittarius A \*

#### **Context:**

- Scientists from the Event Horizon Telescope (EHT) facility revealed the first image of the black hole at the centre of the Milky Way Galaxy.

#### **Sagittarius A\* (SgrA\*)**

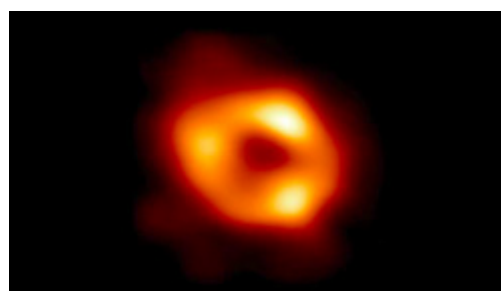


Image source: The Hindu

- Sagittarius A\* (SgrA\*) is a bright and very compact astronomical radio source located at the centre of the Milky Way Galaxy.
- It is the location of the supermassive black hole.
- Sagittarius A\* is located near the border of the constellations Sagittarius and Scorpius.
- Sagittarius A\* is around 27,000 light-years away from Earth.

- Astronomers have been unable to observe Sgr A\* in the optical spectrum because of the effect of 25 magnitudes of extinction by dust and gas between the source and Earth.
- \* Also, the physics of plasma flows around SgrA\* changes on an hourly time scale, thus making it difficult to get a coherent image with all relevant information from photons corresponding to one orbit.

### Event Horizon Telescope (EHT)

- The Event Horizon Telescope project is an international collaboration launched in 2009.
- EHT is a large telescope array composed of a global network of radio telescopes
  - \* The EHT is composed of many radio observatories or radio-telescope facilities around the world, working together to produce a high-sensitivity, high-angular-resolution telescope.
- The EHT has formed to continue the steady long-term progress on improving the capability of Very Long Baseline Interferometry (VLBI) at short wavelengths.
- In 2019, the Event Horizon Telescope facility which is a collaboration of over 300 researchers, made history by recording and releasing the first-ever image of a black hole, named M87\* a black hole at the centre of a Messier 87 galaxy.
- In 2022, astronomers revealed the image of Sagittarius A\* for the first time.

## Science and Technology; Awareness in the fields of Space

### **8. Venus mission**

- » Prelims: Venus mission; about planet Venus

#### Context:

- Indian Space Research Organisation (ISRO) Chairman laid down the expenditure of the mission to Venus depending on the level of instrumentation.

#### Venus mission:

- India plans to launch a new orbiter to Venus in 2024.
- It is commonly called the Shukrayaan. It is the first mission to Venus by the India Space Research Organisation (ISRO) and will study the planet for four years.
- The most important instrument of Shukrayaan is its Dual Frequency Synthetic Aperture Radar which had been prepared by ISRO for the Chandrayaan-2 mission.

- The objective of the mission:
  - \* To study what lies below the surface of the hottest planet in the solar system and also unravel the mysteries under the sulphuric acid clouds enveloping it.

### Missions to Venus:

- Sputnik 7, launched by the Soviet Union, was the world's first Venus mission, but it was unsuccessful.
- Mariner-1 was also used to launch the first flyby Venus mission, which failed in 1962.
- The first successful interplanetary traveller, Mariner 2, arrived on Venus in 1962.
- In 1967, Russia achieved success in the Venus mission with Venera-4.
- The European Space Agency's Venus Express mission was also successful in 2005.
- When Japan's Mission Akatsuki was successful in 2010, it joined a select group of countries with successful Venus missions.

### Active Missions to Venus:

- Akatsuki: In 2015, the Japanese Akatsuki spacecraft entered orbit around Venus in search of information about the planet's atmosphere.
- BepiColombo: The BepiColombo spacecraft of the European Space Agency is on its way to Mercury, but it will stop by Venus twice on the way.

### Future Missions:

- VERITAS: In 2028, NASA will launch the VERITAS spacecraft to investigate Venus and its history.
- DAVINCI: NASA's DAVINCI aims to get detailed measurements of the composition and structure of Venus.
- EnVision: The EnVision spacecraft is being launched by the European Space Agency (ESA) to study Venus and its past.

### About Venus:

- Venus is the second planet from the Sun and is the brightest planet in the solar system.
- It is sometimes referred to as the sister planet to Earth, because of its similar mass and size.
- The first aircraft to visit Venus was NASA's Mariner 2 in 1962.
- Venus has roughly the same diameter as Earth and sports a rocky surface and has an iron core.
- However, the planet doesn't rotate fast enough to generate an Earth-like magnetic field.

## *Science and Technology – developments and their applications and effects in everyday life.*

### **9. World Metrology Day 2022**

- » Prelims: About World Metrology Day 2022 and CSIR-National Physical Laboratory

#### **Context:**

- World Metrology Day 2022 was celebrated at CSIR-National Physical Laboratory.

#### **World Metrology Day 2022**

- It is celebrated annually on May 20th.
- It celebrates the signing of "The Metre Convention" on 20 May 1875 by the representatives of about seventeen countries.
- The Convention has provided a platform for global collaboration in the science of measurement and in its industrial, commercial and societal applications.
- The World Metrology Day project is realized jointly by the International Bureau of Weights and Measures (BIPM) and the International Organization of Legal Metrology (OIML).
- The theme for World Metrology Day 2022 is "Metrology in the Digital Era".

#### **CSIR-National Physical Laboratory (CSIR-NPL)**

- The National Physical Laboratory was conceptualized by the governing body of CSIR and the foundation stone was laid in January 1947.
- CSIR-NPL is situated in New Delhi.
- CSIR-NPL is a premier laboratory with the responsibility of the dissemination of measurements to the needs of the country.
- The CSIR-NPL is the custodian of national measurement standards through the Weights & Measures Act 1956 and provides traceability to International System (SI) units in India.
  - \* Thus NPL has the statutory obligation to realize, establish, maintain, reproduce and update the national standards of measurement and calibration facilities for different parameters.
- CSIR-NPL currently maintains six out of seven SI base units. They are;
  - \* Metre (distance), kilogram (weight), second (time), kelvin (temperature), ampere (electric current), candela (light).
  - \* R&D is underway to realise and establish the seventh SI base unit of mole or mol (chemical amount).

## *Awareness in the field of biotechnology*

### **10. Norms eased for GM crop research**

- » Prelims: About Genetically Modified (GM) plants, Genome Editing and GEAC
- » Mains: Provisions of Guidelines for Safety Assessment of Genome Edited Plants, 2022 and its criticism.

#### **Context:**

- The Department of Biotechnology (DBT) has notified "Guidelines for Safety Assessment of Genome Edited Plants, 2022".

#### **Guidelines for Safety Assessment of Genome Edited Plants, 2022**

- The guidelines exempt researchers who use gene-editing technology to modify the genome of the plant from seeking approvals from the Genetic Engineering Appraisal Committee (GEAC)
  - \* GEAC is an expert body under the Environment Ministry that evaluates research into Genetically Modified (GM) plants and recommends, or disapproves, their release into farmer fields.
  - \* However, the final decision is taken by the Environment Minister and the States where such plants are cultivated.
  - \* The Environment Ministry has also approved this exemption.
- The guidelines further say that all existing requirements that researchers must adhere to, to develop transgenic seeds will apply to gene-edited seeds except the clauses that mandate permissions from the GEAC.
- The guidelines mandate the specification of the biosafety and/or environmental safety concerns, and describe the regulatory pathways to be adopted while undertaking the genome editing of plants.
- The guidelines also provide a road map for the development and sustainable use of genome editing technologies in India.

#### **Genetically Modified (GM) plants or crops**

- Genetic Modification is a technology that involves inserting DNA into the genome of an organism
- To produce a GM plant, new DNA is transferred into the cells of a plant. These cells are then grown in tissue culture where they transform into plants.



- The seeds produced by these plants will have new DNA.
- The three major main types of genetic modifications techniques are:
  - \* Transgenic – plants have genes inserted into them that are derived from other species.
  - \* Cisgenic – plants are made using genes of the same species or closely related.
  - \* Subgeneric – alteration of the genetic makeup of a plant without incorporating genes from other plants.
- The GM plants which require scrutiny are those with transgenic technology
  - \* Example: BT-cotton, where a gene from soil bacterium is introduced to protect it from pests.
  - \* The major cause of concern is regarding the spreading of these genes to other plants.

#### Genome Editing

- Genome editing is a process that involves the use of technologies to add, remove, or alter the genetic material at specific locations in the genome.
- There are various approaches to genome editing. A well-known one is called
- CRISPR-Cas9 (Clustered Regularly Interspaced Short Palindromic Repeats - CRISPR-Associated protein 9) is the most famous genome editing technique.
- Similar to the introduction of foreign genes to add properties to plants, gene editing too can be used to assist plants in expressing properties which are not native to them

#### Criticism on the new guidelines

- Environmental experts have opposed the exception extended for gene-edited crops saying that the gene-editing techniques are a part of genetic engineering and hence, there is no need for extending exemptions to particular kinds of genome edited plants from the regulatory purview,

- The experts believe that the Gene editing techniques involve altering the function of genes and can have large and unintended consequences which can aggravate the toxicity and allergenicity of plants.
- They also question that with the lack of necessary regulatory oversight, how will regulators and the public know about the genetic changes made and who would be responsible for the resultant risk implications.

#### Nut graf:

*The fresh set of guidelines for research on GM crops aims to ease the norms for research into genetically modified (GM) crops and counter the underlying challenges of using foreign genes to change crops' profiles. However, reforming the process of selling these crops and ensuring their access to the farmers still holds the key.*

### *Science and Technology- developments and their applications and effects in everyday life.*

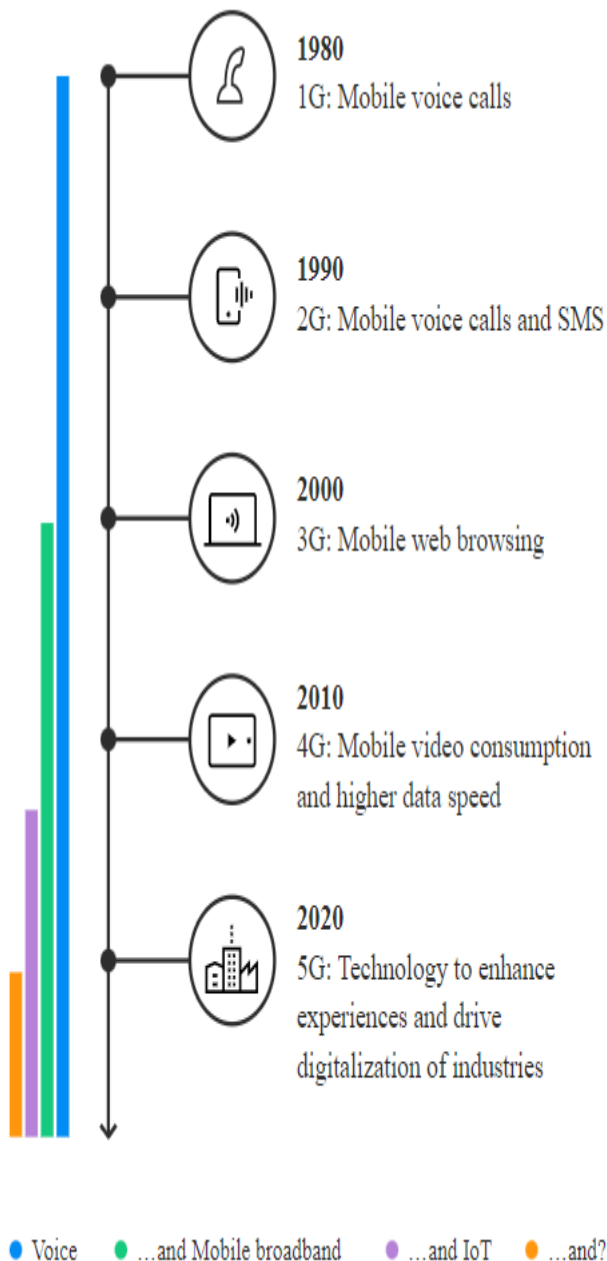
#### **11. 5G Technology**

- » Mains: Advantages and challenges associated with 5G

#### Context:

- Prime Minister Narendra Modi inaugurated the country's first 5G testbed
  - \* Testing a 5G use case in a controlled environment to enable startups and industry players to test and validate their products locally and reduce dependence on foreign facilities.
  - \* In the absence of a 5G testbed, startups and other industry players were required to go abroad to test and validate their products for installation in a 5G network.

#### Background



### What is 5G?

- 5G or fifth generation is the latest upgrade in the long-term evolution (LTE) mobile broadband networks.
- 5G mainly works in 3 bands, namely low, mid and high frequency spectrum — all of which have their own uses as well as limitations.
- While the low band spectrum has shown great promise in terms of coverage and speed of internet and data exchange, the maximum speed is limited to 100 Mbps (Megabits per second).
  - \* This means that while telcos can use and

install it for commercial cellphone users who may not have specific demands for very high speed internet, the low band spectrum may not be optimal for specialised needs of the industry.

- The mid-band spectrum, on the other hand, offers higher speeds compared to the low band, but has limitations in terms of coverage area and penetration of signals.
  - \* Telcos and companies, which have taken the lead on 5G, have indicated that this band may be used by industries and specialised factory units for building captive networks that can be moulded into the needs of that particular industry.
- The high-band spectrum offers the highest speed of all the three bands, but has extremely limited coverage and signal penetration strength.
  - \* Internet speeds in the high-band spectrum of 5G has been tested to be as high as 20 Gbps (giga bits per second), while, in most cases, the maximum internet data speed in 4G has been recorded at 1 Gbps.

### Advantages

#### High speeds

- 5G works faster on mobile phones and other devices when compared to 4G and 4G LTE. It allows users to download movies, videos, and music in seconds as opposed to minutes.
  - \* The network has 20 Gbps speed enabling organizations to use the same for services such as automation, advanced web conferencing, etc.
  - \* A recent survey says that consumers who used 5G saved nearly 23 hours per day in the downloading process.

#### Low latency

- 5G has low latency when compared to 4G that will support new applications such as AI, IoT, and virtual reality efficiently.
  - \* Not only that, it enables mobile phone users to open a webpage and browse things without any hassles.
  - \* Another thing is that it gives ways to access the internet anytime when looking for some important information.

#### Increased capacity

- 5G has the capacity to deliver up to 100 times more capacity than 4G.
  - \* It allows companies to switch between cellular and Wi-Fi wireless strategies that will help a lot to experience better performance.
  - \* Apart from that, it provides methods to

access the internet with high efficiency.

#### More bandwidth

- One of the main advantages of 5G is that it increases more bandwidth that will help transfer the data as soon as possible.
- \* Furthermore, mobile phone users can ensure a faster connection with more bandwidth after choosing a 5G network.

#### Powering innovation

- 5G technology is the perfect choice for connecting with a whole range of different devices including drones and sensors.
- \* It gives ways to power the adoption of IoT allowing industries to enhance their productivity and other things.

#### Less tower congestion

- 4G cellular networks often get congested which will result in various problems while accessing important data.
- \* On the other hand, 5G networks allow users to avoid them due to better speed and more bandwidth

### Limitations

#### Limited global coverage

- The main disadvantage of 5G is that it has limited global coverage and is available only in specific locations.
- Only cities can benefit a lot from 5G network and remote areas may not get the coverage it for some years. Moreover, the expenses for setting tower stations are high when compared to other networks.

#### Decreased broadcast distance

- Although 5G works fast at high speed, it won't travel as far when compared to 4G.
- Moreover, tall buildings and trees may block the frequency of the 5G network that will result in various problems.
- Therefore, it requires more towers for coverage that is time-consuming and expensive. Rain can also cause problems to 5G coverage that needs more protection.

#### Upload speeds

- 5G technologies allow mobile phone users to ensure high download speeds.
- On the other hand, the upload speeds are not over 100 Mbps when compared to 4G. Furthermore, mobile phones need better battery technology while using a 5G connection.
- Many phone users say that they experience more heat on their devices while running 5G.

#### Weakened device batteries

- Phones that use a 5G connection will result in a huge battery drain that reduces the lifespan to a large extent.
- Hence, manufacturers need to invest in new battery technologies to protect the battery from damages and other problems.

#### Cyber security

- Cyber security is one of the drawbacks of 5G because it will result in hacking.
- The expansion in the bandwidth enables criminals to steal the database with ease. Moreover, it uses software that leads to vulnerable attacks.
- As 5G connects with more devices, the chances of attacks are very high. Hence, companies and businesses should protect their infrastructure with a security operations center that will result in additional expenses.

#### Lack of encryption early in the connection process

- 5G lacks encryption and hackers can plan their attacks with more precision that will affect the companies to a large extent.
- More bandwidth will strain current security monitoring and the network requires security measures to prevent cyber threats.
- Measures to be taken
  - \* Consumer education is necessary for enhancing security efficiently.
  - \* On the other hand, efforts are being taken to improve the security along with the initial rollout of 5G.
  - \* Keeping all IoT devices updated with security patches will help overcome the problems with optimal results.

### Conclusion

- Since much of the 5G infrastructure is being built from ground up, there is a chance to redesign the technology to make it more suitable for the evolving communication needs of the future.

#### Nut Graf

*The 5G technology despite having some fundamental challenges, offers significant benefits such as increased capacity, lower latency, and energy efficiency and with enhanced infrastructure and R & D, the 5G system is expected to improve the state of art and enable new applications.*

# DEFENCE AND INTERNAL SECURITY

## *Security Challenges and their Management*

### 1. AFSPA

- » Mains: Security challenges in the north-eastern region of India and the government's efforts to address these challenges.

#### Context:

- The Indian Prime Minister speaking at the 'peace, unity and development rally' in Diphu in Assam has indicated the government's inclination to end the Armed Forces (Special Powers) Act (AFSPA) in the whole of the north-eastern region.

#### Background:

- Areas notified as 'disturbed areas' under Armed Forces (Special Powers) Act (AFSPA) have been progressively reduced in the last few years, mainly due to the improvement in the security situation and return of peace in the North-eastern region that has seen insurgencies for decades.
- AFSPA was revoked in Tripura in 2015 and in Meghalaya in 2018.
- Very recently, the Union Home Ministry considerably reduced areas notified as disturbed areas in Assam, Nagaland and Manipur.
  - \* In Assam, AFSPA was removed entirely in 23 districts and partially in one.
  - \* In Nagaland, AFSPA was removed from 15 police stations in seven districts while 15 police stations were excluded in Manipur.

#### Significance:

- The removal of AFSPA from the region would bring immense relief to the citizens of the region given the often-harsh regulations the act resulted in.
- The removal of AFSPA will also provide an impetus to the region's economic growth and development.

#### Recommendations:

#### **Normalize the situation and gradual removal of AFSPA:**

- The administration should work towards further improving the security situation in the area and increasing the development activity. All efforts must be taken to normalize the situation in the region.
- The gradual removal of AFSPA from the entire region should be the ultimate goal for the administration.

#### **Accountability for excesses and atrocities:**

- The article argues that AFSPA should go entirely because of the impunity it offers armed forces. Since AFSPA offered wide-ranging impunity to the armed forces, there have been a few instances that led to the commission of excesses and atrocities. In this direction, alongside the gradual reduction in the areas under the Act, there should be serious efforts to procure justice for victims of past excesses too.

#### **Political solution to the issue:**

- On the political side, there is the need to work towards a possible political solution to some of the disputes in the form of peace accords, ceasefires and the creation of sub-regional administrative arrangements.

#### Nut Graf

*The progressive reduction in areas notified as 'disturbed areas' under Armed Forces (Special Powers) Act (AFSPA) in North-eastern India is a welcome development as it seems to indicate an improvement in the security situation and return of peace in the North-eastern region that has seen insurgencies for decades.*

## *Defence Equipments*

### 2. ASTRA Mk I

- » Prelims: ASTRA missile

#### Context:

- The Ministry of Defence has signed a contract with Bharat Dynamics Limited for supply of ASTRA MK-I missile and associated equipment for the Indian Air Force & Indian Navy.

#### Details:

- ASTRA MK-I is a Beyond Visual Range (BVR) Air to Air Missile (AAM).
- ASTRA MK-I BVR AAM has been indigenously Designed & Developed by Defence Research and Development Organisation (DRDO).
- It has been bought under Buy (Indian-IDDM) category.
- Air to Air missile with BVR capability provides large Stand Off Ranges to own fighter aircraft which can neutralise the adversary aircraft without exposing itself to adversary Air Defence measures, thereby gaining & sustaining superiority of the Air Space.



### *Challenges to internal security through communication networks and cyber security*

#### 3. C3iVazra

» Prelims: About C3iVazra

##### Context:

- A Security Operation Centre (SoC) called C3iVazra has protected the computers and monitored highways across the country.

##### C3iVazra

- C3iVazra is a Security Operation Centre (SoC) installed in 2021.
- A security operations centre (SOC) is a facility that is composed of an information security team responsible for monitoring and analysing an organisation's security status.
- The SoC is the first in the country and was set up based on fully open-source components and integration.
- C3iVazra was developed by the cyber-physical systems Technology Innovation Hub (TIH) or C3iHub set up at IIT Kanpur which is an R&D centre on cybersecurity in the country.
- C3iVazra has provided advanced monitoring support by gathering real-time events, and log feeds from the endpoints, packet data from the network and the internet, and by processing these feeds to generate threat intelligence and ensure network security of the organization.
- C3iVazra has increased efficiency in incident response, reduced the impact of security breaches, and has provided better reporting, log analysis, and retention facilities.

### *Various Security forces and agencies and their mandate.*

#### 4. Enhanced Scales of Accommodation – 2022

» Prelims: About Enhanced Scales of Accommodation

##### Context:

- The Defence Minister approved revised Scales of Accommodation 2022 (SoA) for Defence Service.

##### Scales of Accommodation – 2022

- The Scales of Accommodation (SoA) defines the authorisation for the construction of operational, functional, training, administrative, living and recreation facilities for the Defence Services.
- These Scales are applicable for all the three Defence Services and the Indian Coast Guards.
- The previous SoA was approved by the Government in October 2009.

- SoA 2022 aims to introduce new units, technological facilities, equipment, requirements of operational readiness, increased threat perception, the concept of sustainable development and enhanced aspirations of users for improved living standards.
- In the SoA 2022, amenities in all public buildings for persons with disabilities have been introduced and gender commonality in all specifications has been ensured.

##### Significance of the approval of Scales of Accommodation – 2022

- The approval of Scales of Accommodation – 2022 gains significance as it aims to improve the infrastructure of defence services in line with present requirements.
- The revision of Scales of Accommodation will improve infrastructure development, through the adoption of modern technology giving more flexibility to the users.
- Also, the optimisation of defence land usage by using multi-storeyed construction and austerity measures by combining common facilities have been emphasized.
- These new inclusions will ensure a better standard of working and living conditions for the defence personnel and defence civilians.
- The enhanced Scales are also in line with the Government vision of Swatch Bharat, Sugamya Bharat, Digital India, Green Buildings, Sustainable Development, Renewable Energy, reduction of Carbon Footprint, etc.

### *Challenges to internal security through communication networks, role of media and social networking sites in internal security challenges*

#### 5. Lapsus\$: how two teenagers hacked big tech firms

» Prelims: About Lapsus\$, Remote Desktop Protocol (RDP)

##### Context:

- Authentication platform Okta had confirmed a cyber-attack from cyber-crime group Lapsus\$.

##### Background:

- The cyber-crime group Lapsus\$ is said to be based in South America. The group is relatively new but has successfully breached major firms like Microsoft.
- Recently, Lapsus\$ shared screenshots of authentication platform Okta's internal systems on messaging platform Telegram.
- Okta confirmed that hackers had tried intruding into its system three months earlier.

**Techniques Used in Hacking:**

- The tactics used for hacking by Lapsus\$ include phone-based social engineering, SIM-swapping to facilitate account takeover, accessing personal email accounts of employees at target organizations, and paying employees, or business partners to get their multifactor authentication (MFA) approval.
- The hackers used Remote Desktop Protocol (RDP) to compromise and control the computer through the RDP session.
  - \* RDP is a protocol or technical standard that provides a user with a graphical interface to connect to a desktop computer remotely.
  - \* The user uses RDP client software for this purpose, while the other computer must run RDP server software.
- Hackers spam a target with MFA prompts and call the organization's help desk to reset a target's credentials. On obtaining an employee's credentials they connect to that person's organization's VPN (virtual private network) to exploit unpatched vulnerabilities to intrude into internal servers.

**6. Nirdeshak Vessel**

- » Prelims: Nirdeshak Vessel and Survey Vessels (Large) (SVL) Project

**Context:**

- The Nirdeshak vessel was launched in Kattupalli, Chennai.

**Nirdeshak vessel**

- The Nirdeshak vessel is the second of the four Survey Vessels (Large) (SVL) Project.
  - \* The first vessel named "Sandhayak" was launched in 2021.
- It is being built as a Public-Private Partnership model by Garden Reach Shipbuilders Engineers (GRSE), a defence PSU in collaboration with L&T shipbuilding for the Indian Navy.
- The ship has been named after the Nirdeshak Vessel which was an Indian Naval Survey ship decommissioned after 32 years of service in 2014.

**Survey Vessels (Large) (SVL) Project**

- The SVL vessels will replace the Sandhayak Class survey ships equipped with modern and advanced generation hydrographic equipment that helps collect oceanographic data.
- The key function of these vessels would be to undertake full-scale coastal and deep-water hydrographic surveys of ports and navigational channels.

- The body of these vessels is made from indigenously developed DMR 249-A steel manufactured by the Steel Authority of India Limited.
- The SVL ships have a deep displacement of about 3400 tons and can accommodate about 235 personnel.
- The ships are designed to operate at a cruise speed of 14 knots and a maximum speed of 18 knots.
- Bow & Stern Thrusters have been provisioned for better manoeuvring at low speeds required during shallow water survey operations.
- These ships can carry four Survey Motor Boats and an integral helicopter.

**7. YD SURAT & YD UDAYGIRI**

- » Prelims: About YD SURAT & YD UDAYGIRI

**Context**

- As a boost to Atmanirbharta in defence, the Indian Navy has launched two frontline warships named SURAT and UDAYGIRI.

**About SURAT:**

- It is a Project 15B destroyer launched at the Mazgaon Docks Limited in Mumbai.
- Project 15B includes the class of ships that are equipped with next-generation guided-missile destroyers.
- SURAT is the fourth ship of Project 15B
- SURAT exemplifies a modification of the P15A (Kolkata class) destroyers.
- It is named after the commercial capital of the state of Gujarat, Surat which is also the second-largest commercial hub of western India after Mumbai.
- It has been built on block construction methodology which involves hull construction at two different geographical locations and has been joined together.

**About UDAYAGIRI:**

- It was named after a mountain range in the state of Andhra Pradesh.
- It is the third ship belonging to Project 17A frigates
- It is a modified version of the Shivalik class with improved stealth features, advanced weapons and sensors.
- It offers a highly advanced platform management system.

- It is also considered to be the reincarnation of erstwhile "Udaygiri" the Leander Class ASW Frigate which participated in numerous challenging operations spanning over three decades in the Indian Navy.
- Under Project 17A, seven ships are on the verge of construction.
- It leverages new concepts of technology intrusions like Integrated construction, Mega Block Outsourcing and Project Data Management/Project Lifecycle Management.
- These new concepts have been adopted for the first time in indigenous warship design and construction under this project.

#### **Significance:**

- The ships under projects 15B and 17A have been designed by the Directorate of Naval Design which has been the fountainhead for all warships design activities in India.
- During the building phase, 75% of the orders for equipment and systems have been placed on indigenous firms including the MSMEs.
- This is a significant leap towards achieving self-reliance in the defence sector.

#### **Spread of extremism**

### **8. Talking Peace, negotiating with the Maoists**

- » Mains: Negotiations to mitigate the violent implications of Maoist ideology.

#### **Context**

- The government of Chhattisgarh is all set to engage in peaceful negotiations with the Maoists under certain conditions.

#### **Delving deeper:**

- For a long period of time, many parts of India have been struggling with the threats imposed by Maoist extremists.
- The Government of Chhattisgarh took the initiative to indulge in peace talks with the extremist group provided they laid down arms and expressed their faith in the Indian Constitution.
- It was alleged by a spokesperson of the Maoist group that the government proposal and conditions for peace talks lacked clarity and the conducive ambience for talks was absent.
- The state government has been accused of not implementing the PESA Act.
- There has been discontent that the talks held earlier between the government and the Maoist groups had failed.

#### **Conditions put forth by the Maoists:**

- Lifting of the ban on their party (People's Liberation Guerilla Army) and people's organisation
- Withdrawal of security forces from camps
- Release of jailed leaders in order to participate in the talks

#### **Were the demands accepted by the government?**

- On the grounds of maintaining internal security, the government did not pay heed to the demand put forward by the Maoist leaders.
- As a result, there was no progress that took place to resolve the existing issues.
- This encouraged the extremist group to continue to spread violence and threats in the region.

#### **Ways suggested:**

- Considering the background of failed talks between the government and the extremist groups, it can be concluded that Maoists' demand for withdrawal of armed forces can be met by a mutually agreed 'ceasefire' with its limited meaning of abjuring violence by the group.
- For a period of time, the security forces can keep the Maoist operations under check.
- It must be addressed before any decision is made that the State government cannot afford the risk of moving out security forces as a pre-condition for initiating peace talks.
- As the government is putting efforts to implement PESA in the sensitive areas of Chhattisgarh and it is also actively speeding up the process of withdrawing the criminal cases against the local communities, there are chances of a peaceful settlement between both the parties.
- Therefore, moving ahead with the lessons learned, suitable modalities may be worked out if both sides are serious about peace talks.

#### **Nut Graf**

*Peaceful negotiations can broaden the possibility to dilute the violence spread by Maoists offering a roadmap for a stable, uninterrupted and sustainable internal security.*

# ENVIRONMENT AND ECOLOGY

## Conservation

### **1. COP 15 of the United Nations Convention to Combat Desertification**

- » Prelims: UNCCD
- » Mains: Roadmap to combat land degradation and the role of the United Nations Convention to Combat Desertification.

#### Context:

- The fifteenth session of the Conference of the Parties (COP15) of the United Nations Convention to Combat Desertification (UNCCD) took place in Abidjan, Côte d'Ivoire

#### Theme of COP 15

- 'Land. Life. Legacy: From scarcity to prosperity'

#### COP 15 UNCCD: An Overview

- This conference intended to bring together the leaders across governments, the private sector, civil society and other key stakeholders for the sustainable management of land to tackle the emerging issues of desertification.
- This offered a platform to explore links between land and other sustainability issues involving Heads of States Summit, high-level roundtables and interactive dialogue sessions along with several essential events.
- Drought, land restoration, land rights, gender equality and youth empowerment, constituted the focus of discussions in COP 15 of the UNCCD and are among the primary items on the Conference agenda.
- This conference has considered the findings of the Global Land Outlook and provided a response to the interconnected challenges of land degradation, climate change and biodiversity loss as the world steps into the UN Decade on Ecosystem Restoration.
  - \* The Global Land Outlook (GLO), the UNCCD flagship publication, underscores land system challenges, showcases transformative policies and practices, and points to cost-effective pathways to scale up sustainable land and water management.
- » The first edition of the GLO (GLO1) was launched in 2017 at the UNCCD COP13 in Ordos, China
- » The second edition of the GLO (GLO2) and its Summary for decision makers was published on in 2022, just before the UNCCD COP15 in Abidjan, Cote d'Ivoire.

## India's Role:

- India has always shown its active participation in international organisations that work towards issues related to the environment, climate change and other subjects of essence and addressed their causes with commitment and determination.
- The COP 14 of the UNCCD was hosted by India in 2019
- In the 14th session, India committed to enhancing its total area that would be restored from land degradation status, from 21 million hectares to 26 hectares within 2030.
- The Government of India conveyed that it continues to combat desertification with a major emphasis on land productivity and the adoption of a landscape restoration approach.

## Conservation

### **2. Intersolar Europe 2022**

- » Prelims: About Intersolar Europe 2022

#### Context:

- The Union Minister of State for New and Renewable Energy attended the Intersolar Europe 2022.

#### Intersolar Europe 2022

- Intersolar Europe is the world's leading exhibition for the solar industry and takes place annually.
- Intersolar 2022 will take place in Munich, Germany.
- Motto: Connecting solar businesses, manufacturers, suppliers, distributors, service providers and project planners and developers from around the world.
- The exhibition is a part of the smarter E Europe, which in total comprises four exhibitions, an extensive accompanying program and parallel conferences.
  - \* It claims the title of being Europe's largest platform for the energy industry with more than 1,450 exhibitors.
- The Indian minister expressed that India offers a great opportunity for EV manufacturers to invest in India.



### Conservation

### **3. Mission Amrit Sarovar**

» Prelims: About the Mission

#### Context:

- The Prime Minister launched a new Mission on Amrit Sarovar in April 2022.

#### Mission on Amrit Sarovar

- The mission has been launched with a view to conserving water for the future.
- The Mission aims to develop and rejuvenate 75 water bodies in each district of the country as a part of the celebration of Azadi Ka Amrit Mahotsav.
- As a result, it would lead to the creation of over 50,000 water bodies across the country.
- The Mission is to be completed by 15th August 2023.
- This Mission has been launched with the participation of –
  - \* Department of Rural Development
  - \* Department of Land Resources
  - \* Department of Water Resources
  - \* Department of Drinking Water and Sanitation
  - \* Ministry of Panchayati Raj
  - \* Ministry of Environment Forest and Climate Change
- Bhaskaracharya National Institute for Space Application and Geo-informatics (BISAG-N) will work as a technical partner for the Mission.
- The Mission works through the refocusing of various schemes such as MGNREGA, 15th Finance Commission Grants and PMKSY schemes.

### Biodiversity

### **4. Sela macaque (Macaca selai)**

» Prelims: Facts about Sela macaque

#### Context:

- A new species of old-world monkey has been recorded in Arunachal Pradesh.

#### Sela macaque (Macaca selai)

- It is a new primate that was identified and analysed by a team of experts from the Zoological Survey of India (ZSI) and the University of Calcutta.
- It has been named after the "Sela Pass" which is a strategic mountain pass at 13,700 ft above sea level that connects Tawang to Dirang and Guwahati.

- The phylogenetic analysis has shown that the Sela macaque was geographically separated from the Arunachal macaque (Macaca munzala) of the Tawang district by the Sela pass.
  - \* This pass acted as a barrier by restricting the migration of individuals of these two species for about two million years.
- Sela macaque is genetically closer to the Arunachal macaque as both species have heavy-build shapes and long dorsal body hair.
  - \* Differences between the two species: Sela macaque has a pale face and brown coat whereas the Arunachal macaque has a dark face and dark brown coat.
- Studies reveal that the Sela macaque has a tail longer than the Tibetan macaque, Assamese macaque, Arunachal macaque and the white-cheeked macaque but shorter than that of Bonnet macaque and Toque macaque.
- Sela macaque belongs to the sinica species group of Macaca, but it has distinct features such as brown collar hair and muzzle, and the absence of chin whiskers.

### **5. Trimeresurus mayae**

- A new species of snake has been recorded in Meghalaya and Mizoram is named Trimeresurus mayae.
- The snake has also been named Maya's pit viper after the deceased mother of an Army officer.
- The study was published in the recent edition of PLOS One, a scientific journal published by the Public Library of Science.

### Conservation

### **6. The grim forewarnings of a global study on birds**

- » Prelims: State of the World's Birds Report
- » Mains: Importance of birds to ecosystems and culture; Threats contributing to avian biodiversity loss

#### Context:

- State of the World's Birds, an annual review of environmental resources, was published.

#### Key Findings of the Study:

- 48% of the existing bird species worldwide are known or suspected to be undergoing population declines.
- 39% of the species have stable trends, about 7% of species have increasing population trends.
- 13.5% of bird species are currently threatened with global extinction.

- The bird species are non-randomly threatened across the avian tree of life.
- The more threatened bird species (86.4%) are found in tropical climates than in temperate latitudes (31.7%).
- The hotspots for threatened species are concentrated in the tropical Andes, southeast Brazil, eastern Himalayas, eastern Madagascar, and Southeast Asian islands.

#### **Importance of birds to ecosystems and culture:**

- Ecological Role:
  - \* Birds are a truly global taxon, with one or more species occupying all habitats across the earth's terrestrial surface including urban environments with no natural analogues. Birds contribute toward many ecosystem services that either directly or indirectly benefit humanity.
- Functional Role:
  - \* The functional role of birds within ecosystems as pollinators, seed-dispersers, ecosystem engineers, scavengers and predators not only facilitates accrual and maintenance of biodiversity, it also supports human endeavours such as sustainable agriculture via pest control besides aiding other animals to multiply.
  - » Birds consume insects such as mosquitoes, beetles and moths to feed themselves and feed their young ones. Birds catch huge numbers of insects in their larval form, which are high in protein. Without birds, life would have turned miserable as many insects feed on plant and animals (from grains to human blood). Hence birds play a critical role in reducing and maintaining populations of insects in natural systems.
- Cultural Role:
  - \* Beyond its symbolic and artistic values, birdwatching is a global pastime practised by millions of people. Garden bird-feeding is another valuable part. Feeding birds helps to restore the balance of nature.

#### **Threats contributing to avian biodiversity loss:**

- Changes in land cover and land-use
- The continued growth of human populations leads directly to conversion and degradation of primary natural habitats and consequent loss of biodiversity
- The other factors are habitat fragmentation and degradation
- Impact of invasive alien species and disease
- Infrastructure, energy demands and pollution
- Agrochemical and pharmaceutical usage
- Climate change

#### **Nut Graf**

*The continued degradation of the primary natural habitats of birds due to human activities should be mitigated because birds contribute towards many ecosystem services that either directly or indirectly benefit humanity. Avian biodiversity needs to be conserved as it has a direct bearing on human well-being and sustainability..*

#### **Conservation**

#### **7. 'Holes' in Biodiversity Bill**

- » Prelims: Biological Diversity Act, 2022, UNCBD
- » Mains: Necessary reforms for the effective conservation and protection of biodiversity

#### **Context**

- The Biological Diversity (Amendment) Bill, 2021 was introduced in Parliament in 2021 by the Union Environment Minister and was referred to the Joint Parliamentary Committee (JPC).
- Rajya Sabha MP and senior Congress leader Jairam Ramesh has criticised the provisions of the Biological Diversity (Amendment) Bill

#### **Convention on Biological Diversity (CBD)**

- It is known informally as the Biodiversity Convention
- The convention has three main goals:
  - \* the conservation of biological diversity (or biodiversity);
  - \* the sustainable use of its components; and
  - \* the fair and equitable sharing of benefits arising from genetic resources.
- The Convention on Biological Diversity covers biodiversity at all levels: ecosystems, species and genetic resources.
- The Secretariat of the Convention on Biological Diversity (SCBD) is based in Montreal, Canada.
  - \* Its main function is to assist governments in the implementation of the CBD and its programmes of work, to organize meetings, draft documents, and coordinate with other international organizations and collect and spread information.

#### **Objective**

- Its objective is to develop national strategies for the conservation and sustainable use of biological diversity, and it is often seen as the key document regarding sustainable development.

#### **India**

- India became a signatory to the Convention on Biological Diversity (CBD) in 1994.

- In 2002, India became one of the first countries to enact a law, the Biological Diversity Act, 2002 to implement the treaty within its borders.

### **Implementing body**

To do this, it formulates a three-tier structure consisting of a

- National Biodiversity Authority (NBA) at the national level,
- State Biodiversity Boards (SBBs) at the State level and
- Biodiversity Management Committees (BMCs) at local body levels.
  - \* The primary responsibility of the BMCs is to document local biodiversity and associated knowledge in the form of a People's Biodiversity Register.

### **Why was the bill introduced?**

- The amended Bill was drafted in response to complaints by traditional Indian medicine practitioners, the seed sector, and industry and researchers that the Act imposed a heavy "compliance burden" and made it hard to conduct collaborative research and investments and simplify patent application processes.
- The text of the Bill also says that it proposes to "widen the scope of levying access and benefit sharing with local communities and for further conservation of biological resources."

### **Highlights of the Bill**

- The Bill amends the Biological Diversity Act, 2002 to simplify compliance requirements for domestic companies.
  - \* Users of codified traditional knowledge and AYUSH practitioners will be exempted from sharing benefits with local communities.
  - \* The Bill removes research and bio-survey activities from the purview of benefit sharing requirements.
- Benefit sharing will be based on terms agreed between the user and the local management committee represented by the National Authority.
- The Bill decriminalises all offences under the Act.

### **Concerns**

- The Bill seeks to exempt registered AYUSH medical practitioners and people accessing codified traditional knowledge, among others, from giving prior intimation to State biodiversity boards for accessing biological resources for certain purposes.
  - \* Environmentalist organisations such as Legal Initiative for Forests and Environment (LIFE) have said that the amendments were made to "solely benefit" the AYUSH (Ayurveda,

Yoga and Naturopathy, Unani, Siddha and Homeopathy) Ministry and would pave the way for "bio piracy."

- » It is defined as the unauthorized appropriation of knowledge and genetic resources of farming and indigenous communities by individuals or institutions seeking exclusive monopoly control through patents or intellectual property
- \* The modifications will exempt AYUSH manufacturing companies from needing approvals from the NBA and thus will go against one of the core provisions of the Act.
- The term codified traditional knowledge has not been defined.
  - \* A broad interpretation might exempt all local traditional knowledge from benefit sharing requirements.
- The Bill removes the direct role of local communities in determining benefit sharing provisions.
- The Bill decriminalises offences under the Act and instead provides for a wide range of penalties.
  - \* Further, the Bill empowers government officials to hold inquiries and determine penalties. It may be questioned whether it is appropriate to confer such discretion to government officials.
  - \* The Bill also decriminalised violations, such as bio-piracy and made them civil offences, and this defeated the Act's "deterrent powers,"

### **What are Mr. Ramesh's objections?**

- Mr. Ramesh contended that the Environment Ministry was drawing a distinction between a registered AYUSH practitioner and a company, and exempting the former from the Act.
  - \* He said this was an "artificial distinction" as nothing prevented a registered AYUSH practitioner from having informal links with a company structure. These paved the way for potential "abuse of the law,"
- Multiple provisions of the Bill, he said, were aimed at diluting the authority of the National Biodiversity Authority (NBA)

### **Issues the Bill failed to address**

- There was no data available — barring a few States — on the money received from companies and traders for access and benefit-sharing from use of traditional knowledge and resources.
  - \* It was unclear if companies had even paid communities despite commitments.

- In the case of the Irula Cooperative in Tamil Nadu — traditional knowledge holders of the method of collecting snake venom used for pharmaceutical products — only one company had agreed to pay, but even that promise remained unfulfilled.
- As per law, Indian pharmaceutical companies are required to pay between 3-5% on the extracted bioresources or between 0.01-0.05% on the annual gross ex-factory sales.

\* But companies have resisted paying.








### The Way Ahead:

- It suggested that the role of the regulatory bodies must be strengthened at all levels to ensure fair and just use of biological resources, and for the better conservation of biodiversity.
- The amendments to the Biological Diversity Act must put an effort to bring more transparency to the trade of biological and genetic resources.

- There must be regulatory norms, formulated to keep a check on unwarranted access to biological resources.
- The proposed amendments need to develop consensus with all the stakeholders for a precise understanding of the issue of biodiversity conservation and the upcoming challenges.

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# HEALTH ISSUES

## *Issues relating to development and management of Social Sector/Services relating to Health*

### 1. Food labelling

- » Mains: Critical analysis of FSSAI's health star rating system for food products

#### Context:

- The Food Safety and Standards Authority of India (FSSAI) is planning to formulate a draft regulation for front-of-package labelling on food products.

#### Draft regulation for front-of-package labelling

- The FSSAI has planned to implement a "health star" rating system where the healthier options are accorded higher star ratings similar to the star ratings of electronic gadgets.
- The labels on the food packets will inform consumers if the product is high in salt, sugar and fat.
- The rating system is expected to use half a star to five stars to indicate the overall nutrition profile of a product.
- The health star rating system was recommended by IIM-Ahmedabad based on its survey of about twenty thousand people.
- FSSAI would be deciding the threshold levels to indicate whether a food product was high in sugar, salt and fat.
- FSSAI plans to make the implementation voluntary for a period of four years after which it will be made mandatory.

#### The need for a health star rating system of food products

- The prevalence of non-communicable diseases (NCDs)
  - \* While deaths caused due to communicable, maternal, neonatal, and nutritional diseases have reduced in India there is a huge concern about non-communicable diseases (NCDs) linked deaths.
  - \* In 2016, NCDs accounted for 55% of premature death and disability in the country
  - \* According to latest reports NCDs account for 60% of all deaths in the country
- **Excessive fat levels among Indians**
  - \* Indians are found to have excessive fat around the stomach and abdomen which increases the risk of cardiovascular diseases and type 2 diabetes.

- \* As per the National Family Health Survey-5: 47.7% of men and 56.7% of women have a high risk waist-to-hip ratio.

#### • **Increase in the consumption of packaged and junk food**

- It is found that increased consumption of packaged and junk food has increased the burden of undernutrition and overnutrition among children.
- Consumption of highly processed foods increases the risk of obesity, diabetes, hypertension, heart diseases, stroke, and kidney disease.
- As per the Comprehensive National Nutrition Survey in India (2016-2018), about 50% of children and adolescents are at a risk of cardiovascular diseases.

#### Criticism on the system

- In a health-star rating system, introduced in Australia and New Zealand, a product is accorded ratings based on a calculator designed to assess positives such as fruit, nut, protein content and risk nutrients in food like the calories, saturated fat, total sugar, sodium.
  - \* Scientists believe that the proposed system misleads consumers about a product's nutrition profile as the presence of positive ingredients like fruit in fruit juices does not necessarily nullify the adverse effects of added sugar.
- Experts opine that there is no evidence that suggests that rating systems impact consumer behaviour.
- Healthcare experts are demanding the FSSAI implement the "warning label" systems which have proven more effective than the rating system. These are seen in,
  - \* Chile – where black octagonal or stop symbols are used.
  - \* Israel – uses red label for products high in sugar, salt and fat
    - » France – uses 'NutriScore' which has a coloured scale of A to E
  - \* The U.K – uses Multiple Traffic Light (MTL) to indicate the risk factor
- Global experts have also found flaws in the design and implementation of the survey by IIM-Ahmedabad and suggest that it should not form the basis of policy making.

**Nut Graf:**

*The prevalence of NCDs among people has become a huge cause of concern for the policymakers and healthcare experts in the recent years, this has forced the FSSAI to come up with a rating system of food products that demands mandatory disclosure of nutrition information aimed at reducing sugar, salt, and fat intake which is considered as one of the best ways to prevent and control NCDs.*

***Issues relating to development and management of Social Sector/Services relating to Health***

## **2. NABH Certificates**

- » Prelims: NABH certificates, Quality Council of India
- » Mains: Assurance of quality in Ayurveda hospitals in India

**Context:**

- The National Accreditation Board for Hospitals and Healthcare Providers (NABH) Certificates have been distributed among five Ayurveda hospitals by the Ministry of Ayush.

**About the NABH Certificates:**

- NABH is a constituent board of the Quality Council of India, established to operate accreditation programmes for healthcare organisations.
- These certificates ensure the maintenance of compliance and quality of Ayurveda hospitals.
- This is a welcoming move to promote trust among people regarding Ayurvedic treatments and medicines as India aspires to lead the world with AYUSH as an alternative discipline of medicine.

***Issues relating to development and management of Social Sector/Services relating to Health***

## **3. National Family Health Survey (NFHS)**

### **NFHS 5**

- National Family Health Survey 5 is the recent round of the survey carried out by MoH&FW to bring out reliable data on emerging health and family welfare issues.
- The coordinating and implementing agencies that are helping the ministry to bring out this NFHS round are:
  - \* International Institute for Population Sciences, Mumbai
  - \* A group of survey organisations and Population Research Centres

ICF International is providing technical assistance

for the NFHS 5 while the United States Agency for International Development is providing financial assistance.

The NFHS-5 has captured the data during 2019-20 and around Seven lakh households are being covered to collect the data. 67 indicators are being used to cover the NFHS 5 data. The list of important indicators is mentioned below:

- Population and household profile
- Marriage and fertility
- Family planning
- Contraception
- Maternal and child health
- Delivery care
- Vaccinations
- Treatment of childhood diseases
- Nutrition and feeding practices
- Anaemia
- Diabetes
- Hypertension and
- Cancer examination

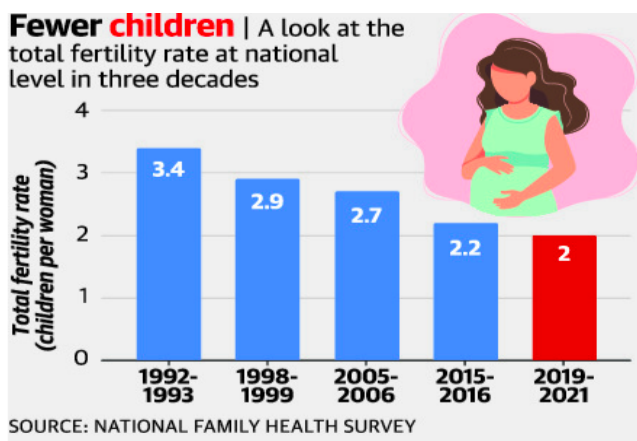
**Context:**

- National Report of the fifth round of the National Family Health Survey (NFHS-5) was released recently.
- The report comprises detailed information on key domains of population, health and family welfare and associated domains like characteristics of the population; fertility; family planning; infant and child mortality; maternal and child health; nutrition and anaemia; morbidity and healthcare; women's empowerment etc.

**Key results from NFHS-5 National Report- Progress:**

- Total Fertility Rate (TFR):
  - \* It is an average number of children per woman.
  - \* It has further declined from 2.2 to 2.0 at the national level between National Family Health Survey (NFHS) 4 and 5.
- Overall Contraceptive Prevalence Rate (CPR):
  - \* It has increased substantially from 54% to 67% in the country.
  - \* The use of modern methods of contraceptives has also increased in almost all States/UTs.
  - \* Unmet needs for family planning have witnessed a significant decline from 13 percent to 9 per cent.
- Institutional Births:

- \* Institutional Births have increased substantially from 79 percent to 89 percent in India.
- \* Even in rural areas around 87 percent of births are delivered in institutions and the same is 94 percent in urban areas.
- Stunting:
  - \* The level of stunting among children under 5 years has marginally declined from 38 to 36 percent for India since the last four years.
  - \* Stunting is higher among children in rural areas (37%) than in urban areas (30%) in 2019-21.
- Rise in obesity:
  - \* Compared with NFHS-4, the prevalence of overweight or obesity has increased in most States/UTs in NFHS-5.
  - \* At the national level, it increased from 21% to 24% among women and 19% to 23% among men.



#### **Nut Graf:**

The National Report of the fifth round of the National Family Health Survey (NFHS-5) provides reliable and comparable data relating to health and family welfare and other emerging areas in India. This socio-economic data should be used to ensure effective policy formulation, strengthen existing programmes and evolve new strategies for policy intervention.

#### **Issues relating to development and management of**

### **Social Sector/Services relating to Health**

#### **4. Shigella Sonne bacteria**

» Prelims: Shigella Sonne Bacteria

#### **Context**


- The Kerala government seeks to contain the spread of the Shigella bacteria.

#### **Shigella sonnie Bacteria**

- Shigella bacteria is known to cause an infection called shigellosis.
- People with Shigella infection experience diarrhoea (sometimes bloody), fever, and stomach cramps.
- No vaccines are available against Shigella infections.

#### **Occurrence**

- Shigella is generally transmitted through contaminated food or water, or through person-to-person contact.
- Shigellosis is primarily a disease of poor and crowded communities that do not have adequate sanitation or safe water.



**What is shigella?  
How does it spread?**

Shigella is a type of bacteria that causes Shigellosis – a disease that affects the digestive system. It is found in the intestinal tract of an infected person and can spread through contaminated food or water. It can also spread by direct contact with the faeces of an infected person.

**Symptoms**

Diarrhoea, fever, severe stomach pain, vomiting and fatigue

**Preventive measures**

Drink only boiled water

Maintain cleanliness. Wash hands before eating

Do not defecate in the open

Do not eat stale/uncooked food

Food should be covered properly

Kids with symptoms of diarrhoea should not come in contact with others

Use disinfectants in toilets and washrooms

Avoid direct contact with symptomatic patients

Those infected should refrain from cooking

Fruits and vegetables should be properly washed before eating

Those with symptoms should consume ORS, tender coconut water, and rice soup with salt

Self-medication should be avoided



### *of Social Sector/Services relating to Health*

#### 5. SIDS

- » Prelims: About Sudden infant death syndrome (SIDS) and butyrylcholinesterase enzyme

##### Context:

- A group of Australian researchers has recognised the biochemical marker that helps recognise newborn babies who are at risk of sudden infant death syndrome (SIDS).

##### Sudden infant death syndrome (SIDS)

- Sudden infant death syndrome (SIDS) is the sudden and unexplained death of a baby younger than 1-year-old.
- SIDS is also called cot death or crib death.
- SIDS is one of the major causes of high mortality rates among infants.
- Causes for SIDS can be
  - \* Complications in the functioning of the brain
  - \* Genetic abnormalities.
  - \* Issues with heart functioning
  - \* Respiratory infections
- SIDS doesn't have any symptoms or warning signs which can be used to prevent it.
- The diagnosis of SIDS is confirmed only when the cause of death is unexplained even after a complete investigation.

##### Identification of biochemical marker to recognise babies at risk

- Researchers in their study found that babies who died of SIDS had reported lower levels of an enzyme called butyrylcholinesterase (BChE) soon after birth
- The BChE enzyme plays a crucial role in the brain's arousal pathway and low levels of the enzyme would decrease the ability of an infant to wake up from sleep or respond to its environment.
- The research team used dried blood spots taken at birth as part of a newborn screening program and compared BChE levels in babies who later died of SIDS, infants who died of other causes and other surviving infants.
- The levels of BChE enzyme were found lower in the infants who died of SIDS. This has helped ascertain that SIDS babies were inherently vulnerable to dysfunction of the autonomic nervous system, which controls unconscious and involuntary functions in the body.
- The findings help address the disease in the future and also answer the questions of the past.

### *Issues relating to development and management of*

### *Social Sector/Services relating to Health*

#### 6. Stop TB Partnership

- » Prelims: About Stop TB Partnership

##### Context:

- The Union Minister for Health and Family Welfare addressed the 35th Board meeting of the Stop TB Partnership.

##### Stop TB Partnership

- Stop TB Partnership was founded in 2001 and is a United Nations hosted organization.
- The Stop TB Partnership Secretariat is hosted and administered by the United Nations Office for Project Services (UNOPS) in Geneva, Switzerland.
- The Stop TB Partnership brings together expertise from a broad spectrum of country, regional, and global partners to end Tuberculosis by 2030.
- Five key objectives:
  - \* To ensure that every person with TB has access to effective diagnosis, treatment, and cure
  - \* To stop the transmission of TB
  - \* To reduce the inequitable social and economic toll of TB
  - \* To develop, implement and increase access to new preventive, diagnostic and therapeutic TB tools, products, and strategies
  - \* To amplify the voices of people affected by TB and secure a meaningful change through strategic advocacy and communications

### *Issues relating to development and management of Social Sector/Services relating to Health*

#### 7. Sowa Rigpa

- » Prelims: About Sowa Rigpa

##### Context:

- The Ministry of Ayush organised a workshop on Sowa Rigpa.

##### Sowa Rigpa

- The Sowa-Rigpa system of medicine is one of the oldest surviving traditional medical practices in the world with a history of more than 2500 years.
- The term 'Sowa Rigpa' is derived from the Bhoti language which means 'Knowledge of Healing'.
- It is famously called Amchi and is practised in various regions of Ladakh, Himachal Pradesh, Arunachal Pradesh, Sikkim and Darjeeling.
- It is also practised in various other countries like



Bhutan, China, Nepal, and a few parts of the former Soviet Union.

- Sowa Rigpa employs a complex approach to diagnosis, incorporating techniques like pulse analysis and urinalysis, and uses behaviour and dietary modification, medicines composed of natural materials (e.g., herbs and minerals) and physical therapies to treat illness.

### *Issues relating to development and management of Social Sector/Services relating to Health*

#### **8. Webinar on “Challenges in Thalassemia 2022”**

» Prelims: About Thalassemia

##### **Context:**

- On the occasion of World Thalassemia Day, the Union Minister for Tribal Affairs addressed the webinar “Challenges in Thalassemia 2022”.

##### **About Thalassemia:**

- Thalassemia is a hereditary condition that affects the blood which leads to an abnormal form of haemoglobin.
- Haemoglobin is an important protein molecule present in RBC that carries oxygen. This disorder leads to the destruction of RBC which leads to anaemia.
- Types of Thalassemia: The main forms of thalassemia are called thalassemia alpha and thalassemia beta.
- Causes of Thalassemia: It develops when there is some abnormality in any one of the genes that are involved in the production of haemoglobin and this defect is inherited from the parents.

### *Issues relating to development and management of Social Sector/Services relating to Health*

#### **9. When a nip and tuck goes awry**

» Mains: The risks associated with aesthetic surgeries and the need for regulation of the industry

##### **Context:**

- The recent death of an actor while undergoing fat reduction surgery has brought the debate on the safety of aesthetic surgical interventions into the limelight.

##### **Stats**

- Reports from the International Society of Aesthetic Plastic Surgery suggest that 5,24,064 aesthetic procedures (surgical and non-surgical) took place in India in 2020.

##### **Cosmetic surgery- Meaning**

- It is a surgical expertise that aims at correcting or improving body imperfections.
- These may be congenital, acquired, due to illness, or due to traumatic or para-physiological events such as aging. Cosmetic surgery also includes surgical procedures requested by patients to improve their appearance.

##### **What's behind the increase in cosmetic surgery?**

- The industry is currently buoyed by image-driven social media as well as the increasing prevalence of obesity.
- Promises of magical, instant results lure ill-informed patients.
- Advertisements at ‘beauty centres’ promise free consultations with doctors, painless procedures, no stitches/ scarring/ swelling, “no cost EMI” (equated monthly installment), 60-minute sessions, one-day discharge, even pick-up and drop-off facilities.
- Body dissatisfaction, physical appearance, teasing and media influence (feeling pressured to appear like people in the media)

##### **Risks involved with aesthetic or cosmetic surgeries**

- The major complication experienced with cosmetic fat removal surgeries is that of an embolism which leads to the formation of blood clots, which can turn fatal.
- Staple-line leak or bleeding can also be life-threatening if bleeding is excessive and not monitored.
- The stress of surgery or infections
- Lack of sleep and recuperation that leads to pain and fatigue
- Hematoma and damage to nerves causing sensory or motor loss
- Complications of anaesthesia
- Experience of depression

##### **Concerns**

- One-size-fits-all approach of clinics mushrooming without any quality control is a cause for concern.
- Patients’ unrealistic expectations, coupled with lax legislation and implementation, drives the profit-centric market
- Factually incorrect advertisements, centres with no hospital back-up, those compromising safety standards, and sub-standard staff— all add to the risk factors.

##### **Recommendation**

- Introduce some form of accreditation for dermatology clinics to ensure standardised treatment.
- The Delhi High Court has directed the Centre as well as the Delhi Government for framing of

medical protocols at national level for guidance of medical practitioners doing aesthetic surgeries

- \* Dermatologists in India have welcomed the recent Delhi High Court direction that only trained dermatologists and surgeons can carry out hair transplant procedures.
- Concentrating on educating patients to make informed choices, which will ultimately drive the market to offer standardised treatment plans that work for every individual

#### **Nut Graf**

*As cosmetic surgeries have severe mental and economical consequences along with physical pain, there is a need for the government to work with experts and formulate guidelines that help regulate the industry which is experiencing high demand.*

### ***Issues relating to development and management of Social Sector/Services relating to Health***

#### **10. Serving those who serve**

- » Prelims: WHO, about ASHA workers
- » Mains: The necessity to address the challenges of healthcare workers and assure them of a safety net.

#### **Context:**

- The WHO Director General's Global Health Leaders Awards 2022 recognised and felicitated the contributions of India's healthcare workers (ASHA – Accredited Social Health Activists).

#### **Details:**

- The acknowledgement of healthcare workers by the WHO has been a remarkable expression of gratitude and encouragement to nurture the confidence of those workers.
- Oftentimes the efforts of the healthcare workers go unnoticed and unrecognised. However, this recognition by an international organisation is much appreciated and was much needed.
- The relentless efforts of the ASHA workers to deliver healthcare services in rural areas were

witnessed prominently during the pandemic.

- These workers are always at the forefront of combating any disease or infection faced by the country.
- ASHA workers from India were honoured for playing a crucial role in linking the community with the health system ensuring access for rural people to primary healthcare.
- The healthcare workers are the backbone of developing an inclusive healthcare system.
- They render their services in difficult hours of an unprecedented convergence of inequity, conflict, food scarcity, climate crisis/disasters, and pandemics.

#### **Who are ASHA Workers?**

- These are workers who act as volunteers from within the community and are trained to provide information and aid to people for availing benefits of various healthcare schemes of the government.
- They function as the bridge between marginalised communities and primary health centres, sub-centres and district hospitals.
- The role of these volunteers has been defined by the National Rural Health Mission (NRHM 2005).
- The ASHA workers are primarily married, widowed or divorced women between the ages of 25 to 45 years from within the community.
- Eligibility criteria include good communication skills, and leadership skills, and should have studied at least till the 8th standard, as per the programme guidelines.

#### **Challenges faced by the healthcare workers:**

- Very low remuneration

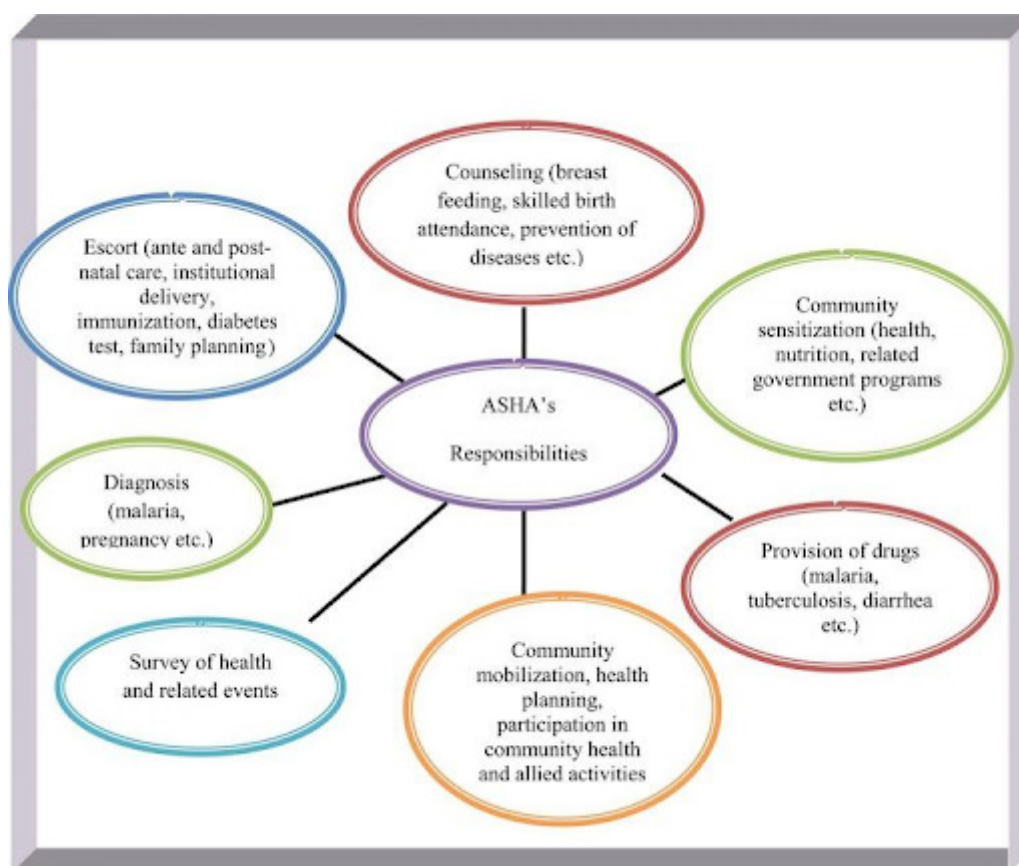


Image source: [www.mhtf.org](http://www.mhtf.org)

- Lack of health benefits assured to them
- Lack of job security
- Many female healthcare workers are prone to harassment
- Vulnerability to violence especially during emergencies like the pandemic
- Inadequate protection is provided to workers who are exposed to hazardous public health works

#### Ways Suggested:

- The Government must act responsibly to employ the healthcare workers for a fixed tenure and with job security.
- The government agencies need to ensure the welfare, safety and security of the ASHA workers and healthcare workers.
- The women healthcare workers must be provided with hygienic conditions of sanitation and other facilities.
- The ASHA workers must be provided with pension and health insurance.

#### **Nut Graf**

*It shall be the moral duty of the government to extend the social security benefits to the healthcare workers ensuring high remuneration, job security and health benefits. This will serve as a significant way to recognise the relentless service provided by these workers.*

#### **Issues Relating to Development and Management of Social Sector/Services relating to Health**

#### **11. Of lungs, trees and sin stocks**

- » Prelims: Tobacco production and consumption in India trends

#### **Context:**

- 'World No Tobacco Day' is being celebrated on May 31st.
  - \* The 'World No Tobacco Day' is aimed to bring attention to the ill effects of tobacco.
- The theme for this year's 'World No Tobacco Day' is 'Poisoning our planet' aimed to highlight the ill effects of tobacco on the environment.

**Background:****Tobacco usage in India:**

- As per the second Global Adult Tobacco Survey around 28.6% of all adults in India used tobacco in 2016-2017. As per this survey, 42.4% of men and 14.2% of women used tobacco in India in both the smokeless form, i.e., chewing tobacco, and smoked form, i.e., cigarettes and 'bidis'.
- \* India stands second in tobacco consumption after China.
- \* India is also the world's second-largest producer of tobacco.

**III effects of tobacco:****Harm to health:**

- In 2021, smoking killed about 8 million people.
- The direct health expenditure on treating tobacco-related diseases alone accounts for 5.3% of total health spending in India in a year as per the data available with WHO.

**Harm to the environment:**

- Cigarette production is resource-intensive. It leads to the cutting of trees resulting in the emission of around 84 million tonnes of CO<sub>2</sub>. It also involves the usage of around 22 billion litres of water.
- Cigarette butts, packaging, plastic pouches of smokeless tobacco and electronics and batteries associated with e-cigarettes contribute to environmental pollution.

**Recommendations:**

- There is a need for creating awareness about the ill effects of tobacco through more awareness campaigns.
- The campaigns should involve all stakeholders and, in this respect, should also highlight the impact it would have on tobacco growers and seek to find alternative livelihoods for such people.
- In the shorter timeframe, there is the need to transition towards more sustainable production practices.
  - \* There should be an attempt to transition customers away from tobacco to smoke-free products.

**Context:**

*There is the need to adopt a gradual and progressive approach towards reducing tobacco usage in India, given not only its adverse impacts on health but also on the environment.*

**Issues relating to development and management of Social Sector/Services relating to Health****12. Monkeypox**

- » Prelims: Monkeypox disease and virus
- » Mains: Details about Monkeypox virus, the available remedies and the guidelines by the Indian government on the management of Monkeypox.

**Context:**

The recent outbreak of the Monkeypox virus across the world.

**Details**

- The outbreak has seen cases across 19 countries including the U.K., Spain and Portugal.
- The current outbreak has gained the limelight as a few countries outside Africa (sporadic outbreaks have occurred in Africa) are being affected despite not travelling to regions where the disease is considered prevalent.

**Monkeypox disease**

- Monkeypox disease is caused due to the Monkeypox virus.
- The virus belongs to the poxvirus family and was first identified in monkeys in 1958.
- The first human case was reported in 1970 from the Democratic Republic of Congo and many sporadic outbreaks of animal to human as well as human to human transmission have been reported in Central and West Africa with significant mortality.
- Since the eradication of smallpox, monkeypox is said to be one of the dominant poxviruses in humans, with cases increasing over the years.
- Monkeypox virus can spread both from animal to human and from human to human.
- Monkeypox virus can be transmitted by close contact with lesions, body fluids, respiratory droplets and contaminated materials such as bedding.
- The incubation period is found to be between five to 21 days in the majority of affected people and is often mild or self-limiting.
- Symptoms: fever, rashes and swollen lymph nodes and other medical complications.



- While monkeys are said to be the only hosts, the reservoir is not known and it is believed that rodents and non-human primates could be potential reservoirs.
- There is no treatment protocol or medicines specific to monkeypox and a patient has to be managed on the basis of the symptoms they present.
  - \* Example: dehydration would be treated with oral fluids; fever with paracetamol, and nausea with antiemetics.

#### Does the virus mutate?

- Monkeypox virus is a DNA virus with a large genome of around 2,00,000 nucleotide bases and since it is a DNA virus, the rate of mutations in the monkeypox virus is significantly lower compared to RNA viruses such as SARS-CoV-2.
- The low rate of mutation does not require large-scale genomic surveillance to provide details about the transmission of monkeypox.

#### What does the genome sequence reveal?

- The genome sequences conducted in Africa and other parts of the world reveal that there are two distinct subfamilies of the virus namely
  - \* The Congo Basin/Central African subfamilies
  - \* The West African subfamilies
- The Central African/Congo basin subfamilies are believed to have a higher transmission and virulence rate as compared to the West African clade.
- According to recent genome studies, the sequences found across the world are identical and almost all genomes are reported to be of the West African subfamily which has lesser fatality compared to the Central African one.
- The virus genomes also show similarities with those from the outbreak in Nigeria during the 2017-2019 period suggesting that the present outbreak is not driven by a particular new variant, but possibly related to unique transmission networks.

#### Presence of vaccine

- As there is enough data about the virus and its transmission patterns there is enough information about effective means to prevent the spread, including a vaccine.
- Smallpox/vaccinia vaccine provides protection.
  - \* The vaccine was discontinued in 1980 following the eradication of smallpox, but the emergency stockpiles of the vaccines are maintained by many countries.
  - \* Since the younger generation of individuals is unlikely to have received the vaccine, the disease is seen more in younger individuals.

- Also, there is enough knowledge on the disease from African countries which have effectively managed the outbreaks in the past.
- With a vaccine available, efforts are to be focused on bridging the divide in health, knowledge, experience and infrastructure thereby helping in preventing and managing future outbreaks contributing to an equitable and global public health.

#### Government guidelines on the management of Monkeypox

- The guidelines recommend monitoring the close contacts daily for 21 days (starting from the last day of contact with a patient or their contaminated materials)
- According to the guidelines, the suspected cases of monkeypox include a person with a travel history to affected countries within the last 21 days and experiencing an unexplained acute rash and one or more symptoms such as swollen lymph nodes, fever, head/body ache and profound weakness.
  - \* Other symptoms include pain in the eye or blurring of vision, chest pain, difficulty in breathing, altered consciousness, seizure, decrease in urine output, poor oral intake and lethargy.
- Asymptomatic contacts have been urged not to donate blood, cells, tissue, organs, or semen during the period of isolation.
- A case of monkeypox is confirmed in a laboratory by detection of unique sequences of viral DNA either by polymerase chain reaction (PCR) and/or sequencing.
- All clinical specimens are to be transported to the apex laboratory of the ICMR-National Institute of Virology (NIV) in Pune via the Integrated Disease Surveillance Programme (IDSP) network of the respective district/State.
  - \* IDSP network tracks infectious diseases in the country
- Even one case of monkeypox is to be considered an outbreak and a detailed investigation has to be conducted by the Rapid Response Teams through IDSP.
- The airport health authorities have also been mandated to inform themselves about symptoms of monkeypox and conduct a stringent thermal screening and history of travel.

**Nut graf:**

With many countries still reeling from the COVID-19 pandemic shock, an outbreak of another disease would be devastating. However, due to the nature of the Monkeypox virus and with effective ways of containing the outbreak such as contact tracing countries are expected to prevent and manage the current Monkeypox outbreak.

# SOCIAL ISSUES

## *Population and associated issues, poverty*

### 1. State of Inequality report in India

- » Prelims: Economic Advisory Council – PM, State of Inequality Report
- » Mains: Estimating the extent of inequalities in India

#### Context:

- The Economic Advisory Council to the Prime Minister has released the State of Inequality report.

#### About the State of Inequality report:

- This report has been written by the Institute of Competitiveness and is an assessment of both inclusion and exclusion in the country.
- It provides a holistic view of inequalities in the country.
- The report compiles information on inequities across sectors like health, education, household characteristics and the labour market.
- Inequalities existing in various sectors lead to multidimensional poverty.
- The report consists of two parts, economic facets and socio-economic manifestations that look after five areas that influence the nature and experience of inequality.
- It also offers a roadmap to reform strategies for social progress and shared prosperity.
- It produces a comprehensive analysis of the various prevalent deprivations in the country that impact the population and overall growth.
- It studies the differential treatments based on class, gender and region measuring the intensity of inequalities.
- Data given by the Periodic Labour Force Survey (PLFS), National Family Health Survey and UDISE+, are utilised by the report.

#### Important Findings:

- For the first time, the State of Inequality report has emphasised income distribution to understand the capital flow.
- The report mentioned that wealth concentration as a measure of inequality does not determine the changes in the purchasing power of households.
- According to the data available from PLFS, there exist certain levels of income disparity.
- It was estimated that at different levels of employment categories, the highest percentage was of self-employed workers followed by regular salaried workers and casual workers.

- The share of self-employed workers was found to be the highest in the lowest income categories.
- The unemployment rate in the country was estimated to be 4.8% (2019-20) with a worker population ratio of 46.8%.
- Nutritional deprivation in terms of overweight, underweight and prevalence of anaemia along with low health coverage, high out-of-pocket expenditure remain areas of great concern.
- The gross enrolment ratio has increased at the primary, secondary and higher secondary levels of education.
- Improvements have been made in the access to sanitation and safe drinking water.

#### Recommendations:

- The report's recommendations include:
  - \* Creation of income slabs that provide class information
  - \* Establishing Universal Basic Income
  - \* Creating jobs
  - \* Increasing the budget for social protection schemes

## *Social empowerment & secularism*

### 2. On the question of notifying minorities

- » Mains: The power to notify communities as minorities in India and its associated issues and challenges.

#### Context:

- A public interest litigation (PIL) that questions the competence of the Centre to notify minorities at the national level is being considered by the Supreme Court.

#### Power to notify minorities

- The National Commission for Minorities (NCM) Act, 1992 in its Section 2(c) defines a minority as "a community notified as such by the Central government".
- Section 2(f) of the National Commission for Minority Educational Institutions (NCMEI) Act 2004, which says "minority" for this Act, means a community notified as such by the Central Government," also accords similar powers to the Centre.
- In 2005, the Central government notified five communities namely Muslims, Christians, Sikhs, Buddhists and Parsis as minorities at the national level.

- \* In 2014, the government notified Jainism as the sixth minority community.

#### **Arguments raised in the public interest litigation (PIL)**

- The PIL particularly challenges the validity of Section 2(f) of the NCMEI Act 2004, saying that it is arbitrary and violates the principles enshrined in Articles 14, 15, 21, 29 and 30 of the Indian Constitution.
- The PIL quotes the SC's judgement in the T. M. A. Pai Foundation vs State Of Karnataka case (2002) which said that "for the purpose of determining minority, the unit will be State and not whole India".
- The PIL also says that the Centre's notification has created an unusual situation wherein the communities declared as minorities by the Centre enjoy the status even in States/UTs in which they are in majority. Whereas, a few other communities are not accorded the status despite being minorities in those States/UTs.
- The PIL urges the SC to curtail the Centre's power to notify national minorities or order the Centre to notify those communities as minorities in States/UTs that are "socially, economically and politically non-dominant" apart from being numerically smaller.

#### **Centre's Response**

- The Centre has filed two affidavits in the case, wherein it has held that the Centre had the power to notify minority communities.
- The Centre defended the concept of minorities at the national level whereas it remains muted on the specific question.
  - \* i.e. the Centre has not taken a position, about continuing the national list of minorities while it highlighted its power to notify minorities under various Acts.
- The Centre has reiterated that it has concurrent powers with the States to ensure the welfare of minorities.
  - \* The centre quoted the examples of Maharashtra recognising Jews as a minority community and Karnataka recognising speakers of several languages as linguistic minorities and said that the States could have notified minorities within their jurisdiction.
  - \* But the Centre in its second affidavit claimed that the Centre alone was vested with the power to notify a minority community.
- The Centre in its first affidavit defended the constitution of the Ministry of Minority Affairs and the Sachar Committee to study the backwardness of a community in India.

#### **Way forward**

- The Centre said the PIL deals with crucial matters and sought time to consult with the States and other stakeholders before it could take a position.
- The Centre has said that it would take a position on the issue only after verifying various sociological and other aspects as any stand without thorough considerations would lead to an unintended complication in the country.

#### **Nut Graf:**

*A community that is a majority in the country can be a minority in a particular State. Hence, there is a need for the Centre and the Supreme Court to undertake proactive measures to protect the interests of these communities.*

#### **Role of women and women's organization**

### **3. Prostitution is a Profession: Supreme Court**

- » Mains: Legal aspects related to prostitution; Rights and Issues of People involved in Prostitution

#### **Context:**

- The Supreme Court has recognised prostitution as a "profession", adding that sex workers are entitled to dignity and equal protection under the law.

#### **Prostitution**

- It involves engaging, agreeing, or offering to engage in sexual conduct with another person in return for a fee.

#### **Historical Background**

- It is said that prostitution is the oldest profession in the world.
- In India, their presence can be dated back to ancient times with scriptures mentioning the presence of three kinds of women — those who were chaste and devoted to a single man (even if the man had many wives). The second were women who kept away from men and lived as nuns. The third kind were women who had multiple lovers and were attached to no single man.
- In the 1800s, it is reported that the British military established and maintained brothels for its troops to use across India.

#### **Causes of prostitution**

- There exist numerous reasons which compels a woman to take up prostitution out of which poverty and unemployment are two major influential factors that causes women to engage in commercial sex.



**What are existing laws on sex work?**

- The sex work in India is governed primarily by the Immoral Traffic (Prevention) Act, 1956 (ITPA), but Indian Penal Code (IPC) and Juvenile Justice Act also have provisions dealing with prostitution and trafficking in India

**Immoral Traffic (Prevention) Act, 1956**

- 2 (a) "brothel" includes any house, room [conveyance] or place or any portion of any house room, [conveyance] or place, which is used for purposes [of sexual exploitation or abuse] for the gain of another person or for the mutual gain of two or more prostitutes;
- 2 (f) "Prostitution" means the sexual exploitation or abuse of persons for commercial purposes and the expression "prostitute" shall be construed accordingly
- The ITP Act penalises acts such as running a brothel, soliciting in a public place, living off the earnings of a sex worker and living with or habitually being in the company of one.

**IPC**

- 372. Selling minor for purposes of prostitution, etc.
- 373. Buying minor for purposes of prostitution, etc.

**Constitution**

- The Constitution of India prohibits trafficking in human beings, beggars and other similar forms of forced labor under Article 23(1) and any contravention of this provision shall be an offense punishable in accordance with the law under Article 23(2).

**Judgments****Budhadev Karmaskar vs State of West Bengal**

- The Supreme Court said that sex workers are also human beings and hence they are entitled to a life of dignity.
- The judgment also highlighted the plight of sex workers and empathizes that these women are compelled to indulge in prostitution not for pleasure but because of abject poverty and directed the Central Government and State Governments to open rehabilitation centers and impart technical and vocational skills like sewing so that they attain other means of livelihood.

**Unni Krishnan vs. State of A.P**

- The Supreme Court stated that "Right to health and medical aid of workers" falls within the ambit of Art. 21, since the expression 'personal liberty' is of the widest amplitude.
- The sex workers should be provided with health insurance as well as their medical fitness should be given paramount consideration.

- Therefore prostitution should be legalised and regularised from the standpoint of Article 21 of the Constitution of India.

**Supreme Court observation in the latest order:**

- When a sex worker makes a complaint of criminal, sexual, or any other type of offence, the police must take it seriously and act in accordance with law
- Whenever there is a raid on any brothel, since voluntary sex work is not illegal and only running the brothel is unlawful, the sex workers concerned should not be arrested or penalised, harassed, or victimised.
  - \* When it is clear that the sex worker is an adult and is participating with consent, the police must refrain from interfering or taking any criminal action
- Governments must involve the sex workers and/or their representatives in all decision-making processes, including planning, designing, and implementing any policy or programme for the sex workers or formulating any reform in the laws relating to sex work.
- No child of a sex worker should be separated from the mother merely on the ground that she is in the sex trade.
- The Court directed that media should not publish their pictures or reveal their identity while reporting rescue operations and stated that the offence of voyeurism under Section 354C of the Indian Penal Code should be enforced if media publishes the pictures of sex workers with their clients.
- Any sex worker who is a victim of sexual assault should be provided with all facilities available to a survivor of sexual assault, including immediate medical assistance
- Police should treat all sex workers with dignity and should not abuse them, both verbally and physically, subject them to violence, or coerce them into any sexual activity.
- The government should carry out workshops for educating sex workers about their rights vis-a-vis the legality of sex work, rights, and obligations of the police and what is permitted or prohibited under the law.

**Why is Supreme Court's decision significant?**

- Sex workers in India face multiple traumas — sexual violence, emotional abuse, and physical assaults from clients.
- Their living conditions are deplorable too, congested lanes, small rooms, smelly localities are affecting their health badly because of which problems related to their health are also rising. Diseases like cervical cancer, HIV and STD are increasing as no steps have been taken for their betterment.

- They also face debilitating stigma and discrimination that erodes their ability to protect their health and well-being.
- With the order, the Supreme Court hopes to reduce the stigma that is attached to the profession of prostitution.

#### **Need for a law**

- Decriminalizing sex work maximizes sex workers' legal protection and their ability to exercise other key rights
- The regulation of the sex industry would in fact help in addressing the issue of illegal trafficking of minors and crimes such as rape, incest, assault, abduction and criminal intimidation.
- Sex work acknowledged as a profession could also help improve the poor condition of healthcare facilities and the resultant vulnerabilities that sex workers endure. In the near future, medical benefits and many other benefits that employed people in our country enjoy could also be a reality.
- Recognition and regulation of sex workers in the country will facilitate planned interventions for improving their living conditions such as providing educational opportunities and vocational training.
- Empowering and providing exit routes to those sex workers who do not wish to continue will be a more effective way of addressing the issue of this segment in the country.

#### **Conclusion**

- The Supreme Court order sets limits on police actions regarding sex workers and puts sex workers and their children at par with rest of the people.

Therefore the Government should draw up appropriate legislation to free consenting sex workers from stigma, and grant them workers' rights.

#### **Role of women and women's organization**

#### **4. A leaked draft, termination rights and the politics**

- » Mains: The international impact of Roe v. Wade; Reproductive rights of women

#### **Context:**

- A draft of the United States Supreme Court's opinion on the abortion law was leaked.
  - \* The leaked draft suggests that a majority of the judges have accepted to overrule the court's decision in the landmark Roe vs Wade case (1973) that legalised abortion in America.
  - \* This has caused a massive uproar among the public and media fraternity in the US.

#### **What is Roe v Wade?**

- Roe v Wade was the landmark case of a Texan woman
  - \* She was referred to by the legal pseudonym of Jane Roe to protect her privacy.
- In 1969 she became pregnant with her third child and was unable to get an abortion because the state only allowed them if the mother's life was in danger.
- Her lawyers brought a case against the local district attorney claiming Texan abortion laws were unconstitutional.
- US Supreme Court in 1973 in a landmark decision (known as Roe v. Wade), ruled that the country's constitution protected a woman's right to choose to have an abortion and said constitutional right to abortion emanating from this right of privacy.
- The court dismissed the laws that made abortion illegal in several states and held that abortion would be allowed up to the point of foetal viability (the time after which a foetus can survive outside the womb).
  - \* At the time of the Roe judgment, the foetal viability was around 28 weeks.
- Later, in 1992, the US Supreme Court in Planned Parenthood v Casey reaffirmed the woman's right to terminate her pregnancy

#### **Significance of the Roe judgement**

- The judgement upheld the "right to privacy" in the U.S. Constitution, which the majority held, was violated by state laws restricting a woman's right to abort a foetus prior to its viability outside her womb.
- The judgement also upheld the concepts of "Right to Life" and "Personal Liberty" enshrined in the U.S. Constitution.
- The judgment was the first to establish that a woman, rather than her physician, might be the party injured by a state's criminalization of abortion.

#### **Impact of overturning the Roe judgement**

- The overturning of Roe is more than the mere abdication of the judicial responsibility to protect individual rights — it signals a dangerous trend of courts making long-standing determinations of legal rights based on transient political considerations.
- The removal of the constitutional right to abortion will be felt most among low income people, people of color and rural communities across the country.
- As history tells us, banning abortion does not stop them from occurring, it pushes them underground, limiting access to safe abortions

- \* Rise of dangerous methods, unqualified persons in procedures and online pharmacies peddling abortion pills.
- It would also mean legitimisation of state incursions into women's right to abort and consequently their right to bodily autonomy and liberty, in addition to forcing them to move to states with enabling laws to procure abortions, leading to issues of access and affordability of abortions.

### **Does it make it illegal?**

- Abortion will not immediately become illegal nationwide.
  - \* Instead it would be up to each state to decide how much access women living there would have to abortion.
  - \* Since there is no federal law protecting the right to abortion in the US, the overturning of Roe would leave abortion laws entirely up to the states. Conservative states could bring back restrictive laws that prohibited abortions before the Supreme Court set the foetal viability standard in 1973.
  - \* In the short term, a patient's ability to legally access abortion would effectively be a lottery, determined by geography or having the financial resources to travel significant distances.

### **Global consequences**

- The end of Roe v. Wade would dramatically impact reproductive rights in the US. It would also likely have symbolic consequences globally, shaping the strategies and tactics of the transnational anti-abortion movement.
- Roe is not only relevant as a progressive trailblazer for reproductive rights in the United States but is also fundamental to constitutional jurisprudence globally for the interpretative tools it employed.
- While the impact of Roe's absence would most profoundly be felt in the US, it is likely to embolden conservative anti-abortion voices across the world.
- It will inevitably also raise fundamental questions on the limits of judicial activism aimed at protecting the rights of persons and classes, which do not find explicit mention within a country's constitutional framework.
- For instance, in the Indian context, the overturning could be seen as a setback to the celebrated doctrine of transformative constitutionalism, which sees the Indian Constitution as a "living document" that moulds, adapts and responds to changing times and circumstances.

### **Conclusion**

- The likelihood of the overturning of Roe leading to more conservative approaches to judicial interpretation in abortion rights cases, cannot be ruled out.

### **Nut Graf:**

*The leaked draft of the U.S. Supreme Court's 'decision' to overturn the Roe Judgement has caused a social and ideological tussle between the liberals (Democrats) who support current abortion laws and the conservatives (Republicans) who are against abortion.*

# EDUCATION

## *Issues Relating to Development and Management of Social Sector/Services relating to Education and Human Resources.*

### **1. Needed, education data that engages the poor parent**

- » Prelims: ASER and NAS survey

#### **Background:**

- Data from different education surveys like the Annual Status of Education Report (ASER) and the National Achievement Survey (NAS) have often come out with some contradicting observations.
  - \* The Annual Status of Education Report (ASER) is led by the non-governmental organisation, Pratham, while the National Achievement Survey (NAS) is led by the National Council of Educational Research and Training (NCERT).
- While one report highlights the marked fall in learning outcomes, the other has highlighted improvement. For example, according to ASER 2019 data, Rajasthan was among the bottom five States in learning levels, while in NAS 2017, Rajasthan was among the top performers.

#### **Concerns:**

##### **Limited utility of data:**

- Currently, the surveys gather data on enrolments, retention, learning, infrastructure, and teacher training to understand the state of our public school system. This data is of limited utility to galvanize the masses. Much of the data generated by these well-known surveys has limited utility for the parents who send their children to government schools.

##### **Lack of involvement of the people in policymaking:**

- The district and school development plans introduced in national-level programmes such as the District Primary Education Programme (DPEP) and Sarva Shiksha Abhiyan (SSA) have largely remained administrative practices. They do not incorporate the views of the parents and the masses.

#### **Recommendations:**

##### **Better quality of data:**

- There is the need to plan for a better quality of data which could be of utility to all stakeholders including parents who are one of the key constituencies of school data. There is also the need to intensify efforts to disseminate data among them.

- Actionable data for governance is the need of the hour.

##### **Local vision of education:**

- While a national-level policy on education is welcome, it alone won't be sufficient. There is the need to evolve a vision at the State, district and local levels. This should be used to galvanize the local administrative and political system.
- There is the need to localize education policies keeping in line with the unique requirements.

##### **Promoting people participation:**

- Community-based consultative bodies such as the school management committees and parent-teacher committees should be empowered and their participation in policy-making facilitated.

##### **Balancing objectives:**

- The vision of school education must balance the immediate, tangible, popularly understandable objectives such as reading, writing as well as livelihood relevant skills and knowledge. Additionally, it should also incorporate aspects such as promoting peer connections, negotiating social diversity, and curiosity for new knowledge and experiences.

#### **Nut Graf**

*Ensuring the availability of relevant and high-quality data which is connected with a locally developed and politically owned vision of school education can ensure the success of school education in India.*



# GOVERNANCE

## *Government policies and interventions*

### **1. Aspirational Districts Programme**

- » Prelims: Aspirational Districts Programme
- » Mains: Evaluating the effectiveness of the Aspirational Districts Programme in the betterment of districts identified under the programme.

#### **Context:**

- The progress made under the Aspirational Districts Programme (ADP) has been assessed and reviewed.

#### **Exploring further:**

- The Aspirational Districts Programme started with the primary aim of localising the Sustainable Development Goals (SDG) for the progress of the nation.
- This scheme was launched to improve the under-developed districts across the country.
- For this purpose, 112 districts have been identified across the country with a specific focus on transformation in terms of health, education and agriculture.
- The programme emphasises financial inclusion through initiatives such as the PM Jan Dhan Yojana.
- It is an initiative that offers several avenues for Convergence (of Centre and State schemes), Collaboration (of Central, state-level Prabhari Officers & District Collectors) and Competition among districts through monthly delta ranking, driven by a mass movement.
- The progressive work under ADP was exemplified through the Sitamarhi district of Bihar which is one of the 13 Aspirational districts in the State.
- Based on the results determined by the indicators, the aspirational districts are ranked.
  - \* These indicators are referred to as Key Performance Indicators under five broad socio-economic themes:
    - » Health & Nutrition
    - » Education
    - » Agriculture and Water Resources
    - » Financial inclusion and skills development
    - » Infrastructure
- The delta ranking of the aspirational districts and their performance are updated on the Champions of Change dashboard.

## *e-governance applications*

### **2. Digital India BHASHINI – India's AI led language translation platform**

- » Prelims: Digital India BHASHINI

#### **Context:**

- The Ministry of State for Electronics and Information Technology has held brainstorming with Researchers & Start-ups to shape strategy for Digital India BHASHINI.
- BHASHINI stands for BHASHa INterface for India, the National Language Translation Mission (NLTM).

#### **Details:**

- The Bhashini Platform will make Artificial Intelligence (AI) and Natural Language Processing (NLP) resources available to Startups and Individual Innovators in the public domain.
- Mission will create and nurture an ecosystem involving Central/State government agencies and start-ups, working together to develop and deploy innovative products and services in Indian languages.
- Mission Digital India Bhashini also aims to increase the content in Indian languages on the Internet substantially in the domains of public interest, particularly, governance-and-policy, science & technology, etc.

#### **Significance of the initiative:**

- The initiative will allow Indian citizens to consume the internet and Digital Government service in their own languages. This will digitally empower the Indian citizens by connecting them to the Digital Initiatives of the country in their own language thereby leading to digital inclusion and the realization of the vision of Digital India.
- As public websites become multilingual and interactive, the reach of public welfare schemes will also increase.
- The Bhashini platform will also help catalyze the entire Digital Ecosystem.

## *Important Aspects of Governance*

### **3. GatiShakti Sanchar Portal**

- » Prelims: GatiShakti Sanchar Portal

#### **Context:**

- The Union Minister for Communications, Electronics & IT, Shri Ashwini Vaishnaw, recently launched the "GatiShakti Sanchar" portal.

**Details:**

- The “GatiShakti Sanchar” Portal aims to provide for Centralised Right of Way (RoW) approvals.
- The portal will enable applicants from various Telecom Service Providers (TSPs) as well as Infrastructure providers (IPs) to apply at a common single portal for Right of Way permissions to lay down Optical Fibre Cable and for erecting mobile towers to State/UT Governments and local bodies.

**Significance:**

- The portal shall act as an enabler to the objective of “Ease of doing business” for telecommunications infrastructure works.
- The centralized system will help streamline the process of Right of Way (RoW) applications and permissions across the Country. This will help facilitate smooth and efficient deployment of Digital Communications Infrastructure in the country, which in turn will help ensure universal and equitable access to Broadband services, especially in the rural areas. This portal will go a long way in envisioning the goals set forth in the National Broadband Mission (NBM).
- National Broadband Mission set up in 2019 aims to facilitate universal and equitable access to broadband services across the country, especially in rural and remote areas. It envisions the provision of broadband infrastructure as a core utility to every citizen, Governance and services on demand and digital empowerment of the citizens.

**4. Jan Samarth Portal**

- » Prelims: About Jan Samarth Portal

**Context:**

- The Union government is planning to launch the Jan Samarth portal.

**Jan Samarth Portal**

- Jan Samarth Portal is an initiative of the Central government that links government schemes, incentives and subsidies.
- It is proposed to link 15 credit-linked government schemes under one platform.
- Objective: is to promote inclusive growth and development of various sectors by providing them access to various government schemes.
- The Portal is developed with cutting edge technologies and smart analytics.
- The Portal aims to connect the beneficiaries with the nodal agencies, financial institutions and Central and State government Ministries.

- It also integrates platforms such as the Unique Identification Authority of India (UIDAI), The Central Board of Direct Taxes (CBDT), National Securities Depository Limited (NSDL), Local Government Directory (LGD), etc.

**e-governance – applications, models****5. National Data & Analytics Platform (NDAP)**

- » Prelims: About NDAP
- » Mains: Evaluating the effectiveness of data analytics for better governance.

**Context:**

- The National Data & Analytics Platform has been launched by the NITI Aayog and has been made available for public use.

**Exploring further:**

- The NDAP is a flagship initiative of the NITI Aayog that provides free and easy access to government data.
- It further intends to democratise access to public government data by making data interoperable, interactive, accessible and available on a user-friendly platform.
- It gathers and compiles foundational datasets from various government agencies and presents them in a single platform with the tools for analytics and visualisation.
- Prior to the public launch, NDAP underwent a beta release that offered access to limited users for testing and feedback.
- A use-case based approach is maintained to address the needs of data users from government, academia, journalism, civil society and the private sector. All datasets are standardised to a common schema, which results in the ease of cross-sectoral analytics.
- Overall, this platform will create a progressive way for better decision making and research contributing towards the governance of this country with transparency and accountability.
- NDAP will be a milestone to reap the benefits of India's data-rich ecosystem enabling better tracking of last-mile delivery of services.

**Important aspects of governance, transparency and accountability****6. World Press Freedom Index**

- » Prelims: About the Index and Ranking
- Journalism is considered the fourth pillar of democracy. Therefore, the presence of journalistic freedom in the country, is to a large

extent, required for democracy to work properly.

- Journalists have the power to question the government. Unlike the opposition parties, journalists ideally don't need to have any hidden agenda. Their task is to show the truth, no matter how bitter it seems.
- It is necessary to keep a close watch on the health of media and journalism around the world. This is where the WPF Index comes in.
- It compares the state of the press in around 180 countries and ranks them according to how much freedom a journalist has in the countries. This ranking system is what we call the World Press Freedom Index

#### **What Is the World Press Freedom Index?**

- It is the brainchild of Reporters without Borders (RSF) that took birth in 2002. The main purpose of this index is to examine how free a country's press is.
- Each country or territory's score is evaluated using five contextual indicators that reflect the press freedom situation in all of its complexity: political context, legal framework, economic context, sociocultural context and safety.
- The Index's rankings are based on a score ranging from 0 to 100 that is assigned to each country or territory, with 100 being the best possible score (the highest possible level of press freedom) and 0 the worst

\* This score is calculated on the basis of two components:

- » a quantitative tally of abuses against journalists in connection with their work, and against media outlets;
- » a qualitative analysis of the situation in each country or territory based on the responses of press freedom specialists (including journalists, researchers, academics and human rights defenders) to an RSF questionnaire available in 23 languages.

#### **Context:**

- India's ranking in the World Press Freedom Index has fallen down to 150th position out of 180 countries

#### **Ranking**

- Norway (1st) Denmark (2nd), Sweden (3rd) Estonia (4th) and Finland (5th) grabbed the top positions, while North Korea remained at the bottom of the list of the 180 countries
- The ranking of India's neighbors, except that of Nepal, have also slid down, with the index

placing Pakistan at 157th position, Sri Lanka 146th, Bangladesh 162nd and Myanmar at 176th position

- Russia was placed at 155th position, while China climbed up by two positions with the Reporters Without Borders placing it at 175th position.

### **Important aspects of governance, transparency and accountability, models, successes, and limitations**

#### **7. Understanding the process of issuing LOCs**

- » Mains: Power and the process to issue Look Out Circulars and various concerns surrounding it

#### **Context:**

- The Punjab and Haryana High Court overruled a Look Out Circular (LOC) against petitioner Noor Paul

#### **Look Out Circulars (LOCs)**

- It is a notice to stop any individual wanted by the police, investigating agency or even a bank from leaving or entering the country through designated land, air and sea ports.
- The immigration is tasked to stop any such individual against whom such a notice exists from leaving or entering the country.
- There are 86 immigration check posts across the country.

#### **Is there a law?**

- At present, there is no law passed by Parliament which prescribes the power to issue LOCs.
- The power to issue these circulars was first set out by the Union Ministry of Home Affairs in 1979. Subsequent memos were issued by the Ministry in 2000 and 2010.

#### **Who can issue LOCs?**

- A large number of agencies which includes the Central Bureau of Investigation (CBI), Enforcement Directorate, Directorate of Revenue Intelligence (DRI), Income Tax, State police and intelligence agencies are authorised to generate LOCs.
- The officer should not be below the rank of a district magistrate or superintendent of police or a deputy secretary in the Union Government.

#### **What are the details required to generate an LOC and who issues it?**

- According to a 2010 official memorandum of the Ministry, details such as First Information Report (FIR) number, court case number are to be mandatorily provided with name, passport number and other details.

- The Bureau of Immigration (BoI) under the MHA is only the executing agency.
  - \* They generate LOCs based on requests by different agencies.
  - \* Since immigration posts are manned by the BOI officials they are the first responders to execute LOCs by stopping or detaining or informing about an individual to the issuing agency.
- The LOCs can be modified; deleted or withdrawn only at the request of the originator. Further, the legal liability of the action taken by immigration authorities in pursuance of LOC rests with the originating agency.

#### **How are banks authorised?**

- After several businessmen including liquor baron Vijay Mallya, businessmen Nirav Modi and Mehul Choksi fled the country after defaulting on loans, the MHA in 2018 brought changes to the 2010 guidelines authorising the chairman, managing director and chief executives of all public sector banks to generate LOCs against persons who could be detrimental to economic interests of the country.

#### **Is there any other clause under which an individual can be stopped?**

- The 2010 Ministry guidelines give sweeping powers to police and intelligence agencies to generate LOCs in "exceptional cases" without keying in complete parameters or case details against "suspects, terrorists, anti-national elements, etc, in larger national interest."

#### **In Sumer Singh Salkan v. Asst. Director and Others, the Delhi High Court answered certain questions on the procedure to be followed while issuing LOCs.**

When accused deliberately evades arrest

- The Court said that recourse to LOC can be taken by the investigating agency in cognizable offences under the IPC or other penal laws, where the accused was deliberately evading arrest or not appearing in the trial court despite non-bailable warrants, and if there was a likelihood of the accused leaving the country to evade trial/arrest.

Detailed reasons to be given by the IO requesting for LOCs

- The Investigating Officer (IO) shall make a written request for the LOC to the officer as notified by the MHA circular, giving details and reasons for seeking the LOC.
- The competent officer alone shall give directions

for opening of LOC by passing an order in this respect.

#### **Are individuals entitled to any remedial measures?**

- Many citizens have moved courts to get the LOC quashed.
- However MHA has asserted that "LOCs cannot be shown to the subject" at the time of detention nor can any prior intimation be provided.

#### **Concerns**

- The opaque system under which LOCs are issued is such that a person will not be able to know if such a circular exists against him or her till they have booked the ticket and reached the airport.

#### **Judgments**

- In *Vikas Chaudhary v. Union of India*, the Delhi High Court came down heavily on the CBI for issuing an LOC against a man who earned his livelihood by exporting garments to foreign countries.
  - \* The Court said that LOC does not only curtail his right to personal liberty but also his right to livelihood, as enshrined in Article 21 the Constitution of India.
- In *Rana Ayyub v. Union of India*, the Delhi High Court said that by restraining the journalist from travelling abroad through the LOC, her human right to travel abroad and freedom of speech and expression was infringed.
- The Supreme Court of India expressed serious concerns about abuse of process in the issuance of LOCs in the case of *Chandran Ratnaswami vs K.C. Palanisamy & Ors* (2013).
  - \* A LOC was found to be pending in the name of the Petitioner, despite there being no ongoing criminal investigations, or criminal proceedings pending against or involving the Petitioner.

#### **Validity**

- As per norms, an LOC will stay valid for a maximum period of 12 months and if there is no fresh request from the agency then it will not be automatically revived.

#### **Nut Graf**

*Since the arbitrary issue of LOCs against individuals is violative of the fundamental right to travel abroad guaranteed under Article 21 of the constitution, the judiciary has played a proactive role and has provided instructions to the Ministry to ensure accountability.*



## ***Government Policies and Interventions for Development in various sectors and Issues arising out of their Design and Implementation.***

### **8. An eye on achieving SDGs**

- » Prelims: Sustainable Development goals
- » Mains: India's performance with respect to SDG implementation and recommendations

#### **Concerns**

- NITI Aayog's 2020-21 Sustainable Development Goals (SDGs) India Index.

#### **Sustainable Development goals (SDGs)**

- The Sustainable Development Goals are a collection of 17 interlinked global goals designed to be a "blueprint to achieve a better and more sustainable future for all".
- The Sustainable Development Goals agenda was accepted by all members of the United Nations in 2012 at the Rio De Janeiro Council Meet with an aim to promote a healthy and developed future of the planet and its people.
- The SDGs were set up in 2015 by the United Nations General Assembly and are intended to be achieved by 2030.

#### **NITI Aayog's Sustainable Development Goals (SDGs)**

- NITI Aayog has introduced the SDG India Index in 2018. It is a baseline report which comprehensively documents the progress made by India's States and Union Territories towards implementing the 2030 SDG targets.
- The indicators are aligned with the National Indicator Framework (NIF) of the Ministry of Statistics and Programme Implementation (MoSPI). The indicators are selected through a consultative process involving the MoSPI, Union Ministries and stakeholders from States and UTs.
- In the latest (third) edition, 16 Goals on 115 quantitative indicators were covered.
- The states/UTs are given scores between 0 and 100 based on their performance.
- The composite score of a state/UT is derived by assigning each goal the same weight, keeping in mind the indivisible nature of the 2030 Agenda. Based on the composite score, the states/UTs are classified as under:
  - \* Aspirant: 0 – 49
  - \* Performer: 50 – 64
  - \* Front-Runner: 65 – 99
  - \* Achiever: 100

#### **Overall performance of India:**

- There has been an overall improvement in the performance of India towards SDG implementation. Though India dropped down

by two ranks, India scored 66 points (0-100 scale) and stepped into the 'Front Runner' category.

- India has done well in implementing SDGs 6 (water and sanitation), 7 (access to affordable, reliable, sustainable and modern energy), 11 (inclusive, safe, resilient and sustainable human settlements) and 12 (sustainable consumption and production pattern).
- India's performance in SDGs related to 'gender equality', 'zero hunger', 'no poverty', 'quality education', 'decent work and economic growth', 'industry, innovation and infrastructure', and 'climate action', could be termed less than satisfactory.
- Despite some progress, hunger and poverty continue to remain major challenges in the socio-economic development of India.

#### **State Performance:**

- Notably, no India State fared in the 'Aspirant' category, the lowest in the index. All the States managed to score above 50 points in SDG implementation.

#### **Odisha's performance:**

- Odisha has performed well with respect to implementation of two SDGs — 13 and 14, which are 'climate action' and 'life below water', respectively.
- Odisha became the first state to introduce a climate budget in 2021. Odisha has adopted a State Action Plan on Climate Change since 2010.
- Also in 2022, Odisha became the first state in India to submit a separate SDG budget.

#### **Recommendations:**

- There is a need for multi stakeholder participation and partnership to realize all SDGs. This calls for collaboration between governments, civil society organisations and businesses.
- There is a need to implement SDG localisation efforts at the district, panchayat and village levels so that implementation feedback from the field is available, besides enabling true internalisation of the SDGs by the community.

#### **Nut Graf:**

*While India's overall performance with respect to SDG implementation remains notable, there continues to remain considerable implementational concerns when it comes to some select SDGs. These aspects need to be addressed to pull India up into the 'Front Runner' category from the 'Performer' category.*

## ***Important Aspects of Governance, Transparency and Accountability***

### **9. After-effects of anti-corruption laws**

- » Mains: Concerns associated with strict anti-corruption laws

#### **Concerns**

- "Bribe-switching", a paper by American researchers analyses the unintended consequences of the strict implementation of the Foreign Corrupt Practices Act (FCPA).
  - \* The FCPA was enacted to prohibit firms and people in the United States from bribing public officials in foreign countries. It imposed heavy fines and other penalties on American firms engaging in corrupt practices.

#### **Background:**

- Corruption is a major obstacle to the development of a nation.
- Corruption undermines the institutional foundation on which economic growth depends. Corruption lowers the quality of public services and infrastructure, distorts government spending decisions, decreases tax and customs revenues, and damages confidence in the rule of law.
- This has led to the perception of strict anti-corruption laws being a solution to many of society's problems. There is a perception that strict anti-corruption laws when enforced properly by government officials would lead to a fall in corruption and an improvement in the economy.
- In India, there have been calls for further empowering Lokpals and Lokayuktas.

#### **Concerns with strict anti-bribery laws:**

- Despite the good intention of anti-corruption laws, there have been many unintended consequences due to the implementation of such laws. The article takes the example of the Foreign Corrupt Practices Act (FCPA) to explain the concerns with such strict anti-bribery laws.

#### **Growth of illegal black markets:**

- There was no real decrease in the level of corruption among foreign officials after the enactment of the FCPA, instead, FCPA is believed to have led to the growth of illegal black markets.
  - \* The research notes an increase in the size of the black economy by as much as 0.25 percentage points in some countries.

- The researchers propose what they call the "bribe-switching hypothesis" to explain this phenomenon wherein public officials resorted to obtaining bribes from the illegal market instead given that the cost of extracting bribes in the legal market increased due to laws like the FCPA.
  - \* For example, a public official might allow the illegal sale of liquor in the black market to flourish in exchange for bribes when he/she cannot obtain bribes from established liquor firms.
- The illegal market offers the public officials bribe revenue at a lower risk of getting caught red-handed.

#### **Increase in illegal activities:**

- Illegal activities such as homicide rates, tree loss, and trade misinvoicing have risen in the black economies of some countries.

#### **Impact on developmental projects:**

- After the enactment of the FCPA, certain formal investment projects that would have earlier received approvals from officials after the payment of a bribe may no longer receive official approval.

#### **Nut Graf:**

*Though well intended, strict anti-corruption laws have some unintended consequences which need to be taken care of especially amid calls for such strict laws in India.*

# HISTORY

## 1. **'Rakhigarhi skeletons' DNA samples sent for analysis**

» Prelims: About Rakhigarhi

### **Context:**

- DNA samples collected from two human skeletons unearthed at Rakhigarhi have been sent for scientific examination.

### **About Rakhigarhi:**

- Rakhigarhi is a necropolis of a Harappan-era city site in Haryana. It is the largest site in the Indus Valley Civilization.
- Archaeologists discovered Rakhigarhi, a sleepy village in Hisar, in 1998.
- Rakhigarhi is one of the five iconic archaeological sites mentioned by the Union Finance Minister during her Budget Speech in 2020.
  - \* Hastinapur in Uttar Pradesh, Sivasagar in Assam, Dholavira in Gujarat, and Adichanallur in Tamil Nadu are the other sites.

### **Recent Excavations at Rakhigarhi:**

- Rakhigarhi revealed the structure of some houses, lanes and drainage system, and what could possibly be a jewellery-making unit.
- The site revealed pieces of copper and gold jewellery, terracotta toys, besides thousands of earthen pots and seals. It also has a cemetery site of the Harappan period.
- Other excavations include the framework of multi-tier houses, lanes, and seven mounds that have yielded copper.
- These discoveries could point to the existence of a well-planned Harappan city.

# GEOGRAPHY

## *Important Geophysical Phenomena*

### 1. **Mercury Rising**

- » Prelims: Heatwave definition; La Nina; Western disturbance, Heat island effect.

#### Context

#### **Record heatwave conditions in India:**

- April temperatures over north-west and central India have been the highest in 122 years.
  - \* The average monthly temperature of April was 35.9 deg Celsius over northwest India and 37.78 deg Celsius over central India.
  - \* Notably, the temperatures in some sections of Rajasthan, Punjab, Haryana, Gujarat, and Maharashtra have even breached the mid-40s levels thus recording much higher temperatures than normal.
- The temperatures are only expected to go higher in May given that May is the hottest month in India. The India Meteorological Department (IMD) has forecasted that north and west India will continue to experience record heatwave like conditions.

#### Heatwave:

- A heatwave is declared when the maximum temperature is over 40° C and at least 4.5 notches above normal. A severe heatwave is declared if the departure from normal temperature is more than 6.4° C.

#### Reasons for the high temperatures:

#### **Absence of rain from western disturbances:**

- The most important reason for the record heatwave like conditions has been the absence of rain-bearing Western Disturbances.
  - \* Western disturbance is an extratropical storm originating in the Mediterranean region that brings rain to the northern parts of the Indian subcontinent.
- Despite five Western Disturbances forming in April, none was strong enough to bring significant rain and bring down the temperatures in North India.

#### **Failure of La Nina to induce rainfall:**

- Generally, La Nina aids rainfall in India, however, this year La Nina has failed to induce rainfall in India.

- \* La Nina is an oceanic and atmospheric phenomenon characterized by colder temperatures in the central Pacific.

#### **Impact of climate change:**

- While individual weather events cannot be linked to climate change. The increasing greenhouse gas levels leading to global warming are no doubt contributing to increased instances of extreme weather events.
- The fact that while northern and western India witnessed record temperatures, parts of southern and northeastern India witnessed record April rainfalls is indicative of systemic changes in weather patterns in India.

#### **Heat island effect:**

- The heat island effect due to increased urbanization is only adding to the increasing temperature.
  - \* Heat islands are urbanized areas that experience higher temperatures than outlying areas.
  - \* Heat islands form as vegetation is replaced by asphalt and concrete for roads, buildings, and other structures necessary to accommodate growing populations. These structures absorb and re-emit the sun's heat more than natural landscapes, causing surface temperatures and overall ambient temperatures to rise.

#### Recommendations:

#### **Better preparedness:**

- The state should have disaster management plans in place to better deal with heatwaves and their impact on health.
- Private and public workplaces must be better equipped to factor in heatwave risk.

#### **Compensation:**

- Given that heatwaves are contributing to human mortality, heatwave deaths must be treated as a disaster that allows compensation by the state.
  - \* Data from IMD notes the human toll due to heatwaves in the last 50 years to be over 17,000 people.



**Nut Graf**

*The record heatwave conditions pose serious health challenges. Given that climate change characterized by global warming will only increase such heatwave like conditions, there is a need for more focused disaster management plans to better deal with heatwaves and their impact on health.*

# DISASTER MANAGEMENT

## *Disaster and disaster management*

### 1. India's vulnerability to drought

- » Prelims: About UNCCD, COP15 of UNCCD and Drought in Numbers 2022 report
- » Mains: Impact of droughts on various aspects of the environment.

#### Context

- Drought in Numbers, 2022 report by the United Nations Convention to Combat Desertification (UNCCD).

#### Drought in Numbers, 2022 Report

- The Drought in Numbers report is a collection of data on the effects of droughts on our ecosystem and the ways for mitigating the effects through efficient planning for the future.
- The report also provides information about the negotiations surrounding important decisions by the UNCCD's 197 members at the 15th Conference of Parties (COP15).

#### Key findings of the "Drought in Numbers" report

- The report reveals that the frequency and duration of droughts around the world have increased by 29% since 2000.
- Drought in Numbers, 2022 by the United Nations suggests that many places in India will come under the list of regions vulnerable to drought globally.
- The report also reveals that India's Gross Domestic Product (GDP) was impacted by around 2 to 5% between 1998 and 2017 on account of severe droughts.
- Also, the droughts between 1998 and 2017 have caused economic losses of about \$124 billion worldwide.

#### The impact of drought

- The World Meteorological Organisation data suggests that the weather, climate and water hazards have constituted about 50% of all disasters and 45% of all reported deaths since 1970 and nine out of ten of these deaths have occurred in developing countries.
- Between the years 2020 and 2022, nearly 23 countries have been impacted due to drought emergencies which include Afghanistan, Brazil, Ethiopia, Iraq, Iran, Kazakhstan, Madagascar, Mozambique, Niger, Somalia, Pakistan, the U.S., and Zambia.
  - \* In 2022, over 2.3 billion people are facing water stress and about 160 million children are exposed to severe and prolonged droughts.

- Over one billion people across the world have been affected by drought between 2000 and 2019, making it the second-worst disaster after flooding.
- Africa has been the worst hit, with 134 droughts, of which 70 occurred in East Africa.
- The World Health Organization has found out that about 55 million people worldwide are directly impacted by droughts annually, making it the most significant danger to livestock and crops.
- The impact of drought is also not uniform across genders.
- Studies show that women and girls in developing countries are affected more in terms of education levels, nutrition, health, sanitation, and safety due to droughts.
- The burden of water collection also falls directly on women and girls.
- Australia's megadrought in 2019-2020 played its role in the "megafires" which destroyed most of the habitat of threatened species.
  - \* Close to three billion animals were killed or displaced due to the wildfires.
  - \* Also, 84% of terrestrial ecosystems are endangered due to intensifying wildfires.
- According to the Food and Agriculture Organisation's 2017 report, the share of plants impacted due to drought has more than increased by two times in the last four decades and nearly 12 million hectares of land are lost annually due to drought and desertification.

#### Path ahead

- As per a report, climate change will result in 129 countries experiencing a rise in drought exposure in the coming years.
- If global warming reaches 3°C by 2100, the losses due to droughts might increase by five times.
- The largest increase in drought losses is expected in the Mediterranean and the Atlantic regions of Europe.
- As per the World Bank, drought conditions could result in the migration of about 216 million people by 2050. Other key factors along with drought could be water scarcity, declining crop productivity, rise in sea levels, and overpopulation.

**Nut Graf**

*An increase in the frequency and the intensity of droughts in recent years have severe implications on human societies and ecological balance which threatens the survival of many species. This calls for the collaboration of international communities to adopt innovative solutions which can reduce and prevent the adverse effects of droughts.*

# MISCELLANEOUS

## 1. Centre of Excellence for Khadi (CoEK)

### Context:

- With an aim of taking 'Khadi to newer places, a Centre for experimentation, innovation, and design has been conceived by the Ministry of Micro, Small & Medium Enterprises (MSME) for Khadi Village and Industries Commission (KVIC) to empower Khadi Institutions throughout the country.

### Details

- The Centre has been envisaged to design apparel, home, and fashion accessories that appeal to people across generations. The Centre of Excellence for Khadi (CoEK) has set out to make Khadi a universal, classic, and value-driven brand.
- The Centre of Excellence for Khadi has been established at the National Institute of Fashion Technology as a hub in Delhi and spokes in Bangalore, Gandhinagar, Kolkata, and Shillong.
- The Centre of Excellence will be aimed at designing apparel, home furnishing, and accessories for people from different age groups.

## 2. Deaflympics

### Context:

- The Indian team participated in the 24th Deaflympics games.

### About the Deaflympics:

- The International Committee of Sports for the Deaf (ICSD – International Committee of Sports for the Deaf) organizes the Deaflympics, an international multi-sport event.
- Deaflympics are held once every four years and they are meant specifically for deaf athletes.
- The Summer Deaflympics are the oldest multi-sport event after the Olympic Games, taking place every four years.
- Previously, the Deaflympics were known as the World Games for the Deaf and the International Games for the Deaf.
- It is the first sporting event for people with special needs whose first edition was held in Paris in 1924.

## 3. Go Kasht

- » Prelims: About Go Kasht
- » Mains: Methods to ensure proper management of animal waste.

### Context:

- A cow dung log machine with the name "Go Kasht" has been handed over to Project Arth and ENACTUS IIT Delhi students by the Union Ministry of Animal Husbandry and Dairying.

### About Go Kasht:

- This machine can be used for the manufacturing of cow dung-based fuelwood in a long log-like shape.
- A mixture of cow dung and cattle waste (like dried waste paddy) is inserted into the inlet (hopper) of this machine.
- The mixture is broken and blended well in the machine and is finally compressed in the form of a log.
- This log is sun-dried and can be later used as fuelwood for various purposes.
- The machine has a capacity to process 3000 kg of cow dung every day to give an output of 1500 kg of the dung-based log.

### How will it benefit?

- This will facilitate the clearing of cowsheds (gaushala).
- The cow dung log machine will also generate additional employment in the village community.
- The usage of the dung-based log will ensure proper management of dung waste and the problems associated with it.
- It will also reduce deforestation for the purpose of procuring logs from the trees.
- Cow dung wood is extremely helpful majorly because of its environment-friendly characteristics.
- This wood can be used for Havan (during puja), Yagya-Pooja, and rituals along with great opportunities for creating products like sculptures, face packs, medicines and so on.



#### 4. Operation Rakth Chandan

##### Context:

- Red Sanders worth Rs. 11.70 crore has been seized by the Directorate of Revenue Intelligence (DRI).
  - \* The Directorate of Revenue Intelligence (DRI) seized 14.63 megatons of red sandalwood worth Rs 11.70 crores at Inland Container Depot (ICD) Sabarmati at Khodiyar, which was to be allegedly smuggled to Sharjah in the United Arab Emirates (UAE).

##### What is Operation Rakth Chandan?

- Operation Rakth Chandan was launched to preserve the Red Sanders which is a national heritage of the country.
- The operation has been successful and the DRI has successfully recovered a significant amount of red sanders.
- The export of red sanders is prohibited as per the Foreign Trade Policy of India.

##### Red Sanders:

- Red Sanders is a flora species that is endemic to a distinct tract of forests in the Eastern Ghats region of Andhra Pradesh.
- Red Sanders is also listed in Appendix-II (endangered list) of the Convention on International Trade in Endangered Species of Wildlife Fauna and Flora (CITES).
- It has many therapeutic properties that are responsible for its high demand across Asia, particularly in China, for use in cosmetics, medicinal products and high-end furniture/woodcraft.

#### 5. Project 'NIGAH'

- » Prelims: About the Project

##### Context:

- Project NIGAH was launched by the Delhi Customs in Gurugram.

##### Project NIGAH

- Project NIGAH is an initiative to track containers by using ICTM (ICD Container Tracking Module).
  - \* Inland Container Depot (ICD) – ICDs are also called dry ports as they handle all customs formalities related to the import and export of goods at these locations.
  - \* ICDs are common user facilities with public authority status equipped with fixed installations and offering services for handling and temporary storage of import/export laden and empty containers carried under Customs control.

- ICTM has been developed in collaboration with the custodian Gateway Rail Freight Limited (GRFL).
- Project NIGAH will facilitate better visibility of the container movement inside the ICD.
- The project will assist Customs to expedite long-standing containers and monitor timely clearances, thereby enhancing the Ease of Doing Business and ensuring lead preventive checks.

##### Advantages of using ICTM under Project NIGAH

- Helps in better container visibility after arrival at ICD
- Fastens the container clearance process
- Real-time tracking and location of the container
- Helps in identifying hazardous containers and segregation
- Provides container wise Shipping Bill information

#### 6. Thomas Cup

- The Indian men's badminton team has created history by winning the coveted Thomas Cup for the first time with a 3-0 victory over 14-time champion Indonesia in the final in Bangkok.
- The Thomas Cup is an international badminton competition among teams representing member nations of the Badminton World Federation (BWF), the sport's global governing body. It is also referred to as the World Men's Team Championships for Badminton.

#### 7. World Food Prize

##### Context:

- Cynthia Rosenzweig, a NASA climate research scientist who worked on explaining how global food production must adapt to a changing climate was awarded the World Food Prize.

##### World Food Prize

- The award has been presented annually in Iowa (U.S.A.) since 1987.
- The winners of the award are presented with a diploma, a commemorative sculpture designed by Saul Bass and a cash prize of \$250,000.
- The award recognises the achievements of individuals who have advanced human development by improving the quality, quantity or availability of food in the world.
- The award recognises the contributions in any field involved in the world food supply which includes plant, animal and soil science; food science and technology; nutrition; rural development; marketing; etc.

- The prize is envisioned and promoted as the Nobel or the highest honors in the field of food and agriculture.
- The award is administered by the World Food Prize Foundation with support from numerous sponsors.
- M. S. Swaminathan from India who played an important role in India's Green Revolution received the first-ever World Food Prize in 1987.
- Other Indians who have won the award include Verghese Kurien (1989), Gurdev Khush (1996), B.R. Barwale (1998), Surinder Vasal (2000) and Modadugu Vijay Gupta (2005).

## 8. India's Pharma exports grow by 103% since 2013-14

### Context:

- Indian pharma exports witnessed a growth of 103% from 2013-14.

### Pharma exports of India:

- Indian pharma exports have witnessed a growth of 103% since 2013-14.
- In FY 2020-21, Indian pharma exports sustained positive growth despite the global trade disruptions and drop in demand for COVID related medicines.
- India ranks 3rd worldwide for production by volume and 14th by value.
- The share of pharmaceuticals and drugs in our global exports is 5.92%.
- India's top 5 pharma export destinations are the USA, UK, South Africa, Russia and Nigeria.
- It is also noteworthy that around 55 % of our pharma exports cater to highly regulated markets.

## 9. Yoga for Humanity

- » Prelims: International Yoga Day
- » Mains: How Yoga is used as soft power by India.

### Context:

- The Ministry of Ayush has chosen "Yoga for Humanity" as the eighth International Day of Yoga (IDY) theme to be organised in India and across the globe on June 21.

### Background:

- Prime Minister Narendra Modi announced the theme in his "Maan Ki Baat" broadcast.
- June 21, also called the summer solstice, is the longest day of the year. Therefore, it was decided that International Yoga Day would be celebrated on this day.

### International Yoga Day:

- On September 27, 2014, during his speech at the UN General Assembly, Prime Minister Narendra Modi put forth his suggestion for the occasion of a 'Yoga Day'.
- The draft resolution proposed by India was then endorsed by a record 177 member states. The first International Day of Yoga was observed around the world on June 21, 2015.

### Significance of Yoga:

- Practised in India since the 5th century, Yoga has been beneficial in keeping the body and mind in sound health.
- A holistic approach, Yoga targets all the different systems of the body and mind.
- It is said that the asanas make the body strong and flexible, and as health improves; the mind too is renewed with confidence.
- The practice of Pranayama regulates the purification of the internal system and the organs, acting as a superior and able supplement to asanas.
- The energy that is generated in the body through these physical practices is then channeled into meditation or Dhyana for stability, peace and calm.
- Yoga is a practice that brings joy, health, and peace from within, and it deepens a sense of continuous connection between an individual's inner consciousness and the external world.

### Theme of IDY 2022:

"Yoga for Humanity"

- The theme has been selected with deliberate consultations and discussion. Yoga served humanity in alleviating suffering.
- Yoga would bring people together through kindness and compassion during the post-Covid geopolitical crisis and foster a sense of unity across the world.

### Special Programs on the International Yoga Day:

- The eighth edition of the International Day of Yoga will be organised on June 21, with the main event being held in Mysuru, Karnataka.
- The ministry has designed special programmes for the specially-abled and the transgender population and women and children.
- Human values that are integral to yoga education in schools will also be in focus. The Centre expects millions of villagers to take part in this year's event as the common service centres are promoting the practice.
- There will be a 'Guardian Ring' program that will include the participation of people from different countries.

- India is celebrating the 'Azadi ka Amrit Mahotsav' hence, 75 iconic national sites will also showcase the mass yoga demonstration while respective states will organise similar programmes at 75 important locations, according to their choice.

# PRACTICE QUESTIONS

1. Among the following who are eligible to benefit from the "Mahatma Gandhi National Rural Employment Guarantee Act"? [2011, Difficulty level: Medium]:

- A. Adult members of only the scheduled caste and scheduled tribe households
- B. Adult members of below poverty line (BPL) households
- C. Adult members of households of all backward communities
- D. Adult members of any household

2. 'Recognition of Prior Learning Scheme' is sometimes mentioned in the news with reference to [2017, Difficulty level: Easy]:

- A. Certifying the skills acquired by construction workers through traditional channels.
- B. Enrolling the persons in Universities for distance learning programmes.
- C. Reserving some skilled jobs to rural and urban poor in some public sector undertakings.
- D. Certifying the skills acquired by trainees under the National Skill Development Programme.

3. Consider the following events: [2021, Difficulty level: Medium]

- 1. The first democratically elected communist party government formed in a State in India.
- 2. India's then largest bank, 'Imperial Bank of India', was renamed 'State Bank of India'.
- 3. Air India was nationalized and became the national carrier.
- 4. Goa became a part of independent India.

Which of the following is the correct chronological sequence of the above events?

- A. 4 – 1 – 2 – 3
- B. 3 – 2 – 1 – 4
- C. 4 – 2 – 1 – 3
- D. 3 – 1 – 2 – 4

4. At the national level, which ministry is the nodal agency to ensure effective implementation of the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006? [2021, Difficulty level: Easy]:

- A. Ministry of Environment, Forest and Climate Change
- B. Ministry of Panchayati Raj

- C. Ministry of Rural Development
- D. Ministry of Tribal Affairs

5. Which of the following are regarded as the main features of the "Rule of Law"? [2018, Difficulty level: Easy]

- 1. Limitation of powers
- 2. Equality before law
- 3. People's responsibility to the Government
- 4. Liberty and civil rights

Select the correct answer using the code given below:

- A. 1 and 3 only
- B. 2 and 4 only
- C. 1, 2 and 4 only
- D. 1, 2, 3 and 4

6. The 'PK2 molecule' recently in news is associated with the treatment for:

- A. Cancer
- B. HIV AIDS
- C. Diabetes
- D. Covid-19

7. The public institution - Anubhava Mantapa or the "hall of spiritual experience" was introduced by whom among the following Vachanakaras?

- A. Basaveshwara
- B. Allama Prabhu
- C. Akkamahadevi
- D. Jedara Dasimaiah

8. Which of the following are correctly matched?

Archaeological Sites	States
1. Rakhigarhi	Rajasthan
2. Sivasagar	Arunachal Pradesh
3. Dholavira	Gujarat
4. Adichanallur	Telangana

Options:

- A. 2, 3 and 4 only
- B. 2 and 3 only
- C. 1, 2, 3 and 4
- D. 3 only



**9. Which of the given statements with respect to Green Hydrogen is/are INCORRECT?**

1. Hydrogen is labelled Green Hydrogen when the carbon emission generated from the production process is captured and stored.
2. Steam Reforming is the process followed for its production.
3. Green hydrogen production is the cleanest form of hydrogen generation since the by-products are just water and water vapour.

Options:

- A. 1 and 3 only
- B. 2 and 3 only
- C. 1 and 2 only
- D. None of the above

**10. With reference to two non-conventional energy sources called 'coal bed methane' and 'shale gas', consider the following statements:**

1. Coal bed methane is the pure methane gas extracted from coal seams, while shale gas is a mixture of propane and butane only that can be extracted from fine-grained sedimentary rocks.
2. In India abundant coal bed methane sources exist, but so far no shale gas sources have been found.

Which of the statements given above is/are correct? [UPSC 2014]

- A. 1 only
- B. 2 only
- C. Both 1 and 2
- D. Neither 1 nor 2

**11. Which of the given statements is/are correct:**

1. Antimicrobial Resistance specifically relates to resistance to antibiotics.
2. Kerala was the first state in India to adopt a comprehensive policy on Anti Microbial Resistance.
3. International Centre for Antimicrobial Resistance Solutions (ICARS) was initiated and established by India in 2021.

Options: [Difficulty Level: Medium]

- A. 1 only
- B. 2 only
- C. 1, 2 and 3
- D. 2 and 3 only

**12. Which of the given statements is/are INCORRECT:**

1. India has set up its first gene sanctuary in Sikkim.
2. The Indian seed vault is located at Tanglang La in the Himalayas.
3. Svalbard Global Seed Vault is a secure backup facility for the entire world's crop diversity.

Options: [Difficulty Level: Difficult]

- A. 1 and 2 only
- B. 2 only
- C. 1 and 3 only
- D. None of the above

**13. Shigella sonnei - recently seen in the news, is: [Difficulty Level: Difficult]**

- A. A bacteria that causes contagious intestinal infection.
- B. An oil-eating bacteria which is widely being used as a tool for Bioremediation.
- C. An alga that can digest low-density plastic sheets.
- D. A soil fungus which uses enzymes to rapidly break down plastic materials.

**14. Which of the given statements with respect to the Press Freedom Index is/are correct:**

1. It is an annual ranking of countries compiled and published by Transparency International based on its own assessment of the countries' press freedom records in the previous year.
2. The ranking also is an indicator of the quality of journalism.
3. India is ranked 150 in the Press Freedom Index 2022 edition.

Options: [Difficulty Level: Medium]

- A. 1 and 2 only
- B. 3 only
- C. 2 and 3 only
- D. None of the above

**15. Which one of the following best describes the term "Merchant Discount Rate" sometimes seen in the news? [UPSC 2018] [Difficulty Level: Medium]**

- A. The incentive given by a bank to a merchant for accepting payments through debit cards pertaining to that bank.
- B. The amount paid back by banks to their customers when they use debit cards for financial transactions for purchasing goods or services.

C. The charge to a merchant by a bank for accepting payments from his customers through the bank's debit cards.

D. The incentive given by the Government, to merchants for promoting digital payments by their customers through Point of Sale (PoS) machines and debit cards.

**16. Consider the following pairs:**

Tiger Reserve	State
1. Achanakmar	Chhattisgarh
2. Anamalai	Tamil Nadu
3. Kawal	Telangana

Which of the above pairs is/are correctly matched? (Level: Easy)

- A. 1 and 2 only
- B. 2 and 3 only
- C. 1 and 3 only
- D. 1, 2 and 3

**17. With respect to the Protection of Children from Sexual Offences Act, 2012, (POCSO Act), which of the following statements is/are correct?**

- 1. There is no time or age bar for reporting sexual offences under the POCSO Act.
- 2. It is a gender-neutral law.

Options: (Level: Medium)

- A. 1 only
- B. 2 only
- C. Both
- D. None

**18. Consider the following statements with respect to the Sahitya Akademi Award:**

- 1. It is the highest literary award in India.
- 2. The literary work should be written by an Indian and published in India.
- 3. It is awarded to writers who write in one of the "scheduled languages" only.

Which of the statements given above is/are incorrect? (Level: Medium)

- A. 1 and 2 only
- B. 2 only
- C. 1 and 3 only
- D. 3 only

**19. The Bay of Pigs Invasion is related to which amongst the following countries? (Level: Easy)**

- A. Cuba
- B. Iran
- C. Libya
- D. Ukraine

**20. With reference to furnace oil, consider the following statements: [UPSC 2021]**

- 1. It is a product of oil refineries.
- 2. Some industries use it to generate power.
- 3. Its use causes sulphur emissions into the environment.

Which of the statements given above are correct? (Level: Medium)

- A. 1 and 2 only
- B. 2 and 3 only
- C. 1 and 3 only
- D. 1, 2 and 3

**21. Consider the following statements with regards to Delimitation Commission: (Level – Easy)**

- 1. The Delimitation Commission is appointed by the Chief Election Commissioner.
- 2. The Delimitation Commission is an independent body constituted under Article 82 after the Parliament enacted a Delimitation Act after the census.
- 3. There was no delimitation after the 1981 and 1991 Censuses.

Choose the correct code.

- A. 1 and 2 only
- B. 2 and 3 only
- C. 1 and 3 only
- D. All of the above

**22. Consider the following statements with regards to Jog Falls: (Level – Medium)**

- 1. It is a waterfall on the Sharavati river located in the Eastern Ghats of Shivamogga District, Karnataka, India.
- 2. It is the second-highest plunge waterfall in India.
- 3. Another popular name for the beautiful Jog Falls is Gerusoppa Falls.

Choose the correct code:

- A. 1 and 2 only
- B. 2 and 3 only
- C. 1 and 3 only
- D. All of the above

**23. Recently, North East's first-ever specialised "Ginger" Processing Plant in the state of \_\_\_\_\_ was revived. (Level – Medium)**

- A. Assam
- B. Tripura
- C. Meghalaya
- D. Nagaland

**24. The United Nations' World Food Programme was founded in 1961 by (Level – Medium)**

- A. WHO & UN General Assembly
- B. FAO & UN General Assembly
- C. FAO & WHO
- D. UNICEF & UN General Assembly

**25. With the present state of development, Artificial Intelligence can effectively do which of the following? (Level – Easy)**

- 1. Bring down electricity consumption in industrial units
- 2. Create meaningful short stories and songs
- 3. Disease diagnosis
- 4. Text-to-Speech Conversion
- 5. Wireless transmission of electrical energy

Select the correct answer using the code given below:

- A. 1, 2, 3 and 5 only
- B. 1, 3 and 4 only
- C. 2, 4 and 5 only
- D. 1, 2, 3, 4 and 5

**26. Consider the following statements with respect to "Operation AAHT": (Level: Medium)**

- A. It is an operation launched by the Railway Protection Force to combat human trafficking.
- B. It is an operation launched to reduce deforestation by replacing wood used for cremations with biofuel.

C. An evacuation operation by the Government of India to evacuate the Indian citizens amidst the 2022 Russian invasion of Ukraine.

D. An operation launched to repatriate Indian citizens from overseas during the COVID-19 pandemic.

**27. Consider the following statements with respect to Syngas: (Level: Difficult)**

- 1. Syngas is a mixture primarily consisting of carbon monoxide (CO), hydrogen (H<sub>2</sub>) and carbon dioxide (CO<sub>2</sub>).
- 2. It can be used to produce Liquid Fuels such as Methanol, Ethanol, Synthetic diesel.
- 3. It can be used to produce nitrogenous fertilizers like Ammonia.

Which of the given statements is/are INCORRECT?

- A. 2 only
- B. 2 and 3 only
- C. 1 and 2 only
- D. None of the above

**28. Which of the following statements best describes the (PM MITRA) Parks Scheme? (Level: Medium)**

- A. It is a central sector scheme introduced to create modern infrastructure with efficient supply chain management from farm gate to retail outlets.
- B. It is a scheme launched to create an Integrated Textiles Value Chain right from spinning, weaving, processing/dyeing and printing to garment manufacturing, etc. at one location.
- C. It is a scheme launched to bring about sustainable development of the fisheries sector by establishing modern post-harvest infrastructure and supply chain management.
- D. A scheme launched for the creation of state of the art support infrastructure in a well-defined agri/ horticultural zone for setting up of modern food processing units in the industrial plots provided in the park with a well-established supply chain.

**29. Consider the following statements: (Level: Difficult)**

- 1. Guantánamo Bay is located in Cuba.
- 2. The Florida Strait separates Cuba and the United States.

Which of the above statements is/are correct?

- A. 1 only
- B. 2 only

- C. Both 1 and 2
- D. Neither 1 nor 2

**30. In the Constitution of India, promotion of international peace and security is included in the: (Level: Easy) [UPSC 2014]**

- A. Preamble to the Constitution
- B. Directive Principles of State Policy (DPSP)
- C. Fundamental Duties
- D. Ninth Schedule

**31. Which of the following statements is/are correct? : (Level: Easy)**

1. The Supreme Court has had a fixed bench strength of 34 since the adoption of the Indian Constitution.
2. The Constitution does not prescribe a minimum age for appointment as a judge of the Supreme Court.
3. The Supreme Court and High Court Judges hold office until he/she attain the age of 65.

Options:

- A. 1 and 2 only
- B. 2 and 3 only
- C. 2 only
- D. 1 and 3 only

**32. Which of the following pairs of traditional sport and associated state is/are correctly Matched? (Level: Medium)**

- |                  |            |
|------------------|------------|
| 1. Thang-Ta      | Manipur    |
| 2. Gatka         | Punjab     |
| 3. Kalaripayattu | Kerala     |
| 4. Silambam      | Tamil Nadu |

Options:

- A. 2 and 3 only
- B. 1 and 3 only
- C. 2,3 and 4 only
- D. 1, 2, 3 and 4

**33. Which of the following statements is/are incorrect with respect to forex reserves? (Level: Medium)**

1. The four components of forex reserves are foreign currency assets, gold, special drawing rights and the reserve position in the International Monetary Fund with gold accounting for the largest share among the four components.
2. The Monetary policy tightening and interest rate hikes by the U.S. Federal Reserve and
3. Depreciation of other currencies are some of the factors contributing to the current decrease in India's foreign reserves.

Which of the given statements is/are INCORRECT?

- A. 1 only
- B. 2 only
- C. Both 1 and 2
- D. Neither 1 nor 2

**34. Which of the following statements is/are correct with respect to Pangolins? (Level: Difficult)**

1. They are naturally distributed across the Continents of Asia, Africa and Australia.
2. Being the most trafficked mammal in the world, all species of Pangolins are classified as critically endangered.
3. They have large, protective keratin scales and are the only known mammals with this feature.

Which of the given statements is/are INCORRECT?

- A. 1 and 2 only
- B. 3 only
- C. 1, 2 and 3
- D. 2 and 3 only

**35. With reference to Mughal India, what is/are the difference/differences between Jagirdar and Zamindar? (Level: Difficult)**

1. Jagirdars were holders of land assignments in lieu of judicial and police duties, whereas Zamindars were holders of revenue rights without obligation to perform any duty other than revenue collection.
2. Land assignments to Jagirdars were hereditary and revenue rights of Zamindars were not hereditary.

Select the correct answer using the code given below.

- A. 1 only
- B. 2 only



- C. Both 1 and 2
- D. Neither 1 nor 2

**36. Which of the following statements is/are correct with respect to the National Clean Air Programme (NCAP)? (Level – Medium)**

1. It aims to achieve a 40% to 60% reduction in Particulate Matter concentrations by 2022 (with 2017 as the base year).
2. It aims to meet prescribed annual average ambient air quality standards across the country based on the National Ambient Air Quality Standards (NAAQS).
3. Cities exceeding national standards for 5 consecutive years are directed to prepare and implement city action plans for improvement in air quality.

Options:

- A. 1 and 3 only
- B. 1, 2 and 3
- C. 2 and 3 only
- D. 1 only

**37. Consider the following statements with respect to Thalassaemia: (Level – Medium)**

1. It is a blood disorder involving lower-than-normal amounts of White Blood Cells in the body.
2. It is caused by bacterial infection of the bone marrow tissue which produces white blood cells.

Which of the above statements is/are INCORRECT?

- A. 1 only
- B. 2 only
- C. Both 1 and 2
- D. Neither 1 nor 2

**38. Which of the following statements is/are correct with respect to the vote value of members of the electoral college for President of India? (Level – Easy)**

1. The value of each vote by a Member of Parliament is fixed, while the vote value of each Member of Legislative Assembly differ from State to State.
2. The value of a vote of a Member of Parliament for the election of the President is determined by dividing the total value of votes of all MLAs of all States divided by the total number of elected members of the Parliament.

Options:

- A. 1 only
- B. 2 only
- C. Both 1 and 2
- D. Neither 1 nor 2

**39. Which of the following pairs of Indus Valley Civilization sites and the corresponding present-day state location is/are correctly matched? (Level – Difficult)**

1. Rakhigarhi – Haryana
2. Banawali – Punjab
3. Kalibangan – Rajasthan

Options:

- A. 1, 2 and 3
- B. 2 and 3
- C. 1 and 3
- D. 1 and 2

**40. With reference to land reforms in independent India, which one of the following statements is correct? (Level – Easy) [UPSC 2019]**

- A. The ceiling laws were aimed at family holdings and not individual holdings.
- B. The major aim of land reforms was providing agricultural land to all the landless.
- C. It resulted in cultivation of cash crops as a predominant form of cultivation.
- D. Land reforms permitted no exemptions to the ceiling limits.

**41. Consider the following statements with respect to the MP Local Area Development Scheme (MPLADS):**

1. The MPLADS fund is released to the district authority and the MPs only have the power to recommend development work.
2. Interest that the MPLAD fund accrues is added to the MPLADS account and can be used for the development projects.
3. It is a central sector scheme.

Which of the given statements is/are INCORRECT? (Level: Medium)

- A. 1 and 3 only
- B. 2 only
- C. 1 and 2 only
- D. None of the above

42. Which of the following cyclones and the countries that named them is/are correctly matched:

Cyclone	Named by
1. Gulab	Oman
2. Shaheen	Pakistan
3. Tauktae	Myanmar
4. Asani	Sri Lanka

Options: (Level: Difficult)

- A. 4 only
- B. 2 and 3 only
- C. 3 and 4 only
- D. 1, 2, 3 and 4

43. 'Dhaincha', 'Pillipesara', 'Cowpea' often seen in the news are: (Level: Medium)

- A. Genetically engineered crops
- B. Green Manure
- C. Nano Fertilizers
- D. Bio Fertilizers

44. The standard model of particle physics considers which of the following fundamental forces of nature?

- 1. Gravitational Force
- 2. Electromagnetic Force
- 3. Strong Nuclear Force
- 4. Weak Nuclear Force

Options: (Level: Medium)

- A. 1 and 2 only
- B. 2, 3 and 4 only
- C. 1, 2 and 3 only
- D. 1, 2, 3 and 4

45. Brominated flame retardants are used in many household products like mattresses and upholstery. Why is there some concern about their use? (Level: Difficult)

- 1. They are highly resistant to degradation in the environment.
- 2. They are able to accumulate in humans and animals.

Select the correct answer using the code given below. (UPSC 2014)

- A. 1 only
- B. 2 only
- C. Both 1 and 2
- D. Neither 1 nor 2

46. This temple dedicated to Surya - the solar deity is also known as Pandou Laidan. It was built in the 8th century AD by Lalitaditya Muktapida of the Karkota Dynasty. The temple being talked about is: [Level: Medium]

- A. Modhera Sun Temple
- B. Konark Sun Temple
- C. Martand Sun Temple
- D. Kumbakonam Suryanaar Kovil

47. Which of the given statements is/are correct? [Level: Medium]

- 1. The demographic dividend is the economic growth potential resulting from changing population age structure in a country.
- 2. When the dependency ratio is minimum and the age pyramid shows a bulge in the middle portion, a country is said to be in the 'demographic dividend' phase.
- 3. In India, 1921 is known as the year of demographic divide because it is the census year when there was a sudden increase in the growth of the population.

Options:

- A. 1 and 2 only
- B. 3 only
- C. 1 only
- D. 1, 2 and 3

48. Which of the given pairs is/are correctly matched? [Level: Difficult]

Instrument	Category
1. Santoor	Tata Vadya
2. Kolalu	Sushira Vadya
3. Pakhawaj	Ghana Vadya

Options:

- A. 1 and 2 only
- B. 2 and 3 only
- C. 1 only
- D. 1, 2 and 3

49. Which of the given statements is/are correct with respect to United Nations Convention to Combat Desertification? [Level: Difficult]

- 1. UNCCD is the sole legally binding international agreement linking environment and development to sustainable land management.
- 2. It is one of the three Rio Conventions.
- 3. India has hosted two editions of the UNCCD Conference of Parties.

4. The UNCCD is the custodian agency for SDG indicator 15.3.1.

Options:

- A. 1, 2 and 3 only
- B. 1, 2 and 4 only
- C. 2 and 3 only
- D. 3 and 4 only

**50. If the interest rate is decreased in an economy, it will [Level: Medium] (UPSC 2014)**

- A. Decrease the consumption expenditure in the economy
- B. Increase the tax collection of the Government
- C. Increase the investment expenditure in the economy
- D. Increase the total savings in the economy

**51. Which of the following statements is/are correct? (Level – Difficult)**

- 1. National Policy on Biofuels 2018 prescribes the usage of only non-edible raw materials in the production of ethanol and biodiesel given the need to balance the food security of the nation.
- 2. Jatropha is one of the main raw materials used to produce ethanol.
- 3. National Policy on Biofuels 2018 initially aimed to achieve a 20 per cent blending of ethanol in petrol by 2030. This target was later advanced to achieving 20% ethanol blending by 2025.
- 4. Because of its high oxygen content, ethanol burns more completely than ordinary gasoline and reduces harmful tailpipe emissions.

Options:

- A. 1 and 2 only
- B. 1 and 3 only
- C. 3 and 4 only
- D. 1, 2, 3 and 4

**52. Which of the following would be the correct sequence for the below mentioned major ports of India starting from the northernmost port and moving southward? (Level – Medium)**

- 1. Kandla
- 2. Ennore
- 3. Mangaluru
- 4. Jawaharlal Nehru Port
- 5. Paradip

Options:

- A. 1, 4, 5, 3, 2
- B. 1, 5, 4, 2, 3
- C. 5, 1, 4, 2, 3
- D. 5, 1, 4, 3, 2

**53. Which of the following statements is/are correct with respect to the Foreign Contribution (Regulation) Act (FCRA)? (Level – Medium)**

- 1. The provisions of the act are applicable to only associations like NGOs whereas individuals receiving foreign funding are regulated under the Income Tax Act, 1961.
- 2. Once granted, FCRA registration is valid for five years.
- 3. Once approved to receive foreign funding, the entity receiving the foreign funds is free to utilize it in whichever manner it deems fit.

Options:

- A. 1 and 2 only
- B. 2 and 3 only
- C. 1, 2 and 3
- D. 2 only

**54. Which of the following factors could contribute to the depreciation of the Indian rupee? (Level – Easy)**

- 1. Monetary policy tightening by the US Federal Reserve
- 2. Monetary policy easing by the US Federal Reserve
- 3. Inflow of foreign funds into India
- 4. Outflow of foreign funds from India
- 5. Widening trade deficit

Options:

- A. 1, 3 and 5 only
- B. 2, 4 and 5 only
- C. 1, 4 and 5 only
- D. 4 and 5 only

**55. Q55. In the context of which of the following do some scientists suggest the use of cirrus cloud thinning technique and the injection of sulphate aerosol into stratosphere? (Level – Medium) [UPSC 2019]**

- A. Creating the artificial rains in some regions
- B. Reducing the frequency and intensity of tropical cyclones

- C. Reducing the adverse effects of solar wind on the earth
- D. Reducing the global warming

**56. The Global COVID Virtual Summit has been hosted by whom? (Level – Easy)**

- A. G20
- B. USA
- C. WHO
- D. EU

**57. What is the significance of Lumbini? (Level – Difficult)**

- 1. Birthplace of Lord Gautama Buddha
- 2. A UNESCO World Heritage Site
- 3. Site of the historic Mayadevi temple

Options:

- A. 1 only
- B. 1 and 2 only
- C. 1 and 3 only
- D. 1, 2 and 3

**58. Which of the following statements are correct? (Level – Medium)**

- 1. The National Disaster Management Authority (NDMA) is headed by the Union Home Minister.
- 2. It carries out immediate search & rescue and emergency relief operations following a disaster.
- 3. It was established by the National Disaster Management Plan of 2019.

Options:

- A. 1 only
- B. 1 and 2 only
- C. 3 only
- D. None of the above

**59. Which country has expressed interest to join NATO following Russia's invasion of Ukraine? (Level – Easy)**

- A. Poland
- B. Belarus
- C. Finland
- D. Turkey

**60. Consider the following pairs: (Level – Difficult) [UPSC 2019]**

Sl. NO.	Sea	Bordering Country
1	Adriatic Sea	Albania
2	Black Sea	Croatia
3	Caspian Sea	Kazakhstan
4	Mediterranean Sea	Morocco
5	Red Sea	Syria

Which of the pair given above are correctly matched?

- A. 1, 2 and 4 only
- B. 1, 3 and 4 only
- C. 2 and 5 only
- D. 1, 2, 3, 4 and 5

**61. Consider the following statements: (Level – Difficult)**

- 1. The superintendence, direction and the conduct of all elections to the Legislative Council shall be vested in the State Election Commission.
- 2. Under the Constitution, a person shall be disqualified for being chosen as and for being a member of the Legislative Council of a state if he/she was convicted of promoting enmity between different groups or for the offence of bribery

Which of the above statements is/are correct?

- A. 1 only
- B. 2 only
- C. Both
- D. None

**62. Regional Anti-Terrorist Structure (RATS) which intends to combat terrorism, separatism and extremism at the regional and global levels is an organ of (Level – Easy)**

- A. European Union
- B. Gulf Cooperation Council (GCC)
- C. North Atlantic Treaty Organization (NATO)
- D. Shanghai Cooperation Organisation (SCO)



**63. Consider the following statements: (Level – Medium)**

1. This national park is sometimes referred to as Mini Kaziranga.
2. It is located on the north bank of the Brahmaputra River in the Darrang and Sonitpur districts of Assam

The above statements best describe:

- A. Dibru – Saikhowa National Park
- B. Manas National Park
- C. Nameri National Park
- D. Orang National Park

**64. Madtsoiidae recently seen in the news is a/an (Level – Difficult)**

- A. Fossil of dinosaur
- B. Extinct group of medium-sized to gigantic snakes
- C. New species of banana from a remote tropical rain forest on the Little Andaman islands
- D. Bird that is considered extinct in the wild endemic to the Western Ghats

**65. Bisphenol A (BPA), a cause of concern, is a structural/key component in the manufacture of which of the following kinds of plastics? (Level – Difficult) [UPSC 2021]**

- A. Low-density polyethylene
- B. Polycarbonate
- C. Polyethylene terephthalate
- D. Polyvinyl chloride

**66. Which of the following statements best describes the newly launched “GatiShakti Sanchar” portal? (Level – Medium)**

- A. It aims to provide a mechanism seeking to promote cooperation and collaboration among the neighbouring countries with respect to the development of cross border infrastructure projects.
- B. It will promote an integrated approach between state governments with respect to the development of interstate projects.
- C. It aims to provide a common single portal for Right of Way permissions for Telecom Service providers as well as infrastructure providers.
- D. It aims to mobilize private sector involvement in the development of financially viable transportation-based infrastructure in rural India.

**67. Which of the following statements is/are incorrect? (Level – Medium)**

1. India is the largest wheat producer in the world.
2. Among Indian states, Punjab is the state with the largest wheat production.
3. India has been the largest wheat exporter in the world over the last three years.

Options:

- A. 1 and 3 only
- B. 1, 2 and 3
- C. None of the above
- D. 2 only

**68. The Forests of this National Park have been traditionally inhabited by the two indigenous tribes of Gonds and Baigas. This place is known for its conservation efforts with respect to the hard ground Barasingha. The above description is in respect to which of the following National Parks? (Level – Easy)**

- A. Kanha National Park
- B. Simlipal National Park
- C. Dudhwa National Park
- D. Gorumara National Park

**69. India has Free Trade Agreements with which of the following country/countries? (Level – Difficult)**

1. UK
2. Canada
3. UAE
4. Australia
5. Israel
6. Sri Lanka

Options:

- A. 1, 5 and 6 only
- B. 3, 4 and 6 only
- C. 2, 3 and 4 only
- D. All the above

**70. Which of the following is not included in the assets of a commercial bank in India? (Level – Medium) [UPSC 2019]**

- A. Advances
- B. Deposits
- C. Investments
- D. Money at call and short notice

**71. Which of the following statements is/are correct with respect to the place Lumbini in Nepal? (Level – Medium)**

1. According to Buddhist tradition, Queen Mahapajapati Gotami gave birth to Siddhartha Gautama in Lumbini.
2. Ashoka had visited Lumbini, and a pillar exists in Lumbini to commemorate the visit of the Emperor.
3. Lumbini is proposed to be included in the list of UNESCO world heritage sites in the upcoming session of the World Heritage Committee.

Options:

- A. 1 and 2 only
- B. 1 and 3 only
- C. 2 only
- D. 1 only

**72. Which of the following statements best describes Project 75-I? (Level – Easy)**

- A. The project envisages the indigenous construction of a diesel-electric class of submarines equipped with the state-of-the-art Air Independent Propulsion system.
- B. The project envisages the indigenous construction of nuclear-powered submarines.
- C. The Project envisages the indigenous construction of four state-of-the-art stealth guided-missile destroyers.
- D. The project envisages the indigenous construction of two nuclear-powered aircraft carriers for the Indian Navy by 2030.

**73. Which of the following statement/s is/are correct with respect to the Chief Election Commissioner of India? (Level – Medium)**

1. He/she has a tenure of six years, or up to the age of 65 years, whichever is earlier.
2. The CEC enjoys the same status and receives the salary and perks as available to judges of the Supreme Court of India.
3. The CEC can be removed from office through a motion adopted by Parliament on grounds of proved misbehaviour or incapacity.
4. The Constitution has explicit prescriptions regarding the qualifications for the appointment of a person as the Chief Election Commissioner.

Options:

- A. 1, 2, 3 and 4
- B. 3 only
- C. 1 and 2 only
- D. 1, 2 and 3

**74. Which among the following pairs of Cup and associated sport is/are correctly matched? (Level – Difficult)**

1. Thomas Cup -Badminton
2. Davis Cup -Tennis
3. Ryder Cup -Golf

Options:

- A. 1 only
- B. 2 and 3 only
- C. 1, 2 and 3
- D. 2 only

**75. Which of the following statements are correct about the deposits of 'methane hydrate'? (Level – Difficult) [UPSC 2019]**

1. Global warming might trigger the release of methane gas from these deposits.
2. Large deposits of 'methane hydrate' are found in Arctic Tundra and under the seafloor.
3. Methane in atmosphere oxidizes to carbon dioxide after a decade or two.

Select the correct answer using the code given below.

- A. 1 and 2 only
- B. 2 and 3 only
- C. 1 and 3 only
- D. 1, 2 and 3

**76. Consider the following statements with respect to Kanheri Caves:**

1. This group holds numerous rock-cut structures carved out of basalt rock.
2. Kanheri flourished under the patronage of Satavahana, Traikutakas, Vakatakas and Silaharas.
3. The caves are present within the Chandoli National Park.

Which of the given statement/s is/are correct? (Difficult)

- A. 1 and 2 only
- B. 2 and 3 only
- C. 1 and 3 only
- D. None of the above

**77. Consider the following statements:**

1. 5G works in 3 bands, namely low, mid and high frequency spectrum.
2. High band spectrum offers the highest speed of all the three bands and has greater coverage and signal penetration strength.
3. Low band spectrum is best suited for commercial cell phone users.

Which of the given statement/s is/are correct? (Medium)

- A. 1 and 2 only
- B. 1 and 3 only
- C. 2 and 3 only
- D. 1, 2 and 3

**78. Consider the following statements with respect to Ecotress:**

1. It is an instrument with a radiometer which was sent onto the International Space Station in 2018.
2. It can measure temperatures on the ground, as opposed to the air temperature.
3. It is tasked with measuring the temperature of plants and understanding their water requirements and the impact of the climate on them.

Which of the given statement/s is/are INCORRECT? (Medium)

- A. 1 only
- B. 2 and 3 only
- C. 3 only
- D. None of the above

**79. Consider the following statements with respect to the Great Himalayan National Park:**

1. It is located in the Kullu region in the state of Himachal Pradesh.
2. It is a UNESCO World Heritage Site.
3. Musk deer and the western horned tragopan can be spotted in the Great Himalayan National Park.
4. It is spread across four valleys.

Which of the given statement/s is/are correct? (Difficult)

- A. 1, 2 and 3 only
- B. 2 and 3 only
- C. 1 and 4 only
- D. 1, 2, 3 and 4

**80. Consider the following kinds of organisms:**

1. Copepods
2. Cyanobacteria
3. Diatoms
4. Foraminifera

Which of the above are primary producers in the food chains of oceans? (Medium)

- A. 1 and 2
- B. 2 and 3
- C. 3 and 4
- D. 1 and 4

**81. Which of the given statements with respect to the Dead Sea is/are correct? (Medium)**

1. It is the lowest waterbody on Earth, with the lowest elevation on land.
2. The Dead Sea is bordered by the West Bank, Jordan, and Gaza Strip.
3. It is the world's largest hypersaline lake.

Options:

- A. 1 and 2 only
- B. 2 only
- C. 2 and 3 only
- D. 1 only

**82. Consider the following statements with respect to the National Startup Advisory Council (NSAC): (Medium)**

1. The council is chaired by the Minister of Corporate Affairs.
2. It consists of non-official members, to be nominated by the Central Government.
3. The term of the non-official members of the Startup Advisory Council is five years.

Which of the given statements is/are incorrect?

- A. 1 only
- B. 2 and 3 only
- C. 1 and 3 only
- D. 1 and 2 only

**83. INS Surat and INS Udaygiri recently in news are: (Medium)**

- A. Indigenous Aircraft Carriers of the Indian Navy
- B. Frontline warships of the Indian Navy

- C. Diesel-electric attack submarines being built in India
- D. Indigenously built submarines with Air-Independent Propulsion Technology

**84. Which of the given pairs is/are correctly matched? (Difficult)**

Satellite navigation system	Country
1. NAVSTAR GPS	USA
2. NavIC	India
3. GLONASS	China
4. Galileo	Japan

Options:

- A. 1, 2 and 3 only
- B. 2 and 3 only
- C. 1, 2, 3 and 4
- D. 1 and 2 only

**85. Lichens, which are capable of initiating ecological succession even on a bare rock, are actually a symbiotic association of (Medium) [UPSC 2014]**

- A. Algae and bacteria
- B. Algae and fungi
- C. Bacteria and fungi
- D. Fungi and mosses

**86. Which of the following statements best describes the SRIJAN Portal? (Level – Difficult)**

- A. An online portal that provides access to defence items that can be taken up for indigenization.
- B. An online job portal for senior citizens, developed by the union government.
- C. A Central IT-based Education Loan portal to provide student finance services to those belonging to the Economically Backward Classes.
- D. An online portal for meeting the pension sanction and disbursement requirements for Armed Forces.

**87. Which of the given statements about the State of Inequality in India Report is/are incorrect? (Level – Medium)**

1. The report was commissioned by Economic Advisory Council to the Prime Minister and prepared by the National Sample Survey Office.
2. The report looks at income distribution, labour market dynamics, health, education and household characteristics as key areas that influence the nature and experience of inequality.

3. It uses data derived from various rounds of the Periodic Labour Force Survey (PLFS), National Family and Health Survey (NFHS) and Unified District Information System for Education (UDISE+).

Options:

- A. 1 only
- B. 1, 2 and 3
- C. 2 and 3 only
- D. None of the above

**88. Which of the given pairs is/are not correctly matched? (Level – Medium)**

Tunnel	Location
1. Atal Road Tunnel	Himachal Pradesh
2. Sela Tunnel	Sikkim
3. Syama Tunnel	Maharashtra

Options:

- A. 1 only
- B. 2 and 3 only
- C. 1 and 3 only
- D. None of the above

**89. Consider the following statements with respect to Denisovans: (Level – Difficult)**

1. They are an extinct species or subspecies of archaic humans in the genus Homo.
2. They are known to have coexisted with Neanderthals in some regions.
3. They are the smallest fully-grown dinosaur to be ever found.

Which of the given statements is/are correct?

- A. 1 and 2 only
- B. 1 only
- C. 3 only
- D. None of the above

**90. Among the following organisms, which one does not belong to the class of the other three? (Level – Medium) [UPSC 2014]**

- A. Crab
- B. Mite
- C. Scorpion
- D. Spider



**91. Which of the given statements best describes a Virtual Private Network (VPN)? (Level – Difficult)**

- A. It is a service that helps internet users to stay private online and provides protection from viruses and malware.
- B. It is a private computer network of an organisation in which remote users can transmit encrypted information through the organisation's server.
- C. It is a private computer network which allows the users to access a shared pool of content that is not indexed by standard web search engines.
- D. It is a service that helps internet users to stay private online by hiding their (Internet Protocol) IP addresses.

**92. Consider the following statements with respect to Khangchendzonga National Park: (Level – Medium)**

- 1. It houses Tholung Monastery, one of the most sacred monasteries of Sikkim.
- 2. The region is sacred to both the Buddhists and the Lepchas.
- 3. It is the only UNESCO mixed world heritage site in Asia.

Which of the given statements is/are correct?

- A. 1 and 2 only
- B. 2 and 3 only
- C. 2 only
- D. 1 and 3 only

**93. Which of the given statements is/are INCORRECT? (Level – Medium)**

- 1. In 2020, the Economic Advisory Council to the Prime Minister set up a Beekeeping Development Committee under the Chairmanship of Professor Bibek Debroy.
- 2. The National Beekeeping and Honey Mission was announced by the Union Government as part of the Atma Nirbhar Bharat package in 2020.
- 3. The National Beekeeping and Honey Mission being implemented by the National Bee Board (NBB) is a central sector scheme.

Options:

- A. 1 only
- B. 3 only
- C. 2 and 3 only
- D. None of the above

**94. Consider the following statements with respect to the Competition Commission of India (CCI):**

- 1. It is a statutory body.
- 2. It is a quasi-judicial body.
- 3. It has the suo moto power to enquire whether an Anti-Competitive Agreement or Abuse of Dominant Position causes or is likely to cause an appreciable adverse effect on competition.
- 4. The National Company Law Appellate Tribunal (NCLAT) hears and disposes of appeals against any direction issued or decision made or order passed by the CCI.

Which of the given statements is/are correct?

- A. 1 and 3 only
- B. 2 and 3 only
- C. 1 and 2 only
- D. 1, 2, 3 and 4

**95. According to Portuguese writer Nuniz, the women in Vijayanagara Empire were expert in which of the following areas? (Level – Difficult) [UPSC 2021]**

- 1. Wrestling
- 2. Astrology
- 3. Accounting
- 4. Soothsaying

Select the correct answer using the codes given below.

- A. 1, 2 and 3 Only
- B. 1, 3 and 4 Only
- C. 2 and 4 Only
- D. 1, 2, 3 and 4

**96. CRISPR-Cas9 Gene Editing tool can be used in developing which of the following applications? (Level – Difficult)**

- 1. Allergy-free foods
- 2. Greener fuels
- 3. Eradicating pests

Options:

- A. 1 and 2 only
- B. 2 and 3 only
- C. 1 and 3 only
- D. 1, 2 and 3

**97. Consider the following statements: (Level – Medium)**

1. The first municipal corporation in India was set up at Madras.
2. Lord Mayo's Resolution of 1870 has been hailed as the 'Magna Carta' of local self-government.
3. An individual should be of at least 25 years old to contest in municipal elections.

Which of the statements given above is/are correct?

- A. 1 only
- B. 2 only
- C. 1 and 3 only
- D. 2 and 3 only

**98. With respect to retinoblastoma, which of the following statements is/are incorrect? (Level – Medium)**

1. It is an eye cancer that begins in the retina and affects young children only.
2. In children with retinoblastoma, the disease affects only one eye.

Options:

- A. 1 only
- B. 2 only
- C. Both
- D. None

**99. Nagorno-Karabakh is a territorial conflict between (Level – Easy)**

- A. Greece and Turkey
- B. Armenia and Azerbaijan
- C. Iraq and Kuwait
- D. Israel and Palestine

**100. What was the exact constitutional status of India on 26th January 1950? (Level – Easy) [UPSC 2021]**

- A. A Democratic Republic
- B. A Sovereign Democratic Republic
- C. A Sovereign Secular Democratic Republic
- D. A Sovereign Socialist Secular Democratic Republic

**101. Which of the following statements is/are correct with respect to the Monkeypox disease? (Level – Medium)**

1. The disease has been reported only in Monkeys, ape species, and humans thus far.
2. It is caused by a bacterial pathogen.
3. Being a zoonosis, Human-to-human transmission of this disease is not possible.

Options:

- A. 1 and 2 only
- B. 2 and 3 only
- C. 1 and 3 only
- D. None of the above

**102. Consider the following statements with respect to the Asia-Pacific Economic Cooperation: (Level – Easy)**

1. It is an inter-governmental forum consisting of 21 member countries.
2. India is a founder member.
3. It is headquartered in Manila.

Which of the above statements is/are incorrect?

- A. 1 and 3 only
- B. 2 only
- C. 2 and 3 only
- D. None of the above

**103. Which of the following are associated with Raja Ram Mohan Roy? (Level – Difficult)**

1. Tuhfat-ul-Muwahhidin
2. Precepts of Jesus
3. Tahzibul Akhlaq
4. Sambad Kaumudi
5. Gulamgiri
6. Satyarth Prakash
7. Mirat-ul-Akbar

Options:

- A. 1, 2, 3, 4 and 7
- B. 1, 2, 4 and 7
- C. 4, 5 and 6
- D. 1, 6 and 7

**104. Which of the following statements is/are correct with respect to the Pradhan Mantri Ujjwala Yojana? (Level – Medium)**

1. The release of LPG connection under this Scheme shall be in the name of the women belonging to the BPL family.
2. Benefits under the scheme include cash assistance for obtaining gas connections as well as up to six free standard size gas cylinders refilling annually.
3. Under the scheme, an adult woman belonging to the aspirational districts automatically qualifies as an eligible beneficiary under the expanded scheme.

Options:

- A. 1 and 2 only
- B. 2 and 3 only
- C. 1 only
- D. 1 and 3 only

**105. With reference to the cultivation of Kharif crops in India in the last five years, consider the following statements: (Level – Difficult) [UPSC 2019]**

1. Area under rice cultivation is the highest.
2. Area under the cultivation of jowar is more than that of oilseeds.
3. Area of cotton cultivation is more than that of sugarcane.
4. Area under sugarcane cultivation has steadily decreased.

Which of the statements given above are correct?

- A. 1 and 3 only
- B. 2, 3 and 4 only
- C. 2 and 4 only
- D. 1, 2, 3 and 4

**106. Which of the following statement/s is/are incorrect? (Level – Medium)**

1. India has been progressively decreasing its reliance on external debt and stressing on increasing domestic debt in the total debt of the country given the concerns of vulnerability associated with external debt.
2. Among India's external debt, Commercial borrowings accounted for the highest proportion.

Options:

- A. 1 only
- B. 2 only
- C. Both 1 and 2
- D. Neither 1 nor 2

**107. Which of the following reports are associated with the World Economic Forum? (Level – Medium)**

1. Global Risks Report
2. Fostering Effective Energy Transition
3. Global Gender Gap Report
4. Global Economic Prospects
5. Global Competitiveness Report
6. World Economic Outlook

Options:

- A. 1, 2 and 6 only
- B. 1, 2, 3 and 5 only
- C. 1, 2, 3, 4 and 5 only
- D. All of the above

**108. Which of the following statement/s is/are correct? (Level – Easy)**

1. Among the Agricultural exports from India, rice accounts for the largest share in terms of value.
2. India has been the largest producer and exporter of sugar in the world in the last 5 years.

Options:

- A. 1 only
- B. 2 only
- C. Both 1 and 2
- D. Neither 1 nor 2

**109. Consider the following instruments: (Level – Medium)**

1. Kanjira
2. Mridhangam
3. Ghatam

Which of the following are closely related with Carnatic music?

- A. 2 only
- B. 2 and 3 only
- C. 1, 2 and 3 only
- D. 3 only

**110. Consider the following pairs: (Level – Difficult) [UPSC 2019]**

Famous place	River
1. Pandharpur	Chandrabhaga
2. Tiruchirappalli	Cauvery
3. Hampi	Malaprabha

Which of the pairs given above are correctly matched?

- A. 1 and 2 only
- B. 2 and 3 only
- C. 1 and 3 only
- D. 1, 2 and 3

**111. Which of the following are the features of Karst topography? (Difficult)**

- 1. Ponor
- 2. Cave in Section
- 3. Sink Holes
- 4. Uvalas

Options:

- A. 3 only
- B. 2 and 3 only
- C. 1 and 4 only
- D. 1, 2, 3 and 4

**112. Which of the given statements is/are correct? (Medium)**

- 1. Indian Gas Exchange (IGX) is India's first automated national-level gas exchange for trading in natural gas in the country.
- 2. The Exchange operates under the regulatory framework of the Energy Regulatory Commission.
- 3. GAIL (India) Limited is the first Exploration and Production (E&P) company in India to trade domestic gas on IGX.

Options:

- A. 1 and 2 only
- B. 1 and 3 only
- C. 1 only
- D. 2 and 3 only

**113. Which of the given statements is/are incorrect? (Difficult)**

- 1. Vitamin D is essential for maintaining calcium homeostasis.
- 2. In humans, vitamin D3 can be produced endogenously in the skin following ultraviolet B (UVB) radiation.
- 3. Cancer, Parkinson's disease and dementia are the diseases associated with Vitamin D deficiency.

Options:

- A. 1 only
- B. 2 and 3 only
- C. 2 only
- D. None of the above

**114. Consider the following statements with respect to the Investment Incentive Agreement recently signed between the Indian and the US Governments: (Medium)**

- 1. It is the first-ever Investment Incentive Agreement signed between India and the US.
- 2. The agreement is a legal requirement for U.S. International Development Finance Corporation to continue providing investment support in India.

Which of the given statements is/are correct?

- A. 1 only
- B. 2 only
- C. Both 1 and 2
- D. Neither 1 nor 2

**115. There is some concern regarding the nanoparticles of some chemical elements that are used by the industry in the manufacture of various products. Why? (UPSC-2014) (Medium)**

- 1. They can accumulate in the environment and contaminate water and soil.
- 2. They can enter the food chains.
- 3. They can trigger the production of free radicals.

Select the correct answer using the code given below.

- A. 1 and 2 only
- B. 3 only
- C. 1 and 3 only
- D. 1, 2 and 3



**116. Which of the given pairs is/are correctly matched? (Difficult)**

Mahakavya	Composer
1. Kumarasambhavam	Kalidasa
2. Prithviraja Vijaya	Jayanaka
3. Hammira Mahakavya	Nayachandra Suri
4. Shishupala Vadha	Banabhatta

Options:

- A. 1 and 2 only
- B. 1 and 3 only
- C. 2, 3 and 4 only
- D. 1, 2 and 3 only

**117. Which of the following were excavated/ found in the Harappan site of Lothal? (Difficult)**

- 1. Coffin burials
- 2. Bronze dancing girl statue
- 3. Pashupati Seal
- 4. Rice Husk

Options:

- A. 1 and 4 only
- B. 2, 3 and 4 only
- C. 4 only
- D. 1, 2 and 3 only

**118. 'PARAM PORUL' recently seen in the news is: (Medium)**

- A. A handicraft from Tamil Nadu that recently received the Geographical Indication tag.
- B. A group of Buddhist monks who enjoyed the royal patronage under the rulers of the Kalabhra dynasty
- C. A state-of-the-art Supercomputer dedicated to the nation under National Supercomputing Mission
- D. A cave system in the Western Ghats known for Buddhist rock-cut architecture.

**119. Which of the following national parks is/are located in the Garhwal Himalayas? (Medium)**

- 1. Govind Pashu Vihar National Park
- 2. Rani Jhansi National Park
- 3. Namdapha National Park
- 4. Nanda Devi National Park

Options:

- A. 4 only
- B. 1, 2 and 4 only
- C. 1 and 4 only
- D. 1, 2 and 3 only

**120. Consider the following towns of India: (Difficult)**

- 1. Bhadrachalam
- 2. Chanderi
- 3. Kancheepuram
- 4. Karnal

Which of the above are famous for the production of traditional sarees/fabric?

- A. 1 and 2 only
- B. 2 and 3 only
- C. 1, 2 and 3
- D. 1, 3 and 4

**121. Consider the following statements: (Level – Medium)**

- 1. Out of the seven union territories, only two have representation in the Rajya Sabha.
  - 2. An independent member of a House (elected without being set up as a candidate by any political party) becomes disqualified for being a member of the House if he joins any political party after the expiry of six months from the date on which he takes his seat in the House. This means that he may join any political party within six months of taking his seat in the House without inviting this disqualification.
  - 3. American Senate has no nominated members.
- Which of the statements given above is/are correct?

- A. 1 and 2 only
- B. 2 only
- C. 3 only
- D. 1, 2 and 3

**122. With respect to Plastic Waste Management Amendment Rules, 2021, which of the following statements is/are correct? (Level – Difficult)**

- 1. It prohibits specific single-use plastic items which have "low utility and high littering potential" by 2030.
- 2. The provisions will not apply to commodities made of compostable plastic.

Options:

- A. 1 only
- B. 2 only
- C. Both
- D. None

**123. Which of the following statements is/are correct with respect to Vermin? (Level – Medium)**

1. The Wildlife (Protection) Act, 1972 does not define the term 'vermin'.
2. An animal can be declared as vermin only for a period as specified in the Central Government Notification.
3. Once declared a vermin the species is deemed to be included in Schedule V, opening them up to be hunted.

Options:

- A. 1 and 2 only
- B. 2 and 3 only
- C. 1 and 3 only
- D. 1, 2 and 3

**124. Which of the following reports is/are published by International Labour Organization (ILO)? (Level – Difficult)**

1. Global Wage Report
2. World Employment and Social Outlook Report
3. World of Work Report

Options:

- A. 1 only
- B. 1 and 3 only
- C. 2 only
- D. 1, 2 and 3

**125. The money multiplier in an economy increases with which one of the following? (Level – Easy) [UPSC 2021]**

- A. Increase in the Cash Reserve Ratio in the banks
- B. Increase in the Statutory Liquidity Ratio in the banks
- C. Increase in the banking habit of the people
- D. Increase in the population of the country

**126. With respect to the Serious Fraud Investigation Office (SFIO), which of the following statements is/are correct? (Level – Medium)**

1. It was established on the recommendation of the Naresh Chandra Committee.
2. It can take up cases suo moto.
3. It falls under the jurisdiction of the Ministry of Corporate Affairs.

Options:

- A. 1 and 2 only
- B. 2 and 3 only
- C. 1 and 3 only
- D. 1, 2 and 3

**127. Consider the following statements with respect to the Asian Development Bank (ADB): (Level – Medium)**

1. India is a founding member of the Asian Development Bank.
2. It was established in 1991 after the end of the cold war and was modelled on the lines of the World Bank.
3. The Asian Development Outlook is an annual publication produced by the Asian Development Bank (ADB).

Which of the statements given above is/are correct?

- A. 1 and 2 only
- B. 2 and 3 only
- C. 1 and 3 only
- D. 1, 2 and 3

**128. Which of the following statements about Bharatnatyam is/are correct? (Level – Easy)**

1. A Bharatnatyam performance ends with a tillana which has its origin in the tarana of Hindustani music.
2. To show the dexterity of the dancers in footwork and their control and balance over their bodies, techniques like dancing on the rim of a brass plate and with a pitcher full of water on the head were introduced in Bharatnatyam.
3. The person who conducts the dance recitation is the Nattuvanar.

Options:

- A. 1 and 2 only
- B. 2 and 3 only
- C. 1 and 3 only
- D. 1, 2 and 3

**129. With respect to Krishna River, which of the following statements is/are correct? (Level – Medium)**

1. The largest tributary of the Krishna River is the Tungabhadra River
2. Almatti Dam is a hydroelectric project on the Krishna River in North Karnataka
3. Krishna River is the third-longest river of India
4. Musi is the left bank tributary of Krishna

Options:

- A. 1, 2 and 3 only
- B. 2, 3 and 4 only
- C. 1, 3 and 4 only
- D. 1, 2, 3 and 4

**130. Consider the following statements: (Level – Difficult) [PYQ 2021]**

**Statement 1:** The United Nations Capital Development Fund (UNCDF) and the Arbor Day Foundation have recently recognized Hyderabad as 2020 Tree City of the World.

**Statement 2:** Hyderabad was selected for the recognition for a year following its commitment to grow and maintain the urban forests.

Which one of the following is correct in respect of the above statements?

- A. Both Statement 1 and Statement 2 are correct and Statement 2 is the correct explanation for Statement 1
- B. Both Statement 1 and Statement 2 are correct but Statement 2 is not the correct explanation for Statement 1
- C. Statement 1 is correct but Statement 2 is not correct
- D. Statement 1 is not correct but Statement 2 is correct

**131. Consider the following statements with respect to International Booker Prize: (Level – Difficult)**

- 1. The prize is given by the London-based Nomura Charitable Trust.
- 2. It is awarded annually for a single book, written in another language and translated into English.

Which of the statements given above is/are correct?

- A. 1 only
- B. 2 only
- C. Both
- D. None

**132. Broad-based Trade and Investment Agreement (BTIA) seen in the news is the trade negotiation between India (Level – Easy)**

- A. USA
- B. Gulf Cooperation Council
- C. European Union
- D. African Union

**133. Which of the following statements about AKRUTI is/are correct? (Level – Medium)**

- 1. It is a programme offered by the Bhabha Atomic Research Centre (BARC).
- 2. It offers non-power applications and spin-off technologies for societal and industrial benefits to help people from the rural region become entrepreneurs.

Options:

- A. 1 only
- B. 2 only
- C. Both
- D. None

**134. Which of the following mountain passes are located in Arunachal Pradesh? (Level – Medium)**

- 1. Bomdi-La Pass
- 2. Diphu Pass
- 3. Pangsau Pass
- 4. Sela Pass

Options:

- A. 1, 2 and 3 only
- B. 2, 3 and 4 only
- C. 1, 3 and 4 only
- D. 1, 2, 3 and 4

**135. In the nature, which of the following is/are most likely to be found surviving on a surface without soil? (Level – Difficult) [UPSC 2021]**

- 1. Fern
- 2. Lichen
- 3. Moss
- 4. Mushroom

Select the correct answer using the code given below.

- A. 1 and 4 only
- B. 2 only
- C. 2 and 3 only
- D. 1, 3 and 4 only

**136. Which of the following statements is/are correct with respect to Nano urea? (Level – Difficult)**

1. Developed indigenously, it is the first such product in the world approved for usage by farmers.
2. This fertilizer which comes in the form of a powder is broadcasted on the ground near the root zone of the plants.
3. Similar nano fertilizers are available for the other frequently used phosphate and potash-based fertilizers.

Options:

- A. 1 and 2 only
- B. 1 only
- C. 2 and 3 only
- D. 2 only

**137. Which of the following personalities first used the slogan "Inquilab Zindabad" (Long live revolution)? (Level – Medium)**

- A. Ashfaqullah Khan
- B. Bhagat Singh
- C. Hasrat Mohani
- D. Ramprasad Bismil

**138. Which of the following Pacific Islands is located closest to India based on the longitudinal position? (Level – Difficult)**

- A. Samoa
- B. Solomon Islands
- C. Hawaii
- D. Fiji

**139. Which of the following statements about V.D. Savarkar is/are correct? (Level – Medium)**

1. V.D. Savarkar served as the President of Hindu Mahasabha from 1937 to 1943 and was the founder of the Abhinav Bharat Society and India House in London.
2. One of the main literary works of V.D. Savarkar is the "The History of the War of Indian Independence".

Options:

- A. 1 only
- B. 2 only
- C. Both 1 and 2
- D. Neither 1 nor 2

**140. Consider the following: (Level – Difficult) [UPSC 2019]**

1. Carbon monoxide
2. Methane
3. Ozone
4. Sulphur dioxide

Which of the above are released into atmosphere due to the burning of crop/biomass residue?

- A. 1 and 2 only
- B. 2, 3 and 4 only
- C. 1 and 4 only
- D. 1, 2, 3 and 4

**141. Which of the following statement/s is/are correct about India-U.S. trade relations? (Level – Medium)**

1. The U.S. surpassed China to become India's top trading partner in 2021-22.
2. India enjoys a positive trade balance with the U.S.

Options:

- A. 1 only
- B. 2 only
- C. Both 1 and 2
- D. Neither 1 nor 2

**142. Which of the following best describes the e-Shram portal? (Level – Easy)**

- A. It is used for co-ordinating between college students seeking apprentice opportunities and the prospective companies.
- B. It is used for enrolment, registration, collection and identification of the required data of all the unorganised workers.
- C. It is used for providing an online registration platform for people looking for job opportunities in the Ministry of Labour and Employment
- D. It is used for collecting information on the skill set of the government employees.

**143. Which of the following pair of places and associated countries have been correctly matched? (Level – Difficult)**

Place	Associated country
1. Nagorno-Karabakh	Ukraine
2. Kharkiv	Azerbaijan
3. Khobani	Iraq

Options:



- A. 1 and 2 only
- B. 2 and 3 only
- C. 1 and 3 only
- D. None of the above

**144. Which of the following statement/s is/are incorrect with respect to Rajya Sabha? (Level – Medium)**

1. The Third Schedule to the Constitution provides for the allocation of seats to the States and Union Territories in Rajya Sabha.
2. Currently, the Rajya Sabha has 245 members, the maximum limit as specified in the Indian Constitution.
3. A member chosen to fill a casual vacancy in the Rajya Sabha will serve the full term of six years available to an elected member.

Options:

- A. 1 and 2 only
- B. 2 and 3 only
- C. 1 and 3 only
- D. 1, 2 and 3

**145. Consider the following statements about Particularly Vulnerable Tribal Groups (PVTGs) in India: (Level – Difficult) [PYQ-2019]**

1. PVTGs reside in 18 states and one Union Territory
2. A stagnant or declining population is one of the criteria for determining PVTG status.
3. There are 95 PVTGs officially notified in the country so far.
4. Irular and Konda Reddi tribes are included in the list of PVTGs.

Options:

- A. 1, 2 and 3 only
- B. 2, 3 and 4 only
- C. 1, 2 and 4 only
- D. 1, 3 and 4 only

**146. Technologies such as 'Kisan Sabha' & 'Gur Bhatti' for Rural Development have been developed by – (Easy)**

- A. Ministry of Electronics & Information Technology
- B. NITI Aayog
- C. CSIR
- D. Indian Institute of Science

**147. Which of the following statements are correct? (Moderate)**

1. National Supercomputing Mission is a joint initiative of the Ministry of Electronics and Information Technology and the Department of Science and Technology along with C-DAC and IISc.
2. Param Ananta, a state of the art Supercomputer at IIT Gandhinagar, has been recently dedicated to the nation under the mission.
3. India has the third-highest number of supercomputers in the world.

Options:

- A. 1 only
- B. 1 and 2 only
- C. 1 and 3 only
- D. 1, 2 and 3

**148. Which of the following statements are correct? (Moderate)**

1. China has been pushing for a security pact and free trade agreement with the Pacific Islands Forum.
2. It has already signed one such agreement with the Solomon Islands.
3. China is offering to radically ramp up its activities in the South Pacific to directly challenge the influence of the United States and its allies in the strategically vital region.

Options:

- A. 1 only
- B. 1 and 2 only
- C. 3 only
- D. 1, 2 and 3

149. Which of the following statements are incorrect? (Moderate)

1. The National AI Portal is a joint initiative by the Ministry of Electronics and IT, National e-Governance Division and NASSCOM.
2. The portal focuses on creating and nurturing a unified AI ecosystem in the country to drive excellence and leadership in knowledge creation to develop an AI-ready robust workforce for the future and use AI to foster economic growth.
3. It was launched in 2014.

Options:

- A. 1 only
- B. 2 only
- C. 3 only
- D. None of the above

150. With reference to the carbon nanotubes, consider the following statements: (UPSC 2020) (Difficult)


1. They can be used as carriers of drugs and antigens in the human body.
2. They can be made into artificial blood capillaries for an injured part of human body.
3. They can be used in biochemical sensors.
4. Carbon nanotubes are biodegradable


Which of the statements given above are correct?


- A. 1 and 2 only
- B. 2, 3 and 4 only
- C. 1, 3 and 4 only
- D. 1, 2, 3, and 4


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केन्द्र CENTRE	विषय SUBJECT	विषय कोड S. CODE	अनुक्रमांक ROLL NUMBER
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पुस्तिका सिरिज  
BOOKLET SERIES

A

B

C

D

विषय  
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# ANSWER KEYS

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4	D
5	C
6	C
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8	D
9	C
10	D
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12	A
13	A
14	B
15	C
16	D
17	C
18	C
19	A
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24	B
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26	A
27	D
28	B
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30	B
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38	C
39	C
40	B

[CLICK HERE TO READ EXPLANATION](#)



41	B
42	C
43	B
44	B
45	C
46	C
47	A
48	A
49	B
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51	C
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56	B
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59	C
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62	D
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64	B
65	B
66	C
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69	B
70	B
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73	D
74	C
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79	D
80	B

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81	D
82	C
83	B
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93	A
94	D
95	D
96	D
97	A
98	C
99	B
100	B

101	D
102	C
103	B
104	C
105	A
106	A
107	B
108	A
109	C
110	A
111	D
112	C
113	D
114	B
115	D
116	D
117	C
118	C
119	C
120	B

[CLICK HERE TO READ EXPLANATION](#)

121	C
122	B
123	D
124	D
125	C
126	C
127	C
128	C
129	D
130	D
131	B
132	C
133	C
134	D
135	C
136	B
137	C
138	B
139	B
140	D

141	C
142	B
143	D
144	D
145	C
146	C
147	B
148	D
149	C
150	D

[CLICK HERE TO READ EXPLANATION](#)

# MAINS PRACTICE QUESTIONS

## GS Paper 1

### Art & Culture

1. Governments are as responsible towards preserving our past as they are for ensuring a better future. In this context, assess the government's efforts to give an impetus to museums in India. (250 words; 15 marks)

### Social Issues

1. Elaborate on the progress made by India in declining its total fertility rate in the past couple of decades. How does it impact the demographic dividend of India in the years to come? (250 words; 15 marks)
2. The marital rape exception creates a legal fiction where, even if all the requirements for rape are otherwise fulfilled, the law deems not to be rape if the parties are married. Do you think the marital rape law is necessary? Justify. (15 Marks, 250 Words)
3. The success of India's family planning program depends on changing the male mindset and having them take more responsibility. Do you agree? Elaborate. (250 words; 15 marks)

## GS Paper 2

### Polity and Governance

1. Whether the Supreme Court Judgment (July 2018) can settle the political tussle between the Lt. Governor and elected government of Delhi? Examine. (250 words; 15 marks)
- 2.. What is the three-language formula? How far has it been successful in achieving its original objectives? (250 words; 15 marks) (250 words; 15 marks)
3. Define 'Quasi federalism' with respect to India's politics. How is India's federalism different from the one followed in the USA? (250 words; 15 marks)
4. Elaborate on the issues plaguing the lower judiciary in India and the reasons behind these lacunas. (250 words; 15 marks)
5. Write a short note on the pardoning powers of the Governor of a state in India and draw a comparison with the pardoning powers given to the President of India. (250 words; 15 marks)
6. The crackdown on the illegal use of loudspeakers in religious places in many states is the right step in the right direction as the use of loudspeakers is not a fundamental right, and no religion or sect could claim that right to use loudspeakers. Explain the statement with the help of relevant case laws. (15 Marks, 250 Words)
7. Departures from substantive and procedural justice need deep scrutiny as the fallout could severely imperil governance. Analyze. (10 marks, 150 Words)
8. Are algorithms used by dominant search engines becoming a privacy threat? Critically examine. (10 Marks, 150 Words)
9. There is an urgent need to amend the CrPC in order to facilitate the recognition of victims' rights and to create a statutory framework. Substantiate. (10 Marks, 150 Words)
10. How does Section 124A of the Indian Penal Code define sedition? What conditions have been imposed by the Supreme Court in the past in order to invoke Section 124A? (250 words; 15 marks)
11. Elaborate on the main provisions of the Medical Termination of Pregnancy Act, 1971. What amendments were introduced in the law in 2021? (250 words; 15 marks)
12. How are minorities defined in India? What safeguards have been given to the minorities by the Indian Constitution? (250 words; 15 marks)



13. Assess the success and shortcomings of the Pradhan Mantri Ujjwala Yojana. How far has the scheme been able to achieve its objectives? (250 words; 15 marks)
14. How do the pardon powers of the President and Governor differ from the government's jurisdiction to release convicts? (10 Marks, 150 Words)
15. What are United Nations' Sustainable Development Goals? Assess the progress made by India towards these goals and identify the problem areas that still persist. (250 words; 15 marks)
16. What is Electronic Vaccine Intelligence Network? How did it help in India's covid vaccination program? (250 words; 15 marks)
17. Why have the successive governments at the centre delayed the delimitation of Lok Sabha seats in India for over half a decade? What problems has this delay led to? (250 words; 15 marks)
18. "Indian federalism is a dialogue between cooperative and un-cooperative federalism where the federal units are at liberty to use different means of persuasion, ranging from collaboration to contestation". Elaborate. (250 words; 15 marks)
19. The issuance of LOCs (look out circular) remains highly discretionary, and the exercise of power under it remains questionable. Explain. (10 Marks, 150 Words)
20. A robust GDP is built on the foundations of a healthy youth. Comment. (250 words; 15 marks)
21. Tobacco consumption is at the root of multiple issues – health, economic and even environment. Elaborate. (250 words; 15 marks)

### International Relations

1. Write a note on the India-German relationship highlighting the recent visit of the Prime Minister to Germany.
2. The covid pandemic brought to light the ineffectiveness of the World Health Organization. In the light of this statement, suggest the reforms needed to make the WHO's working more effective. (250 words; 15 marks)
3. Northeast States will benefit from Bangladesh's offer of services at the Chittagong Port. Discuss. (10 Marks, 150 Words)
4. The focus of NATO must be on ending Russia's territorial aggression and not on expanding NATO. Analyze. (10 Marks, 150 Words)
5. A more conciliatory approach towards our neighbourhood has always paid more dividends for India as compared to a confrontational approach. Discuss. (250 words; 15 marks)
6. Quad presents an opportunity for India to stake a claim to a seat at the high table in global affairs. Comment. (250 words; 15 marks)
7. The QUAD can help reshape economic alliances and regional security architecture. Critically analyse. (250 words; 15 marks)
8. A stronger BRICS can help foster global peace and prosperity. Analyse. (250 words; 15 marks)

### Social Justice

1. Overturning the landmark abortion ruling in the United States of America will have implications for constitutional jurisprudence globally. Examine. (15 Marks, 250 Words)
2. The battles fought by Ambedkar are still far from over. Comment. (250 words; 15 marks)
3. Improved awareness about menstrual hygiene would win half the battle for women's right to live with dignity. In this context, elaborate on the efforts made by the Government of India in this regard. (250 words; 15 marks)

**Health**

1. Front-of-pack nutrition labelling is widely considered to be a powerful and simple tool for discouraging consumption of processed foods. Comment. (10 Marks, 150 Words)
2. Discuss the medical and ethical issues involved in aesthetic and reconstructive surgery. (10 Marks, 150 Words)

**GS Paper 3****Economy**

1. How do subsidies affect the cropping pattern, crop diversity and economy of farmers? What is the significance of crop insurance, minimum support price and food processing for small and marginal farmers? (250 words; 15 marks)
2. What is Labour Force Participation Rate? How effective is it in measuring the unemployment rates in India? (250 words; 15 marks)
3. What is GST compensation cess? Does the demand by the state governments to extend GST compensation by 5 more years have merit? (250 words; 15 marks)
4. What happens when an aircraft encounters turbulence? How can airlines avoid turbulence? (10 Marks, 150 Words)
5. Identify the roadblocks delaying the signing of the India – EU free trade agreement. How can the two sides work around these roadblocks? (250 words; 15 marks)
6. Wheat production is expected to fall on account of unusually warm weather conditions. Discuss the measures taken by the government to balance domestic supplies and rise in export demand? (10 Marks, 150 Words)
7. How is Foreign Direct Investment (FDI) different as compared to Foreign Portfolio Investment (FPI)? Elaborate on the multiple routes through which FDI is permitted in India with examples. (250 words; 15 marks)
8. "The Indian Government has shown a new vigour in the last few years towards joining new trade agreements." Discuss. (250 words; 15 marks)
9. How did the world reach to a point of global chip shortage? What are the hurdles associated with overcoming this shortage? Discuss with emphasis on its economic and strategic impact. (250 words; 15 marks)
10. Evaluate the success of Goods & Service Tax (GST) and examine if there is a need for the government to restructure India's Goods and Services Tax? (10 Marks, 150 Words)
11. With Asia already having major trade agreements in place, how is the Indo-Pacific Economic Framework for Prosperity (IPEF) different? (10 Marks, 150 Words)
12. Identify the problems faced by the Jute industry in India in the recent past. Suggest ways to overcome these issues. (250 words; 15 marks)

**Environment and Ecology**

1. Discuss the ecological significance of birds and the threats contributing to avian biodiversity loss. (10 Marks, 150 Words)
2. Throw light on the issue of wastewater management in India. What are some of the problems we are facing in improving our wastewater treatment capacity? (250 words; 15 marks)
3. Assess the problem of desertification as being faced by nations worldwide. What steps have been taken to combat this problem in India? (250 words; 15 marks)
4. Identify the challenges and opportunities associated with India's Ethanol Blending Programme. (250 words; 15 marks)
5. Discuss the points of contention raised by experts on the Biological Diversity (Amendment) Bill, 2021. (10 Marks, 150 Words)

6. Identify the issues associated with the disposal of e-waste in India. Give examples of legislations introduced by the Government to overcome these hurdles. (250 words; 15 marks)
7. What are 'pollution havens'? Is it time for the developed nations to be called out for exporting their waste? Discuss. (250 words; 15 marks)
8. Despite all the hype around renewable sources of energy, they are still a long way away from being a credible alternative to coal. Comment. (250 words; 15 marks)

### Science and Technology

1. What are the different ways in which AI chips are being used in various sectors? What are the recent innovations in the industry? (15 Marks, 250 Words)
2. 5G communication offers numerous advantages along with increased capacity, lower latency, and energy efficiency. It is expected to significantly improve and enable new applications while giving a fillip to AI and IoT. Discuss in detail. (250 words; 15 marks)

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15 Tests covering 4 GS papers and Essay



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# INTERVIEW TRANSCRIPT

## Candidate Details:

- Name: Sachin Gupta
- AIR: 3 (CSE 2017)
- Chairperson: Smita Nagraj
- Hometown: Sirsa, Haryana
- Optional Subject: Anthropology
- Work Experience: 2 years in Maruti Suzuki
- Education: B.Tech in Mechanical Engineering, Thapar University, Patiala
- Hobbies: Cricket, Reading Books and Watching Documentaries

## Interview

In his second attempt, Sachin Gupta had secured the 575th rank and had secured the Indian Corporate Law Service. Questions on his background included those about the Indian Corporate Law Service.

- What is Moot Court?
- Why was the name changed from Company Affairs to Corporate Affairs?
- Issues concerning the corporate sector.
- Role of Independent Directors.
- Satyam Scam and learning for the Corporate Sector.

## **Banking Sector**

- Could we have prevented the PNB scam?
- What are the key issues within the PNB scam?
- Curative steps required now in the banking sector.
- Don't you think personnel management is a bigger issue in this?
- What role do you think higher management could have played in this issue?

## **Science and Technology**

- What is Artificial Intelligence? Pros and cons.
- Will it further decrease jobs in India?
- Differentiate between big data analytics and Artificial Intelligence?

## **International Relations**

- Do you think developments in the Maldives are threatening India's interests?
- India's options.
- Interfering with Internal Affairs.
- Views on Indian Ocean recent developments.
- How should we counter Chinese assertiveness?
- What are the steps India has already taken?



- Do you think we should make naval ports in the Indian Ocean region?
- Should we have a better neighbourhood policy?
- Any examples where countries interfere in the internal affairs of other countries?
- What if any other country does it with India?

## Economy

- Do you think we can double farm income?
- What are your views on land fragmentation?
- What is TRDS?
- Do you think we can introduce it in agriculture?

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Chief Secretary, Bihar)

**Vineet Ohri**  
(IRS Retd., Former  
Chief Commissioner,  
Customs & Excise)

**C Uday Bhaskar**  
(Defence Analyst and Strategist)

**CNS Nair**  
(IAS Retd., Former  
Secretary to Govt of India)

**B S Lamba**  
(IAS Retd., Former  
Indian Envoy to UNO)

**Arun Kumar Mago**  
(IAS Retd., Former  
Chief Secretary, Maharashtra)

**AK Puri**  
(IPS Retd., Former  
DGP, Himachal Pradesh)

**Prabhakar Mani Tripathi**  
(Sr. Psychologist)

**AK Rastogi**  
(IAS Retd., Former  
Secretary to Govt of India)

**B L Vohra**  
(IPS Retd., Former  
DGP, Tripura)

**G. Subba Rao**  
(IAS Retd., Former Chairman,  
Gujarat State Police  
Complaints Authority)

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